IN THE SUPREME COURT OF THE STATE OF NEW MEXICO

Case 132

CONTINENTAL OIL COMPANY,
ET AL,
Petitioners-Appellants

-vs-

No. _____

OIL CONSERVATION COMMISSION
OF NEW MEXICO, ET AL,
Respondents-Appellees

OIL CONSERVATION COMMISSION
OF NEW MEXICO,
Cross-Appellant

APPEAL FROM THE DISTRICT COURT

OF

LEA COUNTY

John R. Brand, Judge

TRANSCRIPT OF RECORD

Volume II

Appearances in District Court:

For Petitioners:

Kellahin & Fox, Santa Fe, N.M.
Atwood & Malone, Roswell, N.M.
Hervey, Dow & Hinkle, Roswell, N.M.
Harry G. Dippel, Ft. Worth, Tex.
H. D. Bushnell, Tulsa, Okla.
J. K. Smith, Ft. Worth, Tex.
James A. Lore, Midland, Tex.
Reed A. Elliott, Houston, Tex.
Walter B. Morgan, Houston, Tex.

For Respondents:

William J. Cooley, Santa Fe, N.M.
Oliver E. Payne, Santa Fe, N.M.
Campbell & Russell, Roswell, N.M.
Ray C. Cowan, Hobbs, N.M.
Robert W. Ward, Lovington, N.M.
Manuel A. Sanchez, Santa Fe, N.M.
Hardie, Grambling, Sims &
Galatzan, El Paso, Tex.
Patrick J. McCarthy, Omaha, Nebr.

IN THE SUPREME COURT OF THE STATE OF NEW MEXICO

CONTINENTAL OIL COMPANY
AMERADA PETROLEUM CORPORATION
PAN AMERICAN PETROLEUM CORPORATION
SHELL OIL COMPANY
THE ATLANTIC REFINING COMPANY
STANDARD OIL COMPANY OF TEXAS
HUMBLE OIL & REFINING COMPANY

Petitioners-Appellants

-vs- No. _____

OIL CONSERVATION COMMISSION OF NEW MEXICO, Composed of John Burroughs, Member and Chairman, Murray Morgan, Member, and A. L. Porter, Secretary;
TEXAS PACIFIC COAL & OIL COMPANY, a Foreign Corporation;
EL PASO NATURAL GAS COMPANY, a Foreign Corporation;
PERMIAN BASIN PIPELINE COMPANY, a Foreign Corporation;
SOUTHERN UNION GAS COMPANY, a Foreign Corporation,

Respondents-Appellees

OIL CONSERVATION COMMISSION OF NEW MEXICO,

Cross-Appellant

APPEAL FROM THE DISTRICT COURT
OF
LEA COUNTY

John R. Brand, Judge

TRANSCRIPT OF RECORD

Volume II

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IN THE DISTRICT COURT OF LEA COUNTY

STATE OF NEW MEXICO

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HUMBLE OIL & REFINING COMPANY	16220

Petitioners

-vs-

Consolidated as No. 16213

OIL CONSERVATION COMMISSION OF NEW MEXICO, Composed of John Burroughs, Member and Chairman, Murray Morgan, Member, and A. L. Porter, Secretary;
TEXAS PACIFIC COAL & OIL COMPANY, a foreign corporation;
EL PASO NATURAL GAS COMPANY, a foreign corporation;
PERMIAN BASIN PIPELINE COMPANY, a foreign corporation;
SOUTHERN UNION GAS COMPANY, a foreign corporation;

Respondents

TRANSCRIPT OF THE TESTIMONY AND PROCEEDINGS

BE IT REMEMBERED, That the above styled and numbered causes consolidated came on for trial on July 21, 1959, at Lovington, Lea County, New Mexico, before the Honorable John R. Brand, Judge of the Fifth Judicial District in and for Lea County, New Mexico; that the petitioner Continental Oil Company appeared by its

attorneys, Mr. Jason Kellahin, of Kellahin & Fox, Santa Fe, New Mexico, and Mr. Harry G. Dippel, Ft. Worth, Texas; that the petitioner Amerada Petroleum Corporation appeared by and through its attorneys, Mr. Jason Kellahin, of Kellahin & Fox, Santa Fe, New Mexico, and Mr. H. D. Bushnell, Tulsa, Oklahoma; that the petitioner Pan American Petroleum Corporation appeared by and through its attorneys, Messrs. Ross L. Malone and Kirk Newman, of Atwood & Malone, Roswell, New Mexico, and Mr. J. K. Smith, Ft. Worth, Texas; that petitioner Shell Oil Company appeared by and through its attorneys, Mr. Howard C. Bratton, of Hervey, Dow & Hinkle, Roswell, New Mexico, and Mr. James A. Lore, Midland, Texas; that petitioner The Atlantic Refining Company appeared by and through its attorney, Mr. Howard C. Bratton, of Hervey, Dow & Hinkle, Roswell, New Mexico; that petitioner Standard Oil Company of Texas appeared by and through its attorneys, Mr. Howard C. Bratton, of Hervey, Dow & Hinkle, Roswell, New Mexico, and Mr. Reed A. Elliott, Houston, Texas; that petitioner Humble Oil & Refining Company appeared by and through its attorneys, Mr. Howard C. Bratton, of Hervey, Dow & Hinkle, Roswell, New Mexico, and Mr. Walter B. Morgan, Houston, Texas;

That respondent Oil Conservation Commission of the State of New Mexico appeared by and through its attorneys, Mr. William J. Cooley and Mr. Oliver E. Payne, Santa Fe, New Mexico; that respondent Texas Pacific Coal & Oil Company appeared by and through

its attorney, Mr. Jack M. Campbell, of Campbell & Russell, Roswell, New Mexico; that respondent El Paso Natural Gas Company appeared by and through its attorneys, Mr. Ray C. Cowan, Hobbs, New Mexico, and Mr. Morris Galatzan, of Hardie, Grambling, Sims & Galatzan, El Paso, Texas; that respondent Permian Basin Pipeline Company appeared by and through its attorneys, Mr. Robert W. Ward, Lovington, New Mexico, and Mr. Patrick J. McCarthy, Omaha, Nebraska; that respondent Southern Union Gas Company appeared by and through its attorney, Mr. Manuel A. Sanchez, Santa Fe, New Mexico;

At which time and place the following proceedings were had, to-wit:

THE COURT: Are you gentlemen ready to proceed in this matter?

MR. MALONE: The appellants are ready, your Honor.

MR. CAMPBELL: Respondents are ready, your Honor.

THE COURT: All right. Have you decided on a method to proceed? I take it, Mr. Malone, you have the burden.

MR. MALONE: We recognize that, your Honor, and we are preapred to proceed.

THE COURT: Very well, you may do so.

MR. MALONE: At the outset of the hearing, how are we going to get these parties referred to? As the respondents and the petitioners, is that the denomination that has been followed?

MR. CAMPBELL: Yes.

MR. MALONE: At the outset of the hearing, the petitioners object to the participation by the New Mexico Oil Conservation Commission in the case as an adversary party. We recognize they are proper parties under the statute in an appeal from the decision which was rendered by the Commission and that, if there was a public interest for which the Commission had responsibility involved in the case, that they would be a proper adversary party, but, in view of the fact that the sole question in the case, as has been stated and stipulated, is correlative rights in the interest of the various petitioners in the pool itself, it is our view that the Commission's position should be as a nominal but not as an

adversary party, and, we therefore object to their position as an adversary party.

MR. PAYNE: If it please the Court, it has never been stipulated that the only issue in this case is correlative rights. It is our position that waste is also involved in this case. It is our further position in this case that, at any time an order of the Oil Conservation Commission is appealed to the District Court, we are at that point an adversary party.

THE COURT: I could be mistaken but I think I remember a stipulation -- at least a tacit understanding that waste was not an issue in this matter.

MR. PAYNE: I don't believe that's correct, your Honor.

THE COURT: It does not seem proper to me for the Oil Conservation Commission to appear as an adversary party in a matter in which an appeal has been taken on one of its decisions, and Mr. Malone's motion will be sustained. You may proceed.

MR. MALONE: If it please the Court, this is an appeal from two orders of the Oil Conservation Commission in New Mexico, numbers R-1092-A and R-1092-C, entered by the Oil Conservation Commission in case No. 1327 on the docket of that Commission. The parties appealing, who are the petitioners, and whose several appeals have been consolidated for hearing in this proceeding are Amerada Petroleum Corporation, The Atlantic Refining Company, Continental Oil Company, Cities Service

Oil Company, Humble Oil and Refining Company, Pan American Petroleum Corporation, Standard Oil Company of Texas and Shell Oil Company, all of which are the owners and operators of wells within the Jalmat Pool in Lea County, New Mexico.

Case No. 1327 originated before the Commission by the filing of an application by Texas Pacific Coal & Oil Company, and because the original application on which the original hearing was held precipitated the entire proceeding, I would like to refer briefly to some of its contents.

The application of T-P alleged first that it is the owner of a number of non-marginal gas units and a number of marginal gas units within the limits of the Jalmat Gas Pool, what is four and sixty and six and 70/100ths marginal units, and that there are a total of 389.13 gas units in the Jalmat Gas Pool. It is further alleged that the El Paso Natural Gas Company was connected to its pipeline as to 336.23 of the gas units, or approximately 86% of the total units in the field, and that El Paso Natural, as the purchaser of gas from these wells, has exclusive control over the rate of takes or the amount of gas which is taken from each of the gas wells.

It further alleges that on January 1, 1954, gas pool rationing was instituted in the area which now comprises the Jalmat Pool, and that for a period of two and a half

years after gas pool rationing started, that the allowables and productions were maintained in reasonable balance and that everything went along very well, but that during the last six months of 1956 the El Paso Natural Gas Company took from the applicant's wells, that is, from T-P's wells, amounts of gas considerably in excess of its nominations and failed to file supplemental nominations to adjust its nominations to its actual takes, resulting in excessive over-production carryover into the first proration period in 1957. It then alleges that the Oil Conservation Commission, on the request of certain gas purchasers, had failed to balance the production at the end of each of the proration periods with the result that a large number of wells in the Jalmat Pool, including those of T-P, were over-produced, and that there was likewise a large amount of accumulated under-production from wells that had not made their allowable which the Commission had failed to cancel and redistribute to those wells which could make it.

It further alleged that during 1957 the El Paso Natural Gas Company, by reason of over-production, which had accumulated to the wells on which it failed to supplement its nominations, and due to the failure of the Commission to balance the production at the end of 1956, or at the end of the first six months of '57, that El Paso Natural had

drastically reduced its takes from the wells in the Jalmat Pool, and that in some instances as a result marginal wells which could not make the allowable were actually producing more than the non-marginal wells which could make the allowable.

It is further alleged that, if the El Paso Natural Gas Company is required by reason of present rules covering the proration of gas in the Jalmat Pool to continue to restrict production from the applicant's wells, that it will continue to suffer drainage from those wells; that certain of applicant's wells, even if shut in during the months of 1957, will enter the next proration period with over-production and, if these wells, together with other over-produced wells in the pool are shut in, it will result in a negative allowable in the entire pool during the next proration period.

It is also alleged that during the period of gas proration El Paso Natural Gas Company has consistently run gas from the wells of high deliverability with the result that the method of proration now established has meant that during the year 1956 forty percent of the wells in the pool produce sixty percent of the gas at an average rate of 303,725 mcf per unit.

It is further alleged that El Paso Natural Gas Company

has failed to keep individual wells of the applicant, T-P, in reasonable balance with each other, and finally that the continuation of gas prorationing in this pool will result in drainage of the applicant's properties and the abuse of its correlative rights, and will render impossible reasonable marketing of dry gas from this pool even though El Paso Natural Gas Company desires to purchase and run such gas to supply its market. The present rules as applied by the Commission are impractical and unreasonable and result in economic loss to applicant and the State of New Mexico as royalty owner.

Those are the allegations of the application which precipitated this proceeding. The prayer is as follows:

"WHEREFORE, applicant requests the Commission to enter its order immediately terminating gas prorationing in the Jalmat Gas Pool. In the alternative applicant requests the Commission to enter its order immediately cancelling all accumulative under-production and redistributing such under-production to over-produced wells in Jalmat Gas Pools and requiring Jalmat gas purchasers to nominate sufficient amount of gas from the pools to permit wells from which purchasers are able to take gas to have an allowable equal to their actual production, and upon this basis to thereafter balance the pool production at the end of each proration period, and establishing deliverability of gas wells as a

factor in the proration formula for the pool, and establishing a maximum amount of gas which may be taken from any well in the pool during a specified period of time. Applicant further requests that the Commission issue such further order or orders as to bring the pool immediately into balance, and balance and maintain such balance without waste and without abuse of applicant's or others' correlative rights."

That application of the petitioner, Texas Pacific Coal & Oil Company came on for its first hearing on October 18, 1957. At that time the applicant presented two witnesses and some exhibits and offered to have the witnesses back at the next monthly hearing of the Commission for cross examination by other interested parties to afford the parties an opportunity to consider their testimony and prepare cross examination.

On November 14, the matter came up at the regular November hearing of the Commission and at that time companies opposing the application of Texas Pacific Coal & Oil Company, some thirteen in number, were afforded an opportunity to cross examine their witnesses who had been presented. That cross examination -- no perhaps I'm getting into the record a bit and I intended not to do that until we determined the status of the record here so I'm

going to go back and pick up the actual progress of the case after I get the record in.

For the purpose of the opening statement, I will say that a hearing was held on November 14th, 1957; that thereafter another hearing was held on December 9th, 1957; and that order, Order R-1092-A, was issued on January 29, 1959. That is the principal order which is appealed from in this case. I beg your pardon -- January 29, 1958. An application for rehearing was filed by some twelve companies, and a rehearing was granted. A further hearing was held before the Commission on March 25, 1958, and thereafter on April 28, 1958, the Commission issued its order overruling the objections and reaffirming the decision that it had theretofore reached, the substance of which and the principal item in controversy and which was a change in the proration formula of the Jalmat Pool from 100 per cent acreage which it had been throughout its prorated life to a formula composed of twenty-five percent acreage plus seventy-five percent deliverability times twenty-five percent acreage, thus making --

THE COURT: Give me that again.

MR. MALONE: Changed from 100 per cent acreage to the words of the order: "75 per cent acreage times -- the new formula asstated in Paragraph 7 of the Order is: "Seventy-five

percent acreage times deliverability plus twenty-five percent acreage only."

THE COURT: Seventy-five acreage times deliverability --

MR. MALONE: Seventy-five percent acreage times deliverability plus twenty-five percent of the acreage alone.

THE COURT: All right.

MR. MALONE: The eight companies whose names I read as petitioners have appealed to this Court from that decision and from the two orders, 1092-A and 1092-C, which were issued by the Commission in the original case and on rehearing.

Now, I take it that in view of the fact that the record is not yet in evidence, I cannot properly go further as to what transpired before the Commission so at this time I would suggest as a possible means of proceeding from this point that the record before the Commission, which I believe both sides agree is admissible in evidence, be stipulated into evidence, and that we then proceed on the basis, on the further basis, of what is shown in the record, insofar as the statements are concerned.

MR. CAMPBELL: That is perfectly agreeable.

THE COURT: It will be so stipulated.

MR. MALONE: In order to clarify the record, the record was only filed here yesterday afternoon about 4 o'clock, and we have not had an opportunity to examine it for that reason, but

the record to which we are stipulating is composed of the application of Texas Pacific Coal & Oil Company, all testimony taken before the Oil Conservation Commission in their hearings in Case No. 1327, all exhibits admitted in evidence or offered in evidence in that hearing, the order entered, No. 1092-A, from which an appeal was taken, the applications for rehearing, and the order, 1092-B, issued on them, and the order, 1092-C, issued on the rehearing. I would assume that that would encompass everything that is properly in the record. If there is anything else that the respondents feel should be included -- or, let's discuss it.

MR. CAMPBELL: If the Court please, the only thing that occurs to me, I believe at the conclusion of the rehearing, Mr. Malone and I stipulated that portions of earlier hearings might be included in the transcript of the case, and letters were sent to the Commission, or sent to the Commission identifying those portions, and they, as I understand it, have been filed with the Court as a part of the record along with the transcripts of the cases to which the letters refer. Other than that I think that would incorporate the entire record.

MR. MALONE: That is entirely correct, and the transcripts which have been filed in those earlier cases are admitted only to the extent specified either in Mr. Campbell's letter or my

letter as being included in the record on a stipulation.

MR. CAMPBELL: That is correct. However, of course, insofar as those statements are concerned, reference may be made to them in arguments or in the case too, as I understand it. You are intending to offer everything that has been presented to the Commission, including those portions of the earlier transcripts to which we referred in our letters, is that correct?

MR. MALONE: Right. That is correct. Then I would like to resume -- I believe before proceeding, I would like to offer this further suggestion as a means of proceeding in the case. The first and foremost and basic question which of course in any appeal from an administrative body is whether or not there is substantial evidence in the record to support the decision. One of the grounds of this appeal is that no substantial evidence appears in the record before the Commission. If the Court should conclude that that be the case, the question as to whether additional testimony will be heard here, or the extent of that additional testimony, would not arise in the case. I would, therefore, propose that an orderly means of proceeding would be to argue the question of whether or not substantial evidence is in the record on the basis of the record which has now been introduced in evidence, and have both sides present

their positions on that, and the Court, if it sees fit, may or may not rule on it before we proceed to the question of additional testimony. I had in mind further that it might be helpful to the Court to proceed on that basis because the argument as to the record, what's in it, would help to familiarize the Court with what had gone on before the Commission.

MR. CAMPBELL: If the Court please, that procedure is satisfactory with us.

THE COURT: All right, Mr. Malone.

MR. MALONE: Resuming then at the point where I reverted to the record, to-wit, at the conclusion of the first hearing on which Texas Pacific Coal & Oil Company presented its witnesses and exhibits and offered to make them available to opposing parties at the following monthly hearing. That resumption occurred on November 14, and the witnesses of Texas Pacific Coal &Oil Company were cross examined at some length by counsel for the various companies which opposed the application of T-P. At the conclusion of that cross examination, the counsel for T-P took Mr. Keller, one of T-P's witnesses on redirect examination and introduced for the first time several exhibits in for the support of the position of Texas Pacific Coal & Oil Company in the proceeding. It became apparent and was so stated by the counsel

to the Commission that these exhibits newly injected into the case on redirect examination were going to require considerable analysis by opposing companies before they would be able to reach any conclusion as to the correctness or incorrectness of what they purported to show, and, on that basis, the companies who opposed T-P and who now compose the petitioners, moved the Commission for a continuance to the December, or preferably the January, hearing of the Commission. This was at the November hearing -- moved for a continuance to the December or January hearing in order to provide an opportunity to analyze these exhibits, prepare cross examination and any affirmative testimony which might be required. The Commission refused those motions for a continuance, and at approximately noon on Friday said that it would recess the hearing until the following morning at 9:00, at which time the hearing would be continued and be disposed of.

During that recess, as the counsel for the companies stated to the Commission the following morning, an attempt was made to analyze the exhibits which were presented, and the companies reached the conclusion that it was impossible to do so in the time that the Commission had made available and the following morning respectfully declined to proceed further insofar as cross examination of those witnesses or

exhibits were concerned because of not being afforded time in which it could analyze the exhibits and profitably cross examine the witnesses. Further discussion ensued at that time and a further motion was made for continuance to the January hearing. This, again, was overruled by the Commission, which finally said on November 15th that it would give ten days and would reconvene on November 25th and it would be wholly impossible to obtain hotel rooms, and finally the Commission continued the hearing to December 9th, on which date it was resumed.

When the hearing resumed on December 9th the twelve companies who appeared were all companies or individuals in that field who are producers who took a position in this matter, all having taken a position who were producers only as distinguished from a pipeline company that is also a producer. They were uniformly in opposition to this proposal that deliverability be injected into the proration schedule of the Jalmat field for the first time in the gas fields of southeastern New Mexico.

On December 9th, when the hearing reconvened, the parties opposing the application of T-P presented the testimony of Mr. Liebrock, a consulting engineer, based upon work which he testified to had been continuously in progress since the recess of the Commission and which had

required some 1700 man-hours for the preparation of the exhibits which were then presented. Mr. Liebrock at that time testified that by reason of the failure of the Commission to provide additional time it was not possible for the protestants or the petitioners here to present a complete core volume study of the Jalmat field, which they would have liked to do, and testimony was presented on the basis of a study of a 58-well area in the center of the field because of the fact, as Mr. Liebrock testified, time to make the complete study had not been given us by the Commission.

At the close of the hearing on December 10th, statements were heard, and I believe I'm correct in stating that all producers who appeared in opposition to the position of T-P, with the exception of the pipeline companies, some of whom are producers as well.

The order of the Commission having come out, and application for rehearinghaving been made and granted, the petitioners here presented on rehearing the testimony of Mr. Liebrock again supported by numerous exhibits and the testimony of Mr. Henry Cruy who had testified and written a number of the articles which composes literature on the field which is here in question, and who had formerly been with H. J. Cruy and Associates, an independent consulting

firm in Dallas, Texas. We also presented at that time the petroleum engineer of Humble Oil & Refining Company. And the petitioners again presented the testimony of Mr. Keller, who was the only expert witness who appeared on behalf of Texas Pacific Coal & Oil Company. Mr. Woodruff appeared for the El Paso Natural Gas Company.

That, I believe, is the history of what occurred in the case, and that resulted in the final order and the appeal which is taken from it.

The attack which is made on the final order is directed to all of the grounds stated in the several petitions for review, but, insofar as the question which I now propose to discuss, whether there is substantial evidence in the record to support the findings of the Commission, it is directed to Paragraph 5 of the order of the Commission. This is Paragraph 5 of the Findings on the basis of which the original order was issued. That finding is this:

MR. CAMPBELL: Which order, Mr. Malone?

MR. MALONE: 1092-A.

MR. CAMPBELL: If the Court please, the order 1092-A on rehearing was superseded by order R-1092-C, and the very purpose of the rehearing is to permit the Commission to consider errors it might have made. It occurred to me that, while Mr. Malone was talking awhile ago, that the order appealed from here

would necessarily have to be the final order of the Commission, which would be 1092-C. It may contain the same paragraph. I haven't found it yet, Mr. Malone.

MR. MALONE: There was -- insofar as counsel's statement is concerned, the last paragraph of order 1092-C is that the provisions of 1092-A shall remain in full force and effect so that I take it we still have to appeal from 1092-A in the light of that final order of the Commission.

MR. CAMPBELL: If the Court please, I believe that Mr. Malone is referring to a finding, not to a conclusion, of the Commission, and I think that it is quite obvious that, in applying for rehearing before an administrative agency, one of the purposes is to call the attention of the agency to any errors it may have committed in its original order and to request it to change its order in any respect if it finds that it has been in error. I think you will find that some of the paragraphs of findings which were entered in the original order, after the rehearing that the findings are different, and if we are going to argue on the findings, I would suggest that we should be arguing on the findings after the petitioners here have an opportunity to present their views to the Commission on rehearing and the Commissioners have had a chance to reconsider the matter.

MR. MALONE: I agree that the purpose of rehearing is to permit

the Commission to correct any errors that they have made or that it wishes to correct. Insofar as my examination of the order 1092-C is concerned, with reference to Paragraph 5, to which my argument was directed, the only change that I observed was the insertion of the word "recoverable" in front of "gas in place". But the provisions in the finding of 1092-C is that the provisions of order R-1092-A shall remain in full force and effect, and it is therefore ordered that the provisions of 1092-A shall remain in full force and effect. Now, when provisions of that order are remade in full force and effect under the order of the Commission, I think that you cannot divorce the order from the basis which it recites in its body for its having been issued, and the findings on which it was predicated. It is a very fine line that counsel seeks to draw, if I understand him correctly, which is that the order part of 1092-A stays in effect but that the findings part of 1092-A doesn't say in effect. It seems to me that it would be trying to take the hair away from the hide. But, for purposes of the present argument, I'm perfectly willing to direct my remarks to 1092-C insofar as subparagraph 5 of the findings in 1092-A are concerned. I do not, however, agree that counsel's position is correct, that the Commission wiped out the findings on which 1092-A was based when its order said 1092-A is ordered to continue in effect.

The finding, Paragraph 5, to which I referred of R-1092-A was this: that the applicant has proved that there is a general correla tion between the deliverabilities of the gas wells in the Jalmat Pool and the gas in place under the tracts dedicated to said wells.

MR. CAMPBELL: If the Court please, if the Court will pardon me, I believe we're back in 1092-A --

MR. MALONE: I said I was reading Paragraph 5 of 1092-A because I want to show the difference between it and 1092-C. I also for the record said, however, that I did not concur in counsel's position that 1092-A was completely superseded in so far as its findings was concerned.

-- that the applicant has proved that there is a general correlation between the deliverabilities of the gas wells in the Jalmat Gas Pool and the gas in place under the tracts dedicated to said wells, and that the inclusion of a deliverability factor in the proration formula for the Jalmat Gas Pool would, therefore, result in a more equitable allocation of the gas production in said pool than under the present gas proration formula.

Now that finding, looking back for the moment at the order originally issued by the Commission, that finding as we view it was and still is crucial to the order appealed from. There were two other findings included in that order

which, I take it, counsel now contends are -- no longer have any life, is that correct?

MR. CAMPBELL: If the Court please, we -- other than for the purpose for which he intends to make an indication of the change -- insofar as any legal argument based upon the findings in the original order as the basis for the original order, which are not present, are not included in the final order, we consider are not properly arguable here. The Commission based its second order solely upon the paragraph to which you are referring, and not upon any other paragraphs in the original order.

THE COURT: Very well.

MR. MALONE: All right. I would assume that the order would have to speak for itself on that, and I guess it is going to be hard to agree on just what it does say, but the findings which appear in 1092-C, after rehearing, are these:

The Commission finds: (1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof. (2) That, after considering all the evidence presented at the original hearing and the rehearing in this case, the Commission reaffirms its finding that the Texas Pacific Coal & Oil Company has proved by a preponderance of the evidence that there is a general correlation between the

deliverability of the gas wells in the Jalmat Gas Pool and the recoverable gas in place under the tracts dedicated to said wells.

Now, as I say, as far as I have been able to detect, the only change in this finding, they say they are reaffirming the former finding; they changed the wording by inserting the word "recoverable" in the final order, the "recoverable gas in place" under the tracts dedicated to said wells, and that the inclusion of the deliverability factor in the proration formula for the Jalmat Gas Pool would therefore result in a more equitable allocation of the gas production in said pool than under the present gas proration formula.

And (3) that the provision of R-1092-A should remain in full force and effect. It is therefore ordered that the provisions of Order No. R-1092-A shall remain in full force and effect. I take it by counsel's statement that he, I believe, is willing to admit that the Commission made an error in findings No. 6 and 7, which were included in the original order which he now says were not included in the final order.

MR. CAMPBELL: The record needs to show that we do not admit that, if the Court please.

MR. MALONE: Silence does not mean acquiesence?

Directing now my discussion to the subject of whether

there is substantial evidence in the record to support this finding in 1092-C, which is the crucial finding on which the validity of the Commission's actions, and any of them, must be based, it is that the Texas Pacific Coal & Oil Company has proved by a preponderance of the evidence that there is a general correlation between the deliverabilities of the gas wells in the Jalmat Gas Pool and the recoverable gas in place under the tracts dedicated to said well. It is the position of the petitioners in this case that there is no substantial evidence in the record to support that finding, and that the only evidence in the record on the subject is contrary to the finding. Our position is based on this proposition. The Commission found that it had been established as it said by a preponderance of the evidence that there was a general correlation between the deliverabilities between the gas wells in the Jalmat Pool and the recoverable gas in place under the tracts. In order to so prove, it is basic and fundamental that there would have to be testimony in this record as to the recoverable gas in place under the tracts involved, and the only evidence presented in this case and shown by this record with reference to recoverable gas in place under the tracts by the engineering standards which the witnesses for the Texas Pacific Coal & Oil Company themself accepted was

the testimony that is presented by these petitioners which showed that there is absolutely no correlation between the amount of gas a well may produce at a given time and the amount of gas that is in the formation underlying the tract assigned to the well.

Now, in order to appreciate the vital importance of that finding, the statutes of New Mexico prescribe that in allocating gas the Commission must allocate insofar as is practical to provide each owner an opportunity to recover the amount of gas that that gas underlying his tract bears to the total gas in the entire pool, and that, of course, is the protection of correlative rights.

Correlative rights is defined by the statute as:

> "Correlative rights means the opportunity afforded, so far as is practical to do so, to each owner of property in a pool to produce without waste his just and equitable share of the oil and gas, or both, in the pool, being an amount, so far as can be practically determined, and so far as can be practically obtained without waste, substantially in the proportion that the quantity of recoverable oil or gas, or both, under such property bears to the total recoverable oil or gas or both in the pool, and for such purpose to use his just and equitable share of the reservoir energy."

Now, in the face of that statute defining correlative rights, there is the companion statute, 65-3-14(a), which affirmatively directs the Commission:

> "The rules, regulations or orders of the Commission shall, so far as is practical to do so, afford the owner . . . "

and then it uses the same wording as correlative rights -- shall afford an opportunity to produce that portion which that gas underlying his acreage bears to the total gas in the pool.

Back to our original and basic premise then. That is, that there is no testimony in this record as to the recoverable gas in place under the tract in the Jalmat Pool except the testimony presented by these petitioners, and as to that it is shown that there is no correlation whatever between deliverability and that recoverable gas in place.

I'm sure that at this point the Court is wondering how it would be possible that a case that has gone as long as this one has, and has a record the size of this one, could possibly have gotten to this point without there being any evidence in the record on the crucial question in the case. That situation comes about by reason of the fact that the Texas Pacific Coal & Oil Company presented a single expert witness, and all of his exhibits were directed to, and his testimony was predicated upon, not the recoverable gas in place under the tract, but the reserves, as he referred to them, of the wells.

Now, there is obviously a great difference between the recoverable gas in place under a tract and the amount of gas,

or the reserves as they referred to them, which will be produced by a particular well because a well with very high permeability can drain an area five times as large as the land assigned the well, and the legislature of New Mexico did not say that in protecting correlative rights, you give a man a right to produce the portion of the gas in relation to what could be produced from his well. It said, "in proportion to the gas that's under his tract," and that is the place that the testimony in this entire case divided. All of the testimony by the admission of their own witness, while they use the term in some instances "recoverable gas in place", they quite frankly admitted that they were merely taking the reserves that could be produced by the well from wherever they might come and dividing them up among the acreages assigned to the well, in lieu of a study as presented by the petitioners of the recoverable gas in place under the land, based upon the thickness of the formation, the porosity and permeability, and connate water and other factors which go into a core volume study to determine, not the amount of gas that a well may produce if it drains the whole countryside, but the amount of gas that is under the tract in question. And, without laboring that further, it is our position that, in the absence of any proof as to the recoverable gas in place under the individual tracts in this

pool, and no such proof has been presented by the applicant, T-P, that there is no substantial evidence to support a finding that there is any correlation between the recoverable gas in place and deliverabilities, because, if there is going to be a correlation, you've got to show what you're correlating to, and the testimony is wholly absent.

This, as the Court will readily appreciate, was the subject of controversy throughout the hearing before the Commission, and it is possibly the crucial subject that will be before this Court insofar as the record itself is concerned.

As for the record, I might say that the method -- I stated that the method used by the witness presented by the petitioners for establishing the recoverable gas in place was a core volume study of the actual producing formation to determine the gas in place under the tract, whereas the means used by the single witness who testified for the applicant was what is called the extrapolation of a pressure production curve and material balance study. I don't know what occasion the Court has had to be subjected to extrapolation of a curve. I myself have had a liberal education in the subject since the case started myself, but, basically, so that the Court can in the portions of the testimony to which I want to refer, so the Court can

evaluate the testimony I have put here on this board, an exhibit which shows the manner in which the extrapolation of a curve is done:

This is on coordinate paper. You plot at points on this paper, going out in this way, the cummulative gas production from that well at various times in the life of the well, and each of these red dots indicates the cumulative production. Beginning here, this is a million mcf, one, two, three, four, five, so that at the time this well had produced one million mcf of gas it had a pressure in it of approximately 1100 pounds. The pressures are shown up here; the cumulative production out here so that a spot is put to indicate the cumulative production against the pressure. A month later or six months later or three years later, another look at the cumulative production is taken and the pressure is taken and another spot is plotted. The direction of the curve is merely the projection of the line which proceeds through those spots, projection down to the point that there would only be a hundred pounds pressure left in the well, which is accepted, I believe, in this case as the abandonment pressure and in most wells. Then you look over here to see what the cumulative gas production from that well would have been at the end of its life. The exhibit to which I am referring, which deals with Continental

Oil Company's Lynn B-26 No. 2, demonstrates rather clearly, as we see, the fallacy of the position of the applicant. It can be seen at this point, before the additional production points were established, that, when you extrapolate the curve for that well, it goes directly down here to about five million cubic feet, and at that point in the life of the well in the period and on the basis used by the witnesses used for applicant, they would have testified that that well had a reserve of five billion cubic feet whereas after some additional production and some additional pressure tests were taken on the well and the points were established, the slant of that curve changed entirely, and the line now extends out here to 10 million -- or, 10 billion cubic feet of gas.

MR. CAMPBELL: If the Court please, this is just an exhibit?

MR. MALONE: No. It says here it is an exhibit of the case. This is the one -- Continental Oil Company Lynn B-26 No. 2. As can be seen from this exhibit, it is possible to obtain from an extrapolation of the curve on this well two estimates as to its ultimate recovery, one twice the other, and this results from an attempt to determine what the future reserves, as it is referred to, on the well may be on the basis of extrapolating a curve. This is what we say constitutes no evidence as to the recoverable gas in place

under the tract, which the statute of New Mexico says must be the basis for any order affecting correlative rights. So this extrapolation of a curve is an attempt to determine, not what gas is in place under the tract, which our statute requires, but to determine what gas will be produced by that well in the future if it continues to produce as it has in the past, and is the basis of all the testimony that was presented by T-P, and, as we contend, constitutes no evidence whatever as to the recoverable gas in place. If that be correct, I believe it would have to follow the order must have to fall because no correlation could be established.

In order to -- I don't intend at all to read all of the testimony on this subject because about fifty percent of all this thousand or so pages of testimony before the Commission dealt with it. I propose to try to establish my position solely on the basis of the testimony of the witness who himself -- who testified for the Texas Pacific Coal & Oil Company and who computed these reserves. On the basis of his own testimony, and admissions as to what he did and the effect of what he did, we contend it is clearly established that the standard required by the legislature of New Mexico has not been met. I don't know whether the Court wants to follow this testimony. I'm

going to impose on the Court as little as possible but it might be helpful if you had the transcript.

THE COURT: We will take a recess at this time.

(WHEREUPON, trial of the cause is recessed briefly and then resumes as follows.)

MR. MALONE: If the Court please, I have laid on the Bench the volumes of testimony from which I will read excerpts, and I have put a pencil number at the top of each volume, just numbering them numerically as I went through chronologically.

THE COURT: Yes, sir.

MR. MALONE: The first transcript to which I will refer is the second one, which is the hearing of November 14, 1957, at Page 60. I think I might preface the reading of this with this further perfectly frank statement. I said before the recess that it would be amazing that this case would come this far without testimony as to the substantial issue that's involved in the case. If "reserves", as that term was used by Mr. Keller, and as the testimony I will read demonstrates it was used, means "recoverable gas in place" as the New Mexico statute requiresit to mean, there is nothing to the point of arguing to the Court. If the term does not mean "recoverable gas in place", there is no

evidence in this record from which any correlation could be determined because there is no evidence offered by the applicant as to what the recoverable gas in place is.

At Page 60. This is cross examination by Mr. Webb of Sinclair, who, I may say, is since deceased. He is asking Mr. Keller now:

"Q Under your allocation formula -- and I hate to repeat Mr. Hinkle's remark as to your statement -- but you said that any allocation formula should bear some approximate relationship to reserves. I suppose you mean recoverable reserves in place, is that correct?

A I believe I said, 'reserves'.

Q All right. What did you mean by 'reserves'?

A I meant reserves."

Page 69. Mr. Dippel is cross examining Mr. Keller:

"Q Now, Mr. Keller, I would refer you to Page 62 of the transcript. In your answer on that page, what do you mean by 'relative gas reserves of the various wells' and so forth?

A Whereabouts on that page are you referring to, Mr. Dippel? Haven't found it.

Q Page 62.

A By 'relative gas reserves' on Page 62, I meant the gas reserves of one well relative to another.

Q You are not talking about recoverable gas in place?

A No, sir. I am talking about the reserves to be recovered from those wells."

At Page 81, further cross examination by Mr. Dippel, at the very bottom of the page:

"Q Would you say that the test that has been thus far offered in support of this application to the effect that deliverability should be a factor in the proration formula of this pool, would apply, in a general way at least, to any other gas pool?

A Well, Mr. Dippel, I don't think it necessarily follows that deliverability would be applicable in any other gas field, no, sir. I am recommending specifically for the Jalmat Field, because my study leads me to conclude that this formula in this field would more nearly allocate allowables in proportion to reserves than the acreage formula does."

I point out again that the statute affirmatively requires the Commission to allocate allowables to recoverage gas in place and not the reserves that might be produced.

THE COURT: Mr. Campbell, have you any quarrel with Mr. Malone's premises as to what the statute provides?

MR. CAMPBELL: Not as to what the statute provides. He read the statute. I disagree with his conclusions as to the relation of the testimony to it, very definitely.

THE COURT: Very well.

MR. MALONE: I would go now to Volume No. 2 -- I beg your pardon, 3, penciled number 3, Page 128, the last question on the page:

"Q Now, in your opinion, would the formula that you have recommended to the Commission, protect correlative rights?

A In my opinion, the formula that I recommended more nearly, or to a greater extent, protects correlative rights than the 100% acreage formula.

As a practical matter, I don't suppose there is any perfect formula that would distribute allowables in direct proportion to reserves, or recoverable gas in place. I mean, it's just not possible, but it is my very definite opinion, based on my studies in the field and my understanding of the operation of the allocation formula, that the formula that I have recommended goes a great deal further toward protecting correlative rights in general than does the 100% acreage formula. It is for that reason that I have recommended it.

Q Would you state to the Commission, your conception of what an allowable formula must contain in order to protect correlative rights?

A Well, sir, in my opinion, an allowable formula must result in the distribution of allowables in some reasonable proportion, or some reasonable relationship to reserves in order to protect correlative rights.

Q Would you define for the Commission, 'reserves' in your opinion?

A The reserves of a well, of a gas well, is that volume of gas which will be produced in the future from such well.

Q Under what conditions in the future?

A Whatever conditions exist in the future.

Q Can you expect the Commission to know what conditions would exist in the future?

A Well, as an engineer, in estimating gas reserves, it's common practice to antitipate the future on the basis of the past."

Page 132 of the same volume. Mr. Dutton, I believe is cross examining:

"Q Well, the point, you are basing this recoverable reserves that you think deliverability is a function strictly on what has happened in the past, am I correct in that statement?

A The word that bothers me is 'strictly'.

Q What else are you basing it on?

A Let me say this, that as an engineer, given the problem of determining an allocation method which will serve to protect correlative rights, it's necessary that that engineer first of all set up some basis, or standard which he can quantitatively measure one formula gainst the other. For that reason, it was necessary to adopt some standard in my thinking of what 'fair share' was."

I would like to interpolate that to say that the New Mexico legislature set the standard in New Mexico. The answer continues:

"It was my conclusion, after considering that problem, that the reserves of the wells, and of the acreage assigned to them, was not only the best, but in actuality was the only real standard with any meaning that you could use in this particular situation.

Q Why did you reject gas in place?

A Because it is not possible to measure the gas in place with the information at hand in the Jalmat Field.

MR. CAMPBELL: You may read the balance of that.

MR. MALONE: You may offer in the course of the record anything you like. Page 134 at the top of the page:

"Q But, sir, one more time, the method in which you estimated reserves was based upon, as I believe you replied a moment ago, but have not yet repeated, was based upon study of past performance?

A It was based upon the extrapolation of past production pressure performance of the individual wells, which is the only method available to an engineer of estimating recoverage gas in place for most of the wells in the Jalmat Field. It wasn't because that was necessarily the best.

It was the only one available. I mean, it wasn't because that method was selected by choice; it was because that is the only method available to the engineer.

Q I see. But then you do not want to leave the impression with the Commission that deliverability in any way relates to gas in place? As we pointed out, there is not a single factor on the left and right side . . . "

They are referring to a formula.

" . . . that enters into these two things?

A Well, I am saying this to the Commission in respect to the relationship between reserves and deliverability and recoverable gas in place in the Jalmat Field, that they are all three related. Yes, sir, that in general the higher the reserves, the higher the calculated recoverable gas in place per acre, and the higher the deliverability.

Q Did you state the higher the gas in place, sir? You said all three were related.

A I stated, the higher the calculated recoverable gas in place.

Q That's one -- the higher the what?

A The higher the reserves.

Q Wait a minute. What is the difference between the recoverable gas in place and the reserves under your definition that you submitted to the Commission?

A The reserves are calculated through necessity for the wells.

Q Then, what is the recoverable gas in place?

A Well, a well as such does not have recoverable gas in place. It doesn't have gas in place as such, so to calculate the recoverage gas in place . . . "

And this that follows is, as I understand it, is a statement as to how the original figure of recoverable gas in place, as referred to in Mr. Keller's testimony, was obtained:

> " . . . you have to divide the reserves by an acreage assigned to the well, and that is the calculated recoverage gas in place per acre that I have calculated from the reserves. Those three factors calculated in the manner I have just described, definitely related in the Jalmat Field in that they in general are hand in hand, the higher the reserves, the higher the recoverable gas in place . . ."

I would like to point out that the witness is there saying that, if you take the reserves for a particular well and divide it among the acreage, that it is obvious that it is going to be higher, which is certainly an obvious conclusion, the reserves not being the gas in place under the land around the well but the gas that may be produced through the well from wherever it may be draining.

> ". . . the higher deliverability, and conversely, and the variations between deliverability and reserves are somewhat -- and recoverable gas in place calculated as described cover approximately the same ranges, although the present allocation formula assumes that they are constant."

And on Page 137; Mr. Dutton is still cross examining. It picks up in the middle of the question. The question is:

"Q But not in the same proportion?

A No, not in the same proportion. I didn't say that the deliverability and the recoverable gas in place in the Jalmat Field vary in the same proportion. They do not, but they do vary over the same order of magnitude of extremes."

Now the Court will recall that the crucial finding to which this argument is directed is a finding that there is a general correlation between deliverability and recoverable gas in place, and this witness is here testifying that they are not in the same proportion: "I didn't say that they vary in the same proportion. They do not." And his testimony is that they varied over the same order of magnitude of extremes, which I assume means that the maximums and minimums within which the ranges occur are comparable.

"Q That is what your statement is?

A Yes, sir, that is the truth.

Q Did we actually tie down the answer, is that gas in place is not a function of deliverability? I believe you have answered that once, but you went on.

A Well, they are not directly a function of -- that's true. Rigorously speaking, that is not true, although they are related. I have tried to show how they are related in theory, and I think that explains the fact as to why they are related in the Jalmat Field.

Q Well, sir, there is no use to continue the argument."

Now to Volume 5, which is the hearing of December 10th, at Page 456. Now this is direct examination by Mr. Campbell of his own witness. In the middle of the page:

"Q Do you conclude from that that the deliverability formula, despite it's the fact that it is not perfect, comes closer to recognizing the reserves than the straight acreage formula on the base of that exhibit?

A Well, that is certainly true on the basis of that

exhibit, and all the studies I have done."

Pointing out again that the testimony of the witness is directed to a relationship to reserves as he has defined them and not to recoverable gas in place.

On Page 462, bottom of the page, next to the last question. At that point, I am cross examining the witness.

"Q How did you define the method used by Mr. Liebrock.."

Mr. Leibrock was our first technical witness.

". . . in the computation of the recoverable gas in place in his fifty-eight wells? How did you refer to that, what process is that?

A I referred to it, I believe, the same as he did, as a volumetric calculation.

Q As a volumetric calculation of gas in place?

A Recoverable gas in place.

Q What is the method that you used for that purpose?

A I obtained an estimate of that by obtaining the future recoveries of the individual wells on the basis of an extrapolation of the pressure production data and dividing by the acreage assigned to the individual wells. That is a -- really it's a graphical solution of a material balance solution."

I think that word is supposed to be "question of solution".

"Q Is that a material balance computation as you understand that term?

A Yes, sir.

Q Would you tell us briefly the factors that are included in making a material balance computation?

A In this particular computation, I think that I illustrated those merely taking the slope of the pressure production curve and multiplying that by the remaining pressure down to the abandonment pressure.

Q Is or is not it true that in making a material balance calculation, one of the factors that you are required to take into consideration is the migration of gas across the boundaries of the tract as to which the computation is made?

A Well, the assumption that is implicit in the calculation as I have conducted it, is that the volume of gas being depleted from which the depletion occurs, remains constant."

And I would pause to say that it seems to me that we are right there at the sixty-four-dollar question and answer, where the witness admits that the formula or the computation which he made is valid only if you assume that there is no migration of gas across lease lines.

"Q Let me be sure I understand you. You are assuming in your computation that there is no migration of gas across lease lines during the period of time that production which you have put on your graph is occurring?

A No, I'm not assuming that.

Q Well, I misunderstood you. Will you tell me what you did assume in that regard?

A Well, of course, the assumptions are not made by me. They are implicit in the equation, the material balance equation, the extrapolation of that straight line. It simply says that the volume of gas being depleted by that well or on which a pressure reduction occurs as a result of production from that well remains constant. Where that volume of gas is in respect to the lease lines is not determinable from such a calculation."

And there we are where we consider to be the sixty-four-dollar question; that the whole testimony presented on the basis of well reserves here gives no effect to where this gas is with reference to lease lines, and the statute -- as it must be on that statute basis.

"Q So that if the gas produced from a particular well on which you made that computation included any gas that had migrated across lease lines, it would tend to inflate the reserves which you would get, would it not?

A I don't agree that it would tend to inflate above what? When you say, inflate, that means increase above something. I am not sure of your reference.

Q Above the recoverable gas in place under the tract?

A I don't know whether it would be or not, the migration could be plus or minus. It might deflate.

Q Assuming a migration toward the well, it would increase the reserves that would result from your computation, would it not?

A Would you restate that? I'm not sure I understand that question.

Q Assuming a migration of gas across the lease lines to the well on which you have extrapolated a curve, that migration would be reflected in your curve with the result that you would show a larger reserve than the well in fact had if you assumed as a reserve the recoverable gas in place?

A If the well is depleting an area larger than that assigned to it and as a result migration occurs, the reserves calculated on the basis of the performance of the well would be larger than had that migration which we have assumed wasn't there, yes, sir.

Q So we are, I think, in complete agreement on that. The reserve calculation which you have made would be inflated to the extent of any migration that occurred across lease lines while the production was in process?

A Well, it works both ways.

Q Or deflated?

A Or deflated.

Q Exactly?

A Yes, sir. The performance of that well is governed by the area being depleted by that well. Now, whether or not that area conforms to the lease lines is something that isn't determinable."

And here, again, is the basic fallacy in the entire case put on in an attempt to meet the requirements of the New Mexico statutes because, by the witness himself, it is admitted that he cannot determine that this gas has any relationship to the recoverable gas in place under the tract, and he is giving effect to all of the drainage that has, or may have, occurred before proration started, or at any other time, in determining what the future reserves of that well are. And this is a basic -- well, the respect in which the record is completely silent insofar as the case presented by petitioners is concerned.

At Page 467, I was still cross examining:

"Q But you have admitted that your method includes any gas that may have migrated across the lease line, have you not?

A That effect is in there, yes, sir. That is not an admission. That is a statement of fact."

Page 475, bottom of the page. I'm still cross examining:

"Q In spite of the fact that it does reflect over and under production in the life of the well, -- or put it this way: does reflect drainage either from or to the well for which the reserve is computed?

A It doesn't reflect drainage. It reflects the most probable recoveries of gas that will be obtained from the individual wells. If there is drainage, taking place, whatever drainage there is is included in that estimate."

Then this significant question:

"Q The estimate assume that that same drainage will continue for the life of the well?

A Well, it varies.

Q It does assume that it will continue for the life of the well, does it not?

MR. CAMPBELL: He is attempting to answer the question.

A It assumes that the same degree of drainage will continue to exist or that the same area or volume of gas will continue to be depleted by that well. If the migration towards that well increases in the future, then the curve should flatten in the future. If it decreases, then the curve should assume a sharper slope, yes, sir, that is correct.

MR. MALONE: Thank you very much."

Now in connection with that, I'd like to refer again to the exhibit here that we identified as -- the exhibit to which I now refer is Operator's Exhibit 2-R, and the witness refers to the flattening of the curve. That's what happened in this case here where they originally indicated it went down here. The drainage increased and so the curve

flattens and comes out here and indicates a larger ultimate recovery.

I have just two other brief records. Volume No. 7, which is on rehearing at Page 206. This is cross examination of Mr. Keller by me.

"Q Mr.Keller, I want to be sure that I understand the procedure which you followed in arriving at the reserves which were the basis of your testimony. Am I correct in my understanding that you extrapolated a pressure production curve to an abandonment pressure of 100 pounds, and taking the figure which you obtained in that fashion, you divided it among the number of acres assigned to that well to arrive at the per acre value?

A Yes, sir.

Q That was the manner in which the computation was made?

A That's right. That pressure production data was during the period of '51 to '57.

Q When you say 'to '57', do you mean up to '57 or including '57?

A Well, sir, it's up to the date of the pressure on the '57 survey on each well.

Q That would be up to approximately January 1st, 1957?

A Plus or minus.

Q Two or three months?

A Yes.

Q It is true that all of the figures which are the basis, the so-called reserve figures which are the basis of your testimony and the exhibits which you have presented are figures which you obtained through the use of that method?

A It's true that all my reserve per acre figures were arrived at in that manner, yes, sir.

Q Now, I would appreciate it if you could answer this question yes or no, just to clarify the question, and if you want to explain the answer, why, I'll be glad for you to. Are you telling this Commission that the figures which you arrived at in that manner are the recoverable gas in place under the tracts assigned to those wells?

A No, sir.

Q Are you telling --

A Could I explain?

Q Yes, you may.

A I am telling the Commission that the distribution of the reserves per acre calculated in the manner that I have shown represents a trend in the variation of the actual recoverable gas in place distribution throughout the field.

Q But not that they are the equivalent of the recoverable gas in place under the tracts?

A They are not the equivalent for the individual tracts, no, sir. I thought I had explained that. They do represent, in my opinion, the fact that there exists a variation between tracts in recoverable gas in place, and the variation represented by the reserves per acre is very similar to the variation that actually exists in respect to recoverable gas in place.

Q Now, may I ask you another yes or no question? Are you telling this Commission that the same relationship exists between deliverabilities and the reserves as you have computed them that would exist between deliverabilities of those wells and the recoverable gas in place under the tract on which the well is located?

A I am saying --

Q Can you answer that yes or no?

A Would you repeat that? Can you read the question?

The reporter reads the question.

A Yes, sir, so far as the field pattern is concerned.

Q Is that same answer true so far as individual tracts are concerned?

A No, sir."

And I would interpolate there that drainage occurs between individual tracts and not field patterns.

"Q So you are not telling the Commission that the relationship between deliverability and the gas in place under individual tracts is the same as the relationship between deliverabilities and the reserves, as computed by you for that tract?

A Not for the individual tracts; just for the field distribution picture as a whole."

Now the final excerpt, Page 222. I'm still cross examining.

"Q Now, you have agreed with me, I believe, that the figure that you so compute is not the equivalent of recoverable gas in place?

A If there was no migration between the tracts, it would be exactly the recoverable gas in place between the tracts.

Q I believe we established early in the hearing that migration does exist between the tracts?

A You want me to assume migration in this example?

Q Yes.

A Then the difference in the reserves per acre and the actual recoverable gas in place that you get under your hypothesis would be dependent upon how much migration took place under those circumstances."

Now, as the Court will observe, this basic question to which this argument is directed went throughout this hearing, and even on the final rehearing, we were still hammering away at this question of the effect to be given the testimony as to reserves, on which the entire case that Texas Pacific Coal & Oil was based. I say again that, if that meets the requirements of the statute, there is plenty of substantial evidence in there, but the witness himself testified, not once, but a number of times to the effect that, as an experienced and legitimate engineer had to admit that these well reserves that he computed and distributed back out over the acreage give effect to all of the migration of gas that has occurred in the whole history of the well, and are an entirely different thing than the recoverable gas in place under the tract, because, obviously, to set up a proration formula on the basis of his computation, merely perpetuates the drainage that has occurred in the past for the entire life of the field. And it is for that very reason that we have fought this thing from start and will continue to fight it just as long as we can because it is a gross injustice.

Now, what is the evidence that is in the record on the subject of recoverable gas in place? It is my understanding that the Court, in considering whether or not

there is substantial evidence to support the position of the Commission, reads the entire record and reaches a conclusion as to whether the testimony presented includes substantial evidence, we have no illusions about the fact that it doesn't take very much to constitute substantial evidence in one of these administrative hearings, but by the same token there has to be substantial evidence, and when the man who presented the evidence admitted that it failed to meet the requirements of the New Mexico statute -- and it seems to me that that is the only effect that can be given to his testimony -- then clearly there is no substantial evidence.

The only testimony that was presented as to the recoverable gas in place under the tract was presented by us, and it was presented at great length on the basis of a study of the area which is outlined in red on Operator's Exhibit No. 5-R, which was a fifty-eight well area. The witness testified that it was a typical area, that it included the most important part of the field, and that the only reason that a study was not made of the entire field was that the Commission did not allow us enough time to make such a study, and we had to select an area which we could complete within the time that the Commission had afforded us. On the basis of that study and the volumetric

calculation of the gas in place under the tract on the basis of a formula, which was admitted by the opposing expert to be the formula to be used in such cases. We studied and determined the actual gas in place under the tracts, and then compared that to the so-called deliverabilities of these wells, the amount that a well could produce, to see whether there was any correlation, as the Commission found that there was such a correlation. And the only testimony in this record shows that there is no correlation whatever and is directly contrary to the conclusion reached by the Commission for which there is no substantial evidence.

And that perhaps is best shown by Operator's Exhibit 6-R on which we have plotted each of these fifty-eight wells and the recoverable gas in place under the tract as provided by the New Mexico statute against the deliverabilities, the deliverabilities computed as best we could compute them on the basis of the information that was available shown by these green dots, the recoverable gas in place by the red column. If there is any general correlation between the height of these columns and the location of these green dots, it certainly is not apparent. The fact is, it shows that there is no relationship whatever, which is an engineering fact that is perfectly obvious because the

factors that give you the amount of gas that a well can produce are the permeability, the size holes and passages that run through the formation, the thickness of the formation and these other factors, and the fact that the well may have a fissure that goes right down through it. In that case, gas gets in from the next lease and causes it to produce at a tremenduously high rate. It has no relationship to the recoverable gas in place under the tract, which this legislature said should be the basis of protection of correlative rights and the basis of any order that is written.

I think that this exhibit in its comparison here -- just look at the deliverability of that well as against the recoverable gas in place, and the deliverability of this well as against the recoverable gas in place. Thenext one is even better, the second one. The deliverability way down here; recoverable gas in place way up here. So, what happens when you put deliverability in this formula? This man's allowable is out way down and his recoverable gas in place is much more than his neighbors, but he doesn't produce it so it migrates and somebody else does produce it.

I say again that the only substantial evidence in the record on the recoverable gas in place under the tracts, and in fact the only evidence is that presented by the

petitioners, and it clearly shows a complete lack of correlation directly contrary to the findings that the Commission made.

I would also refer very briefly to Operators' Exhibit 5-R, an exhibit showing absence of relationship from recoverable gas in place and a deliverability allowable. We undertook to construct the deliverability allowable on the same basis that the other side did and the tests as they had been prescribed, and then in this area we undertook to just select cross section wells to see how recoverable gas in place and deliverability would compare to each other, and the evidence shows clearly -- and these are individual wells -- the evidence shows clearly that the recoverable gas in place as shown in the green column, the deliverability in the red column, and it is apparent that there is no correlation whatever between these two.

And it is in the face of that situation that it is proposed to put deliverability into this formula, and it is contended that the correlative rights of the parties in the field would be better protected than under the existing system. If that would be the case, it would be a very curious thing that all of the operators in the field except one would be unable to see it, and that the only companies other than the operator himself are the gas pipeline companies

who handle the takes of the wells and who are glad to get the most gas out of the least wells and as quickly as possible because it simplifies their operation.

We respectfully submit to the Court that, there being no evidence in this record as to recoverable gas in place, there is no evidence to support a finding that a general correlation exists between deliverabilities and recoverable gas in place, and that the order is invalid, arbitrary and void; and further, that the only evidence on the subject which was presented is directly contrary to the conclusion which the Commission reached.

Thank you very much, your Honor.

MR. CAMPBELL: If the Court please, I would like to place about three exhibits on the board to which I want to make reference as Mr. Malone did. May I have time to do that, please, sir?

THE COURT: Yes, sir.

MR. CAMPBELL: If the Court please, I would first like to make a few very brief answers to some remarks that Mr. Malone made concerning the question as to whether the petitioners here were afforded an ample opportunity to present their views and compile data to present to the Oil Conservation Commission. I think even the summary that Mr. Malone used as to the history of this matter in its later stages would

indicate that they were given ample opportunity. At the original hearing after the filing of our application, which set out in some detail, as Mr. Malone indicated, what we intended to prove, the hearing was held, the first hearing, at which time no one except the applicants presented any testimony or evidence. We presented the exact formula that we proposed in this field, and we offered testimony in evidence to substantiate our position that that formula would come closer to protecting correlative rights in this pool than did the existing straight acreage formula.

I advised the other operators, and the record discloses as Mr. Malone indicated that we realize that this would have serious impact upon all operators in the Jalmat Gas Pool. For that reason, we were willing to have them take our testimony, chew over it, come back at the next hearing and make our witnesses available for cross examination, which we did. And at the next hearing Mr. Keller was cross examined extensively as the size of these transcripts will indicate upon the very point that Mr. Malone has brought up at this time. On redirect, we put some additional evidence in, studies on this, not theoretical exhibits but actual exhibits. Included among them were these two maps, which I have placed on the board, which are applicants' exhibits, 2, I believe, 2-R and 3-R, in which Mr. Keller

stated that, based upon his studies in the Jalmat Gas Pool, there was a reasonable correlation or relationship between the reserves in the pool and the deliverability of the wells in the pool. Now, after that hearing, the opposition contended surprise by the exhibits, that they wanted another opportunity to make a study, and they were given that opportunity until December the 9th, at which time they made an extensive study of fifty-eight wells, as Mr. Malone has indicated, out of a total of some 380 wells in the entire field, in a selected area, which the testimony will show we contend it was the best area in the field and the one that naturally had the greatest uniformity and which would best fit with acreage. They came back and presented exhaustive testimony after again cross examining Mr. Keller on the basis of their position as to the method of meeting the statutory requirements.

After that was over and the Commission entered its order, a period of three or four months expired, and during that time they continued their studies on what information they could get available, the same information available to us, and it wasn't until March that this rehearing was held at which again this entire period of engineering, method of calculating reserves and gas in place, and the relationship of the recoverable gas in place and deliverability was gone into.

I do not think that the petition before this Court that they did not have an opportunity or time to make an adequate study of this reservoir is proper. I think the Oil Commission gave them ample time, and so did we, to make an attempt to make the same type of studies we made, but all they came up with throughout all of these hearings was a study of fifty-eight wells in this entire pool of some 380 wells, in an area where, out of fifty-eight wells, there were only five cores available, even in those wells, and two or three of those were outside of the fifty-eight well area. They then proceeded to assume that those cores reflected the condition in these wells, as well as assuming other common conditions in the reservoir, because they didn't have adequate information, and it isn't available, to determine upon the basis of a flow volume study, what the deliverability of the tract may be.

So the controversy on this has been, your Honor, the method of calculating the recoverable gas in place and, second, the relationship of the deliverability of the wells to that relationship.

I would like to call to the Court's attention that the legislature, probably exercising more wisdom than it often does, when it defined correlative rights and set up the standards which the Commission is obligated to protect just

as well as it is obligated to prevent waste, in defining correlative rights, the legislature did not even indicate that you could with any degree of exactness determine how much oil or gas there is in place under a 160-acre tract. I think it quite obvious on the surface that there is no method of calculation, short of mining, which will make that determination, even under the volumetric study. As soon as you leave that hole, if you have a perfect core, you have a complete log, if you have all of the information, as soon as you leave the serial boundaries of that hole, you are in the dark as far as reserves under that particular forty or hundred-sixty acre tract are concerned. We must be dealing here with estimates, the best estimates we can arrive at from the information we have available, and the legislature recognized that when they said in defining correlative rights, it means the opportunity afforded, as far as is practicable to do so, to each owner of property in the pool to produce without waste his just and equitable share of the oil or gas, or both, in the pool, being an amount so far as can be practically determined and so far as can be practically obtained without waste substantially in the proportion that the quantity of recoverable oil or gas or both under such property bears to the total recoverable gas or oil or both in the pool, and for such purpose

to use his just and equitable share of the reservoir energy.

Mr. Malone is quite correct that in no place in this transcript did Mr. Keller, who is a competent engineering witness, and who has had considerable experience in the field of oil and gas and whose qualifications certainly were acceptible to the Commission and should be to the Court as far as this argument is concerned, Mr. Keller nowhere stated that the deliverability and recoverable gas in place under each tract are in direct proportion. Of course, no one could testify to that under any proration formula, certainly not under an acreage formula which fails to recognize at all any difference in the composition of the tracts in this considerably sizeable pool. Mr. Keller testified to two essential things: First, and some of the testimony read by Mr. Malone and some I will refer the Court to will point this out -- first, that in the Jalmat Gas Pool the only method available to determine the relationship between recoverable gas in place and deliverability is the study that Mr. Keller gives. The transcript is full of testimony with regard to this volumetric method but there is not sufficient evidence available to calculate it accurately as to the distribution of gas in place between the tracts so Mr. Keller said, "I have used the only method available to determine the existence of reserves in this pool."

Then the question came up, as Mr. Malone has said, early in the proceedings, I think it's merely a question of semantics. I don't think we are dealing here with exact conditions. I don't think we can guess an oil reservoir. This is a question of semantics. What is the difference between reserves, reserves in place, gas in place, recoverable gas in place? The statute says that the correlative rights must be protected by giving a man an opportunity insofar as it is practical and in a practical way of recovering his fair share of the recoverable oil or gas under his property. Both engineering witnesses, all of them -- it is obvious on the face of it, no formula can meet that test exactly.

The second thing Mr. Keller said was that the formula he proposed based upon the studies that he had made, exhaustive studies as the record will show, showed that there was a reasonable correlation in this pool between deliverability and recoverable gas in place. He did not say that they were in proportion. Of course, now then I don't think the statute ever contemplated that they have to be in proportion in order for the correlative rights to be protected. If that is the case, most certainly the more present allocation formula, straight acreage, is an unlawful formula.

Now I think that the record will show throughout it and some of these statements that Mr. Malone made reference to are statements to which I would have referred, but as I say, it is a question of what the statute means, what the Commission is obligated to do. It is our position that, in protecting correlative rights, in determining whether the 100% acreage formula is the best or the formula we propose is the best, they must consider the impact of both those formulas because neither of them, as the witnesses have testified and as I will indicate, neither of them are perfect formulas; neither of them prevent the migration which is uncompensated, or the migration between tracts that are not compensated. Both witnesses, our witness, testified as to that.

Now, with regard to Mr. Keller's testimony and the suggestion by the petitioners here that there is not any evidence in the record showing a reasonable correlation between deliverability and recoverable gas in place under the finding of the Commission referred to. I would like to call to the attention of the court a number of excerpts from the transcripts which -- and I believe I have some that the Court may not have. I will go in chronological order, if the Court please. On Page 63 of Transcript No. 1; at the last hearing there was a sizeable lot of testimony

and there were exhibits offered as to the theoretical engineering relationship between deliverability and recoverable gas in place. This was the first point at which this point of dispute arose and Mr. Keller constantly stated in that hearing, and this is one of the places, that while there was not a direct proportional relationship there was a reasonable correlation or reasonable relationship in this pool between deliverability and recoverable gas in place. The question was asked him:

> "Q Now, Mr. Keller, I have noted that on that exhibit you have stated, as I understand you, that the gas reserves are determined by a relationship between recoverable gas in place and the deliverability, and that acreage appears only as one of five factors in the determination of recoverable gas in place. Does acreage appear any place else as a factor in the determination of gas reserves?
>
> A No, sir."

Now this point that I wish to make there is that here that I think that the Commission was concerned not only with whether this is the perfect formula but whether this better protects the correlative rights in the field than does the acreage formula. And Mr. Keller, in the very first hearing, made the statement that that was the case, that there was a relationship that existed between recoverable gas in place, a closer relationship between recoverable gas in place and deliverability than between recoverable gas in place and 100% straight acreage because 100% straight acreage

is only one factor in the amount of recoverable gas in place and that deliverability appeared at several points.

At Page 64 of Transcript No. 2 Mr. Dippel, I believe, was cross examining Mr. Keller with regard to his position concerning recoverable gas in place, and Mr. Dippel says:

> "Q Will you explain to me then how deliverability is going to increase recoverable gas in place. Let's don't forget the 'inplace'.
>
> A I've already explained, Mr. Dippel, that it is not my testimony that the deliverability of a well determines the recoverable gas in place. It has been my testimony that some of the same factors such as pressure, pay thickness, and other factors enter into both of those things, but it does not follow that the deliverability determines the recoverable gas in place."

That points out that Mr. Keller never did take the position, and does not now take the position, that deliverability determines recoverable gas in place where that deliverability and that recoverable gas in place are directly and proportionately related but it is our position that the statute certainly does not require that. If it does, there is no formula, there is no gas prorationing that would be valid under that statute.

On Page 134 of Transcript No. 3, this is a portion of the testimony that I believe Mr. Malone may have referred to. I shall not bother the Court by reading the testimony but it is quite obvious that we take an entirely different position on it than Mr. Malone. We believe that the

testimony of this witness that Mr. Malone read confirms the position that we have taken throughout this hearing that 't is not necessary under the statute, with the qualifications it has in it, with the natural qualifications existing in the determination of what goes on in an oil and gas reservoir with a few holes punched in a large area, we dont' believe it is reasonable to assume that the statute requires that anybody prove that there is a direct and proportionate relationship between deliverability and recoverable gas in place because the statute protects itself by making it a matter of practicability as to what type of formula the Commission will adopt to most nearly meet those qualifications or giving a man an opportunity to recover the amount of gas or oil in place under his particular tract.

On Page 137 is another point which Mr. Malone raised in testimony which he read concerning proportional relationship and not reasonable correlation. Mr. Keller answered:

"A No, not in the same proportion. I didn't say that the deliverability and the recoverable gas in place in the Jalmat Field vary in the same proportion. They do not, but they do vary over the same order of magnitude of extremes.

Q That is what your statement is?

A Yes, sir, that is the truth.

Q Did we actually tie down the answer, is that gas

in place is not a function of deliverability? I believe you have answered that once, but you went on.

A Well, they are not directly a function of -- that's true. Rigorously speaking, that is not true, although they are related. I have tried to show how they are related in theory, and I think that explains the fact as to why they are related in the Jalmat Field."

And Mr. Keller and Mr. Liebrock -- I know Mr. Keller certainly contended throughout the testimony through all these hearings that, while they are not directly related, they are in the Jalmat Field related. He indicated then, as I understood it, to the satisfaction of the Commission on this and other evidence showing the distribution of reserves and the distribution of deliverability that there is a relationship. It is not a perfect relationship but certainly a closer one than exists under the 100% allocation formula where there is no distinction made between the allowables made to the reserves on one tract as related to the reserves on another tract.

On Page 167 of Transcript No. 7, which is the rehearing on this matter, the question of migrational effects had been brought up. The point which Mr. Malone discussed in the latter part of his argument, and which he read something from his cross examination as to migration between tracts, I might say that Mr. Leibrock, their witness, had previously testified in this same hearing that migration will occur

under any formula -- I think that would be accepted by anyone -- any formula that you would devise, unless you could obtain a perfect formula which none of these witnesses indicated could be done. It involved some degree of migration between tracts and within the pool. But Mr. Keller recognized these migrational features. They were a part of his calculations and a part of his determination. On Page 167, at the middle of the page:

> "You will also recall that I previously testified that the reserves per acre, or apparent recoverable gas in place arrived at in that manner included migrational effects, but that in spite of those migrational effects I felt that that reserve per acre was the best representation of the distribution of the recoverable gas in place per acre for the various tracts that could be had in the Jalmat Field."

I can't see any way in which he could have more directly stated that there is a direct relationship between deliverability and recoverable gas in place under the tracts in this pool despite the migrational effects. That to me that is evidence, that is testimony, that is directly in line with what Mr. Malone has demanded as a standard for meeting our statutory definition for the protection of correlative rights.

Page 182 of the same transcript, Mr. Keller had this to say:

> "It's been said here that there is no relationship between deliverability and recoverable gas in place.

> Maybe we're involved in semantics, but if you were to say there is not a unique relationship between deliverability and recoverable gas in place, I think that would be a true statement, but there is a very definite relationship. It's not unique, but it's there, between deliverability and recoverable gas in place, and the fact that there is a relationship is reflected by this statistical analysis represented by Texas Pacific R No. 5 exhibit."

It seems to me that that statement is certainly directly in line with the finding of the Commission in Order 1092-C that there is a reasonable correlation between deliverability in the Jalmat Gas Pool and the recoverable gas in place.

Mr. Woodruff, who was also a witness in the case for El Paso Natural Gas Company, at Page 297 of Transcript No. 7, was asked the question:

> "Q Well, do you choose to answer the question as to if the gas in place under a tract is proportional to the deliverability of the well to which the tract is assigned?
>
> A My answer is, I think it is reasonably in proportion to it."

So the transcript is not devoid at all. It is full of contradictory statements by these expert witnesses about their sentiments about calculating reserves when asked the question about the relationship between deliverability and recoverable gas in place. All of the witnesses' statements contained that conflict. There is no question about that. But the Commission heard all that evidence. There was evidence in the record, and we believe a very substantial evidence as we have indicated, and as I think some of

Mr. Malone's reading indicated, in Mr. Keller's opinion and in Mr. Woodruff's opinion that despite the limitations that obviously exists in any allocation formula because of lack of knowledge of what exists in the reservoir under a particular 40-acre tract, that there was a reasonable correlation between the deliverability in this pool and the recoverable gas in place. And we believe that the Commission had ample evidence upon which to make a decision, and we particularly feel that it is true in the light of the legislative intent and knowledge that you could not deal with that with any degree of exactness. You had to determine a man's right to recover his fair share of the gas as well as it can be practically determined, as well as it can be practically obtained without waste, substantially in the proportion that the quantity of recoverable oil or gas, or both, under the property bears to the total ultimate recoverable oil or gas in the pool.

This transcript, these exhibits, we believe are full of testimony to that effect. True, the experts differed in their opinion, as they often do, but the Commission heard them all, the Commission heard all of their testimony, saw all of the exhibits; the Commission studied those exhibits we assume; and the petitioners had three times to come back before the Commission with an opportunity

to rebut our position, and they had ample opportunity -- as a matter of fact, after they had first presented this 58-well study and it was implied that they didn't have time to make further study when they came back at the rehearing three or four months later, I asked them the question as to whether they had extended their study of the 58-well area, and they had not, for some reason, and it certainly was not a reason of time. I think the reason was that, as the transcripts will show, the 58-well area was an area in the best portion of the field where the equality between tracts was bound to be greater than it was between depleted areas and better areas of the field. The testimony shows that not only was that 58-well area a selected area but it involves the use of information from one well to another that was not available on a per-well basis. The cores of the fifty-eight wells, for example, and a number of the logs were missing. That testimony was all gone over before the Commission on cross examination, and I think the Commission amply heard this matter, that there is ample basis in these transcripts for the finding of the Commission, that there is a reasonable correlation, and that that finding considered the limitations of this statutory requirement for the protection of correlative rights and satisfies the statute, and the proposition that there is no

substantial evidence in the record to sustain the order of the Commission, Order 1092-C, is not a proper position.

I might say in closing that the first hearing before the Commission, at which time we put on the case and rested, and operators were permitted to examine our evidence, Mr. Keller put on a case which established so far as he was concerned the proposition that the same factors which go into the making of a determination of gas in place, recoverable gas in place, reserves, go into thedetermination of deliverabilities such as pressures and the pay thicknesses, and he showed the relationship between those, not that they were the same at all, but that the same factors are considered. That was the basis, the beginning of this argument that there is not a showing in this case of a direct relationship that permits a man to recover exactly the amount of gas or oil under his tract. That cannot be done. The Commission can't do it. No one can do it, because it is impossible to determine it with exactness. We do believe that Mr. Keller's original testimony as to the interrelationship of these factors between deliverability and reserves and gas in place, his later testimony that there is that relationship between gas in place and deliverability amply supports the order of the Commission.

MR. MALONE: I'd like to be heard very briefly on this, your

Honor. I think we have got the issue pretty clearly defined here now. As I understand it, there is no question as between the parties but that all of Mr. Keller's exhibits and all of his testimony with reference to any relationship between deliverability and recoverable gas in place is based upon a determination of the recoverable gas in place, which gives effect to all of the drainage which has occurred during the life of the well and hence gives it a future reserve which is not the gas in place under the tract, but gives it a future reserve which includes all of the gas which has been drained in the past from other tracts, and that, therefore, the question before the Court is whether testimony by an expert as to a relationship between that kind of an estimate of recoverable gas in place -- which they don't refer to as recoverable gas in place -- as reserves -- as I read the transcripts, it's reserves -- whether or not that is substantial evidence to support a finding by the Commission that the Texas Pacific Coal & Oil Company has, by a preponderance of the evidence, proved that there is a general correlation between deliverabilities of gas wells and the recoverable gas in place.

Now, it has been admitted that there is no testimony by them with reference to recoverable gas in place that can be compared to deliverabilities except that arrived at

by redistribution of well reserves, and it is also admitted by the witness that the redistribution of well reserves gives effect to all.of the drainage that has occurred in the entire history of the pool. And, as the Court knows, these fields operated for twenty years without any proration down here so that there was plenty of drainage occurring. And the effect of all of the testimony in this record as to recoverable gas in place is recoverable gas which includes that drained in the history of the well. If it is found that that is recoverable gas in place as required by the statute then that's substantial evidence. But it does not constitute it and it cannot constitute it. The statute has said the standard by which the man's right will be judged is the gas under his land. The witness and T-P have admitted that the standard by which they are judging it are the gas under his land plus all of the gas that has been drained from surrounding acres throughout the history of the life of the well. So the question is, does that constitute substantial evidence, and it is no evidence.

Now, the only attack that the parties make on this study here, which I think -- it's so commonly known that the Court would take judicial notice of the fact that daily in connection with pooling agreements, community agreements and everything else in the oil industry, it is necessary to

compute the oil and gas under a tract, and it is done by this volumetric approach that we used here. They attack it on the ground that we didn't have enough information and we did not make it big enough. We've got no burden in this case. The test here is: was substantial evidence presented? If there isn't sufficient evidence to make a study of the right that is accepted and of which the statute requires you to make then the petitioner must fall because he's got the burden of proving that this relationship exists, he's got the burden of putting substantial evidence in this record to support the finding, and it is not there by his own admission. In such a situation, it seems to me clearly the order must fall.

I would mention this in addition. It's related to the propostion we're discussing. At Page 182, Mr. Campbell read and relied on -- Volume 7, Page 182 -- Mr. Campbell read and relied on as supporting this order, the testimony of the witness who said:

> "Maybe we're involved in semantics, but if you were to say there is not a unique relationship between deliverability and recoverable gas in place, I think that would be a true statement, but there is a very definite relationship."

Now the proof of a definite relationship is insufficient ground for the Commission to change the proration formula which affects only correlative rights of the parties when

there has been a formula in existence and property rights have been predicated upon it during the entire existence of allocation of proration of gas in southeastern New Mexico. To change that to a formula which the testimony in this case showed is going to result in millions of dollars of loss to these companies here on the basis of testimony of one expert that there is a relationship -- what kind of a relationship? Not a uniform relationship. Nothing. This is the testimony that was read to the Court on which they are relying as substantial testimony, as substantial evidence. I'm going to read it again:

> "Maybe we're involved in semantics, but if you were to say there is not a unique relationship between deliverability and recoverable gas in place, I think that would be a true statement, but there is a very definite relationship."

Now, if that is substantial evidence, it is a new one on me. A relationship can be anything. To me there is a relationship between a man and a woman. It doesn't mean they're married. And that is the conclusion that would seem to be drawn in offering this testimony in offering substantial evidence.

I think there is nothing to be gained by further extending this argument. I believe the Court sees clearly the position of the parties. I think that it has been agreed and it is not disputed that all of the evidence

presented by the applicant, Texas and Pacific, with reference to re-allocated well reserves and not with reference to the gas in place under the tract. It is our position that that is not substantial evidence and does not meet the standard which the legislature laid down.

THE COURT: Mr. Malone and Mr. Campbell, obviously the Court here ought to insofar as possible make a sufficient record that on appeal the Supreme Court will know exactly what has been done. I will, therefore, let the matter continue and reserve my decision. As I have stated at one time during a pre-trial conference, it is material to my mind to see what the actual effect of this change order was upon the various parties in interest here. By that, I mean what gas they were permitted to produce before and since the order. I assume that you gentlemen are in position to offer proof as to that.

MR. MALONE: That's right.

MR. CAMPBELL: Yes, sir. We object to such evidence but we'll make a record on it.

THE COURT: Mr. Malone, Mr. Campbell has an objection to make which I will listen to here.

MR. WARD: Comes now the Oil Conservation Commission of New Mexico and respectfully objects and takes exception to the Honorable Court's ruling that the Oil Conservation Commission

of New Mexico is not an adverse party, or adversary party, in this proceeding and hence is precluded from taking part therein and as grounds therefor shows the Court as follows:

(1) That Section 65-3-22 of the New Mexico Statutes Annotated, 1953, clearly contemplates that the New Mexico Oil Conservation Commission should be made a party to any appeal from any of its decisions because it is provided that notice be served upon the Commission.

(2) That the Oil Conservation Commission of New Mexico is obligated by statute to act in the public interest to protect the correlative rights of the public and prevent waste and, once having entered an order purporting to do so, it has a right and obligation to appear in court if necessary and represent the public interest.

THE COURT: I will make the observation that the last few words spoken by Mr. Ward contained the language, "if necessary". In a hearing such as this on an order of the Oil Conservation Commission in which the contending parties, or opposing parties, are represented and are apparently amply able to sustain their positions, I see no reason for the Oil Conservation Commission to appear as a litigant; and I would further state that I think that their attempt to participate as a partisan in an attempt to support their own feeling, as evidenced by the order that they put up in this

case, is improper. An administrative body, where there is no adversary proceeding, certainly has a duty and a right under the Act to appear in the public interest, but the Oil Conservation Commission apparently desires to appear here in the interest of one of the litigants, which is an entirely different matter, although it no doubt has concluded that the position they took is in the public interest.

MR. WARD: If the Court please, may I go a little further with the objection which might really explain our position? The respondents further object for the reason that the Oil Conservation Commission and its attorneys having participated in the two pre-trial conferences heretofore without any objection on the part of the petitioners, and having participated in the prohibition proceedings in the Supreme Court, and the question not having been raised until the morning of the trial, after which time it was impossible for the parties to go back and re-allocate the work, that the objection is not timely made and the petitioners have, in fact, waived the right to make such objection.

THE COURT: The objection will be sustained.

MR. CAMPBELL: May the record reflect that the Texas Pacific Coal & Oil Company joins the Oil Conservation Commission in making this objection. I might state for the benefit of the Court, that our position is that the obligation of

the Oil Conservation Commission is to protect correlative rights as its solemn obligation is to prevent waste, and we feel that there is no differentiation insofar as this differentiation is concerned and where solely a question of waste might be involved.

THE COURT: It is quite evident, I believe to all of us, that my thoughts are at variance with those of the Oil Conservation Commission. As I stated off-hand in Chambers, as far as I am concerned, the Oil Conservation Commission has had its say, has issued its order; this is now before this Court, and the litigation here can and will be safely left to the active parties of interest.

MR. GALATZAN: May the record also reflect that the respondent, El Paso Natural Gas Company, also joins in the Oil Conservation Commission's motion.

THE COURT: It may.

(THEREUPON, at the hour of 12:00 A.M., trial of the cause was recessed for lunch and resumed at 1:15 P.M. as follows.)

THE COURT: Mr. Malone.

MR. CAMPBELL: If the Court please, before the first witness is presented, may I into the record read some objections?

THE COURT: Yes, sir.

MR. CAMPBELL: Respondents object to the introduction of any testimony or other evidence in addition to the record before the Commission upon the ground that the admission of such evidence permits the Court to substitute its judgment for that of the Commission, and violates the separation of powers provision of the New Mexico Constitution.

Respondents further specifically object to the introduction of any testimony or other evidence as to matters which have occurred since the final hearing before the Commission upon the ground that this is a review of the action of the Commission and that the statute limits matters on review to matters contained in the petition for rehearing. If the Court please, we certainly do not want to disrupt the proceedings any more than necessary. To preserve our record, if we may be permitted to do so, we shall make an objection on the same basis before the testimony of each witness but not during the course of his actual testimony upon these grounds.

THE COURT: Very well.

MR. MALONE: If it please the Court, in connection with the objection -- and I'd like to state for the record that the witness Robert Leibrock is being offered for the limited purpose of testifying to the effect of the current deliverability proration schedule issued under Order R-1092-A and '-C

to figures included in that schedule which were not available at the time of the hearing before the Commission.

THE COURT: Will he be your only witness, Mr. Malone?

MR. MALONE: We will have one other witness whom we -- I think, your Honor, we will propose to offer on the limited question that the standards fixed by the order is so vague and indefinite as to not constitute procedural due process.

THE COURT: Very well.

MR. MALONE: And possibly a witness from the Commission to put some documents in.

PETITIONERS' CASE IN CHIEF

M R. R O B E R T M. L E I B R O C K, a witness called on behalf of Petitioners, having been duly sworn, testified as follows:

THE COURT: The objection to the testimony of this witness will be overruled.

DIRECT EXAMINATION BY MR. MALONE:

Q Will you state your name, please?

A Robert M. Leibrock.

Q Where do you live, Mr. Leibrock?

A Midland, Texas.

Q How old are you?

A Thirty-nine years old.

Q What is your position?

A I am a consulting petroleum engineer.

Q Where and when were you graduated as a petroleum engineer?

A I was graduated from the University of Texas in 1943.

Q Were you thereafter employed by an oil company as a petroleum engineer?

A Yes, sir. I went to work immediately for Stanolind Gas and Oil Company.

Q For how long were you employed by that company?

A I worked for Stanolind and now Pan American continuously since 1943 with the exception of three years in the Army.

Q In February 1955, did you set up your own consulting engineering office?

A Yes, sir, I did.

Q Where is that located?

A Midland, Texas.

Q What is the name of your firm?

A Leibrock, Landreth, Campbell & Calloway.

Q Are you thesenior member of that firm?

A Yes, sir, I am.

Q You are the same Robert Leibrock who testified before the Commission in the cause which is now on appeal?

A Yes, sir, I am.

Q You are the same Robert Leibrock who made the 58-well study that has been referred to the in the argument which you have heard here today?

A Yes, sir, I am.

Q Have you since the completion -- strike that, please. Have you, since the issuance of proration orders under the deliverability formula put into effect by Order R-1092-A and -C, made a study to determine the amount of migration which occurs under that order -- strike that -- under that proration schedule as compared to migration that occurred under the prior acreage schedule?

A Yes, sir, I have.

Q In connection with making that study, state whether or not you completed the pore volume study for the entire Jalmat Field which, has been stated, was confined only as to the 58-well area at the time before the hearing before the Commission?

A Yes, I have.

Q Have you prepared an exhibit which portrays the amount of additional migration that occurs under the deliverability schedule?

Trial Petitioners' Exhibit "1"

A Yes, sir, I have.

Q Where is that?

A Right over here, sir.

MR. CAMPBELL: If the Court please, we wish to object to evidence as to pore volume studies in addition to the 58-well area in the hearing before the

Commission on the grounds that any such evidence is purely accumulative.

THE COURT: I would think that correct, Mr. Malone. The pre-trial orders and my comments on this matter, as I remember it, precluded or prevented the introduction of any testimony which might have been produced before the Commission. You will be restricted to events which occurred later or to matters which were not then available.

MR. MALONE: We will undertake to abide by the Court's ruling.

BY MR. MALONE:

Q Did your pore study indicate that greater or less migration would occur in the Jalmat Pool under the deliverability formula as compared to the acreage formula?

A My study indicated that a greater migration would occur under the deliverability formula.

MR. CAMPBELL: If the Court please, I would like to get this point clarified. My objection goes to this question and the witness' answer. The 58-well study had been conducted. It was presented to the Oil Conservation Commission as were this witness' conclusions concerning the extent of migration, that comparative migration, under the deliverability formula. It seems

to us that this line of testimony is all cumulative of what was available to and may have been presented to the Commission.

MR. MALONE: This testimony is directed to the propostion as to the effect of the deliverability formula upon the gas produced by the operators in the pool as compared to their situation under the acreage formula. We propose, if permitted to do so, to show by this witness the extent of the migration, additional migration, which occurs and to then relate that to its effect upon individual operators in the pool resulting from the adoption of the deliverability formula.

THE COURT: I don't know exactly whether I understand this or not, but I have heretofore stated and will again state that I think it proper for me to attempt to ascertain what the effect of this order has been upon the operators. Prior to July 1st of last year, there was of necessity the matter of speculation as to what effect the order would have upon various operators in the pool but now we should be able to learn, at least to some extent, what effect upon them the order has been, and, so long as the inquiry is restricted to those factors, the objection will be overruled.

MR. MALONE: I might state, if the Court please, to supplement our position, it is that the effect of the order has been to confiscate the property of the petitioners, and we therefore believe that we are entitled to have this Court consider that original -- I will, however, in the light of the Court's ruling withdraw the question directed to this exhibit and ask the witness whether or not he has made a study to determine the effect upon the amount of gas produced by operators in the Jalmat Field of the application of the deliverability formula as compared to the acreage formula?

THE WITNESS: Yes, sir, I have.

BY MR. MALONE:

Q Will you state the names of the individual operators as to whom you have reached conclusions and the effect upon them of the deliverability formula, directing your testimony to the July deliverability formula, which is the latest Commission formula?

A Yes, sir. This will reflect the change in monthly allowable resulting from the adoption of the deliverability formula to the various operators in the field. The operators whose names I will read first are those operators who suffered a decrease in current allowable as a result of the adoption

of the formula. This is based on the July proration schedule which is the latest schedule available to us. The first operator is Olsen with a decrease in current allowable of 100 thousand mcf per month.

Q At ten cents per mcf, how much decrease in income per month would result?

A That is ten thousand dollars.

Q At fifteen cents per mcf, how much would it be?

A That would be fifteen thousand dollars.

Q Would you continue?

A The second operator, -- now I'm reading these names in the order of decrease, of loss -- is Continental Oil Company with an indicated decrease in current allowable of approximately 56 thousand mcf per month.

Q Will you state its equivalent against fifteen cents per mcf?

A It would be approximately eight thousand four hundred dollars per month.

Q Continue.

A The third operator, Southern California, with a decrease of approximately 52 thousand mcf per month, or seventy-eight hundred dollars. The fourth operator is Jal Oil with a decrease of approximately 47 thousand per month, or seven thousand dollars. Sinclair with a decrease of approximately 42 thousand mcf per month, or sixty-three hundred dollars.

Leonard Oil with a decrease of approximately 36 thousand, or fifty-four hundred dollars. Skelly with a decrease of approximately 32 thousand mcf per month, or forty-eight hundred dollars. Finally, El Paso with a --

Q That's El Paso Natural Gas Company?

A Yes, sir, with 30 thousand mcf, or forty-three hundred and fifty dollars. Now, I'm moving over to the increase side.

THE COURT: Thirty thousand, forty-three hundred and fifty dollars?

THE WITNESS: Excuse me. El Paso with a decrease of 30 million cubic feet per month, forty-three hundred fifty dollars per month.

MR. MALONE: That's at fifteen cents per mcf.

THE COURT: All right. That's all right. There is something wrong with my arithmetic or his because fifteen cents doesn't come out that close however.

THE WITNESS: That should be forty-five. I misread it.

(THE WITNESS continuing answer): On the increase side, Cities Service with an increase of 26 -- excuse me -- with an increase of 177 mcf, or twenty-six thousand seven hundred dollars. Gulf with an increase of 175 mcf per month, or an increase of twenty-six thousand one hundred dollars.

BY MR. MALONE:

Q That's per month?

A Yes, sir. Next is Western Natural with an increase of 77 mcf per month, or eleven thousand seven hundred dollars. T-P Coal & Oil with an increase of approximately 72 mcf, per month, or ten thousand eight hundred dollars. I might add that my calculations are on a slide rule so there will be some slight differences.

Q That would be a matter of cents, however, would it not?

A Yes.

Q Have you prepared a memorandum for your own use which shows the figures which you have just testified to?

A Yes, sir, I have.

MR. CAMPBELL: If the Court please, I hate to keep interrupting here but I'll try to limit it as much as possible. Respondents would like to object to the further testimony of this witness and move to strike his testimony regarding the financial loss or gain to any operators in this pool upon the grounds that it is immaterial to this case. The Statutes of New Mexico to my knowledge do not assure any particular financial assertion to any operator, and we feel that the offering of this evidence concerning dollar and cent loss or gain is immaterial to a determination of whether or not correlative rights are being protected.

THE COURT: Mr. Campbell, you will recall that the

Court heretofore stated that it would listen to testimony which tended to support or prove that property of any of the parties had been taken without due process, and for that reason this testimony will be received and the objection overruled.

BY MR. MALONE:

Q State whether or not in your opinion the effect demonstrated by the testimony you have just given results from an increase in migration of gas or an increase of drainage as between tracts in the Jalmat Field?

A Yes, sir.

Q Under the deliverability formula?

A Yes, sir, it does.

Q Is that increase in addition to and greater than any drainage that may have occurred under the prior acreage formula?

A Yes, sir, it is.

MR. MALONE: That's all.

MR. CAMPBELL: By cross examining any of the petitioners' witnesses, by any of the respondents, of course, I do not waive any objection that I may have heretofore made concerning introduction of additional testimony at this hearing.

CROSS EXAMINATION BY MR. CAMPBELL:

Q Mr. Leibrock, you made a similar estimated, or similar study, of estimated financial position of various operators

in this pool at the time of the hearings before the Commission, did you not?

A Yes, sir, I did.

Q Have you made any comparison of the figures that you have here presented to -- with those you previously made?

A Yes, I have.

Q Did you find that there was a greater or lesser degree of impact upon the operators' decreasing or increasing than you had anticipated?

A I found that the present study that I just commented on agreed qualitatively with the prediction we made previously.

Q What about quantitatively, Mr. Leibrock?

A Well, sir, the total monthly allocation for the month of July differed from the one that we used to make our previous study, and we did not make a comparison on an operative or operator basis per mcf.

Q You have not made such a comparison?

A No, sir.

Q Now you have stated, Mr. Leibrock, that there has been increased migration of gas in your opinion since the new formula went into effect on July 1, 1958, is that correct?

A Yes, sir.

Q You have previously testified that migration of gas will occur under any allocation formula, have you not?

A Yes, sir.

Q Have you made any analysis as to the relationship of this migration to which you refer and the estimated reserves or recoverable gas in place?

A Yes, sir, I have.

Q Is it still you opinion that the migration which occurs here is not related to the recoverable gas in place, or is it your opinion that it is not?

A Sir, I do not understand your question.

Q Do you believe this migration of gas which has occurred, is this a migration which does not more adequately relate to the actual recoverable gas in place in this field than the acreage formula?

A If I understand your question properly, I think that my study reveals that the migration is more severe across lease lines, the drainage is more severe across lease lines, under the deliverability formula than it is under the acreage formula.

Q Do you believe that the acreage formula gives recognition to the recoverable gas in place under a tract to any measurable degree?

A Yes, sir, to a measurable degree, it does.

Q Does it give any effect to the pressure of the well?

A The acreage formula?

Q Yes, sir.

A No, sir.

Q Since the last hearing, have you conducted any study with regard to pressure variation within the Jalmat Gas Pool?

A Yes, sir, I have, and I --

MR. MALONE: If the Court please, we object to the question as improper cross examination, and do so on the basis of the objection made by counsel originally at the presentation of the witness.

THE COURT: It will be sustained.

MR. CAMPBELL: That's all the questions I have.

THE COURT: Anything further, Mr. Malone?

MR. MALONE: Nothing further. For the record, and in order to perhaps assist counsel in a statement of his objection to our next witness, I would state that the testimony of this witness is directed to the proposition that the order incorporating deliverability in the formula, as it operates, is so vague and indefinite and uncertain in its application as to constitute a taking of our property without due process of law, and that the order is, therefore, void. The testimony will be presented by Mr. Kellahin.

MR. CAMPBELL: If the Court please, in addition to the introduction of any additional testimony or other evidence as indicated by my objection concerning the first witness, I would like to object to the

introductionof any testimony concerning the vagueness or indefiniteness of the Commission order upon the ground that the matters concerning the application of the order were in effect prior to the rehearing before the Commission, and that this objection was not raised at that time.

THE COURT: It will be overruled.

M R. V I C T O R T. L Y O N, a witness called on behalf of Petitioners, having been duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. KELLAHIN:

Q What is your name?

A Victor T. Lyon.

Q By whom are you employed, Mr. Lyon?

A By Continental Oil Company.

Q What is your position with the Continental Oil Company?

A District Engineer, located in the Eunice District, Eunice, New Mexico.

Q Mr. Lyon, are you a graduate engineer?

A Yes, sir. I was a graduate with a B.S. Degree in general engineering at the University of Oklahoma in 1945.

Q Now, subsequent to 1945, have you been employed in the oil or gas business?

A Yes, sir. After serving approximately eighteen months in

the Navy, I worked for a short period for Magnolia Petroleum Corporation on a geophysical crew. In December of 1946, I was employed by Continental Oil Company as an engineer-clerk in the headquarters office and in the proration engineer's office.

Q Now subsequent to that, where were you employed?

A While I was in the Proration Engineer's office, I was responsible for studying proration methods in the various states in which we operate and representing the company at meetings and hearings involving proration methods. In 1950 I was promoted to Regional Proration Engineer located at Oklahoma City in charge of the coordination of proration activities in the states of Oklahoma, Kansas, Illinois and Indiana. In 1953, I was transferred to Fort Worth, to our Southwestern Region, in the same capacity where I was responsible for the coordination of proration activities in the general western portion of Texas and southeast New Mexico. In 1956, I was transferred to Roswell, New Mexico, the New Mexico Division, where my activities were concerned solely with the State of New Mexico. In 1957, I was transferred to Eunice in my present capacity in which I am responsible for all engineering phases of our operations, including the drilling, the completing, producing, reworking of wells, oil and gas wells.

Q Is the Jalmat Gas Pool within the district of which you are the District Engineer?

A Yes, it is.

Q Are you familiar with the testing of Continental operated wells in the Jalmat Gas Pool?

A Yes, I am.

Q How did you become familiar with that?

A When the deliverability formula was first proposed, it was necessary for me to become informed on the testing procedure, and during the taking and calculation of tests since that time why I have become more familiar with the procedure.

Q Mr. Lyon, are you familiar with the Commission's Order No. R-1092-A and -1092-C?

A Generally, yes, sir.

Q Does that order make any provision for the manner in which wells are to be tested?

A To some degree. It is not very specific about how it is supposed to be done.

Q Could you, on the face of the information contained in the order, conduct a well test which would give you a deliverability figure?

A Yes, sir, but I don't believe that one could be assured that two people reading the order would conduct the test and calculate the deliverability in the same manner.

Q Well, is the deliverability, in engineering concept, a certain definite term?

A Well, it is a term which is used to describe a figure which is a theoretical flow of gas at a given back pressure condition.

Q But that given back pressure condition can vary from test to test according to the requirements set up in the test, is that what you are saying?

A To a limited extent that's true.

Q Are you familiar with the provisions of the directive which was issued by the Commission under the date of February 24, 1958?

A Yes, sir.

Q What did that directive provide?

A Well, the directive provided more specific information on which to base and calculate a deliverability test.

Q Now, would you outline very briefly how these tests are to be made?

A First, it is necessary to obtain permission from the Commission to take your test and, after this permission is obtained, with the cooperation of a testing agency, which in our case is El Paso Natural Gas Company, the gas purchaser, a schedule is prepared and submitted to the Commission and, in accordance with that schedule, a well to be tested is

first commenced flowing for a 72-hour preflow period. At the end of the 72-hour preflow, a 24-hour test flow is commenced. At the conclusion of the 24-hour test flow, the readings necessary to make a deliverability calculations are observed and recorded. These data are the casing and tubing pressure, the static pressure below the orifice plate, the differential pressure across the orifice plate, and the temperature of the gas.

Q Now you referred a moment ago to making some calculations at the time deliverability was suggested. How did you make those?

A Excuse me, sir, I had not completed the entire test procedure.

Q I'm sorry.

A At the conclusion of the observation and recording of this data, the well is then shut in for a period of 72 hours and the wellhead, tubing, casing pressures are observed and recorded at 24, 48 and 72-hour periods. Then this data is furnished to the operator, or to my department, by El Paso, and then it is my responsibility to see that the raw data is converted into a completed deliverability test calculation, which is to be done, of course, in accordance with the Commission's directives.

Q Now you referred earlier in your testimony to some calculations which you made when the question of a deliverability factor

was first raised. How did you make that calculation?

A When the question of a deliverability formula was first raised, it was necessary for us to evaluate the effect on our operations and revenue to inform our management, and this calculation, or estimation, was based on the 1957 four point back pressure tests which had been run on our wells.

Q Now, subsequent to the entry of Order No. R-1092-A, were any tests made on Continental's operated wells?

A Yes, sir, in accordance with the Commission's order, we took deliverability tests on all of our wells on which a test could be run.

Q Now, did you make a comparison of the results of those tests with your previous estimates?

A Yes, sir.

Q What did you find?

A We found that the results of the deliverability tests, or the calculated deliverability based on these tests, was approximately 20 per cent below what our preliminary deliverability tests indicated they should be, on the average that is.

Q Did you make any retests on any of those wells?

A Yes, sir; because of the fact that our deliverability was far less than we had anticipated, we, in cooperation with

El Paso Natural Gas Company, retested eighteen of our wells.

Q Now, did these retests coincide with previous tests?

A No, sir. We were able to secure increased deliverability, or calculated deliverability, on fifteen wells. The average increase was 145.5 per cent of the tests taken during the regular testing period.

Q Did you find any decreases on any of those retests?

A Yes, sir. We had three wells which showed a decrease.

Q Now, Mr. Lyon, were all of these test made in compliance with this directive of February the 24th, 1958?

A Yes, sir.

Q Did you file the results of all these test with the Oil Conservation Commission of New Mexico?

A No, sir. We filed only those tests which showed an increase.

Q Now, why did you do that?

A We felt that our competitive position had been reduced, and we were trying to achieve competitive position that we had previously indicated before, and, consequently, we filed only those tests which showed an increase.

Q Now, do you know of any rule, order or regulation by which you were requir ed to file the results of all tests with the Commission?

A No, ,sir.

Q Now, subsequent to those tests which you have described, did you make any additional tests?

A Yes, sir. In accordance with the Commission's directives, of course, we took tests on all of our wells during the 1959 deliverability test period. Comparing --

Q Before you get to that, did you file all these tests with the Commission?

A Yes, sir.

Q Now, would you compare the results of those tests with the previous tests that had been made?

A The deliverabilities, or calculated deliverabilities, from our 1959 tests showed an increase -- not an increase, but an average percent change from the 1958 deliverability of 38.5 per cent. Now that comparison takes into account the deliverabilities obtained on the retests in 1958.

Q All those tests were made in compliance with the directions of the Oil Conservation Commission for testing wells in the Jalmat Pool?

A Yes, sir.

Q And the same testing procedure was applied in all of the tests?

A Yes, sir.

Q Now, have you made an analysis of the Continental operated wells to determinejust what results were achieved on these retests?

A Which retests were you speaking of?

Q The latest tests as compared to the previous tests.

A I'm not quite sure I understand.

Q Well, have you prepared an exhibit comparing the results of the various tests which have been made?

A Well, I haven't quite completed the list of tests that have been taken. There were twenty-one wells in our 1959 tests which we felt could be increased, and we retested those wells and submitted the calculations to the Commission, which they have adopted, and the change from the 1959 tests to the 1959 retests showed an average change of 110 per cent.

Q Now, have you prepared an exhibit showing the results of these tests?

A Yes, sir, I have.

MR. KELLAHIN: If the Court please, we have several exhibits we would like to post here, if the Court will give us permission.

THE COURT: Put them up.

BY MR. KELLAHIN:

Trial - Petitioners' Exhibit "2-A"

Q Mr. Lyon, referring to what has been marked, Exhibit 2-A, would you describe that exhibit, please?

A Yes, sir. That is a bar chart which shows the calculated deliverability on the various tests which we have taken on our wells. Along the margin to the left a scale of the chart is shown to go from zero to 500 mcf per day. Due to

the wide range of deliverability of the wells which we operated in the pool, it was necessary to divide them up into several groups of varying ranges of deliverability. The first two wells on the left of the exhibit -- well, first let me explain the color code. The blue bar represents the 1958 original tests. The green bar, where there is a green bar present, is the 1958 retest which was taken in the late summer of 1958. The red bar is the 1959 test, which was the first test taken during the 1959 deliverability test period. The orange bar is the 1959 retest, which was taken in April or May of 1959.

The first two wells on the left are our Ascarate C-24 and D-24 wells, which were the only two wells that we had on which the deliverability of 1958 was repeated in 1959. Those deliverabilities are six and ninety-five respectively. The next bar, which is our Jack A-20 No. 4, shows that the number 1958 deliverability was 155; 1959 was 396; an increase of 155 per cent. The next well is our Lynn B No. 25, which had a 1958 deliverability of 224 and a 1959 deliverability of 459, an increase of 105 per cent. And the first I might say that underneath each group of bars is a number which identifies that well according to a code which we have adopted for purposes of identification.

Q Now, Mr. Lyon, referring to what has been marked Exhibit 2-B,

what is that exhibit?

A This exhibit shows the same type of information shown on Exhibit 2-A for a different group of wells. The scale as shown on the left goes from zero to 2,000 mcf per day. As on Exhibit 2-A, the code number is listed under each set of bars representing various tests on an individual well.

Trial Petitioners' Exhibit "2-B"

Q Will you pick out some of the items shown on that exhibit and describe them?

A Well, for instance, the fourth bar from the left represents the tests on our Jack A-21. The 1958 test, 297 mcf. The 1958 retest, 751, an increase of 167 per cent. The 1959 test was 1,856, an increase of 57.3 per cent from the previous test. The 1959 retest was 1,246 or a decrease of approximately 30 per cent. The third bar over to the right from that one is a Lynn A, No. 25, which shows that the 1958 test was 1,890; 1959 was 1390, a decrease of 26.5 per cent. And the next to the last bar from the right represents the tests run on our Stevens B-18, No. 1. The 1958 test was 757. It was retested in 1958 for a calculated deliverability of 2,022, an increase of 168 per cent. The 1959 test was 1,577, a decrease of 22 per cent from the previous test. The next test, the 1959 retest, was 1, 897.

Q I refer you to what has been marked as Petitioners' Exhibit No. 2-C. Will you discuss that?

A Exhibit No. 2-C is similar to 2-A and 2-B, showing wells with higher ranges of deliverability. This scale is shown to go from zero to 12,000 mcf per day. As in the other exhibits, the code number is for identification purposes and appears beneath each group of bars. I might call the Court's attention to Well No. 60 as shown on the exhibit, which is our Stevens B-12, No. 2. The 1958 test on this well was 2,743. It was retested in 1958 for a calculated deliverability of 11,175. It was tested in 959 for 7,146.

Trial Petitioners' Exhibit "2-C"

Q What per cent change does that come up to? If you have that figure.

A Yes, sir, I believe I have it. The 1959 test was less than the 1958 retest by 36.1 per cent.

Q Now, Mr. Lyon, was the same testing procedure used in all of the tests which you have graphically displayed on these exhibits?

A Yes, sir.

Q Were Exhibits 2-A, 2-B and 2-C prepared by you?

A Yes, sir; under me or under my immediate direction.

MR. KELLAHIN: At this time we would like to offer Petitioners' Exhibits 2-A, 2-B and 2-C.

MR. CAMPBELL: No objection.

THE COURT: They will be admitted.

MR. CAMPBELL: If the Court please, I say "no objection" based upon our general objection of course.

THE COURT: I understand.

BY MR. KELLAHIN:

Q Mr. Lyon, you have referred to a code number referring to Exhibits 2-A, 2-B and 2-C. Have you prepared a table showing the wells to which you have referred?

A Yes, sir, I have, and they are in my briefcase.

Q I hand you, Mr. Lyon, what has been marked as Petitioners' Exhibit 3 and ask, is that the code list which you prepared?

A Yes, sir, it is.

Q And what information have you set out on that exhibit?

A This exhibit has five columns. The first column identifies the operator and well. The second column, which is headed "1958 Deliverability" shows the deliverability which the Commission had adopted in the 1958 testing period. And these figures are taken from the June 1959 proration schedule. I might call to the Court's attention --

Q Just a moment. In addition to the Continental operated wells, what other wells appear on this list?

A All the wells in the field appear on this list.

Q Now you have described the source of your figures on the two columns?

A Yes, sir.

Q Are those taken from official records of the Oil Conservation Commission?

A Yes, sir.

Q Have you any specific comparisons you would care to make?

A Well the 1958 deliverability tests were from July 1958 to June 1959. Therefore, the June 1959 schedule shows the latest approved 1958 tests, deliverability tests, which the Commission had accepted. And the information in the second column is taken from that schedule. The 1959 deliverability tests were incorporated into the July 1959 proration schedule. And the third column headed "1959 Deliverability" was taken from that proration schedule. The fourth column headed "Percent Change" shows the percentage change from one test, that is the 1958 test, to the 1959 test. The fifth column is a code number which has been assigned to the well for identification purposes.

Q Now, was Exhibit No. 3 prepared by you, Mr. Lyon, or under your direct supervision?

A Yes, sir.

MR. KELLAHIN: At this time, we'd like to offer in evidence Exhibit No. 3.

THE COURT: It will be admitted.

BY MR. KELLAHIN:

Q Now, Mr. Lyon, on the basis of your study of Continental wells, were you able to draw any conclusions?

A Yes, sir. Based on our experience with testing our wells, it appeared that it was impossible to get a deliverability

which appeared to be of any significance as far as accuracy is concerned.

Q On what do you base that conclusion?

A Well, the fact every time we tested wells we had a substantial change in deliverability.

Q What was the average change in deliverability tests for all of your wells?

A I don't believe I have an overall figure but, based on our 1959 tests or retests which are shown on Exhibit 3, compared to the 1958 tests, we had an average change of slightly more than 40 per cent.

Q Is that a situation which is peculiar to Continental Oil Company's wells? Wells operated by them?

A We found that it is not.

Q How did you check that?

A We made the comparison which is shown on Exhibit No. 3, comparing the percentage change of each well in the pool.

Q Did you prepare some exhibits similar to those which you have introduced on Continental's wells on all the wells in the pool?

A Yes, I did.

Q Now, Mr. Lyon, referring to what has been marked as Petitioners' Exhibit 4-A, would you state briefly what that is designed to show?

A Yes, sir. Exhibit No. 4-A is a chart showing a group of other wells in the field similar to the manner we have shown our own wells. I'd like to point out that, due to that extreme range of deliverabilities in the pool, it was necessary in order to show these things in a clear manner according to their deliverability so that the scale would be visible.

Trial Petitioners' Exhibit "4-A"

Q Do you mean that on subsequent exhibits a comparison of the length of the bars of this exhibit would indicate nothing?

A No, it would not be a representative comparison.

Q All your comparisons on this exhibit would be?

A That's true. This goes from zero to 1,000 mcf. For example, the green bar, that's the 1958 deliverability; a red bar indicates the 1959 deliverability. The wells that are shown here are those whose 1958 deliverability ranged between zero and 200 mcf per day.

Q What was your source of information on the deliverabilities?

A From the proration schedule which I mentioned.

Q Is that the official record to which you referred a moment ago?

A Yes, sir.

Q Now, referring to what has been marked as Exhibit 4-B, would you discuss that exhibit?

A Exhibit No. 4-B shows the wells whose deliverability in 1958 ranged between 200 and 500 mcf. The same colored code is used there. Incidentally, under each pair of bars the

Trial Petitioners' Exhibit "4-B"

code number appears which is shown on Exhibit No. 3.

Q And, by reference to Exhibit No. 3, could you identify any particular bar as to the well which is reflected?

A Yes, sir.

Q Now referring, for example, to what has been designated as Well No. 20 on the first bar on the left, would you just analyze what is shown on this exhibit?

A That well had a 1958 deliverability of 481. The 1959 deliverability was 907, an increase of 88.6 percent.

Q Now referring to this portion of the exhibit (indicating) there appears to be two numbers under this well, No. 252 and 254.

A Yes, sir.

Q What is the reason for that, Mr. Lyon?

A On the June 1959 schedule, those two wells had a proration schedule which was assigned jointly to the wells, and in the July 1959 schedule the wells had been separated. Consequently, since I didn't have the individual deliverability, it was necessary to combine them.

Q Was that a re-allocation of figures pursuant to a Commission order?

A Yes, sir, it was.

Q Do you know any other instances where acreage has been re-allocated under the formula presently in effect of this Commission?

A Yes, sir. My company had such a situation.

Q Would you describe what occurred in that situation?

A We have a lease designated, a Lynn B-26 lease, which is comprised of a full section or 160 acres. On this lease there are four wells. Each well had been assigned 160 acres, or one full section. The number 1 well had a deliverability of 4,134; No. 2 well had a deliverability of 520. The No. 3 well had a deliverability of 1,875. The No. 4 well had a deliverability of 677.

Q Now, when you say "deliverability" and give a number, what measure is that?

A That's the calculated deliverability based on deliverability tests taken in 1958.

Q Was your figure a thousand feet a day, a week or month?

A Mcf per day.

Q Mcf per day?

A Yes, sir. Some of these deliverabilities is 7,206. The No. 1 well, which is the largest well insofar as deliverability is concerned, perchanced to be located in the center, virtually in the center of the section, and it was, therefore, possible for us to allocate the entire section to this well thereby increasing the acreage times deliverability factor from 7,206 for the lease to 16,536, a 130 per cent increase. The effect of this based on the December 1958 proration

schedule was an 88 per cent increase in allowable.

Q Mr. Lyon, was than an 88 per cent increase in reserves underlying that tract of land?

A I don't see how it conceivably could.

Q Referring to what has been marked Petitioners' Exhibit 4-C, would you describe briefly what that is?

A Exhibit No. 4-C shows those wells in the Jalmat Pool whose 1958 deliverability ranged from between 500 to 1,000. The scale shown at the left shows from zero to 2,000, I believe -- 2,500. I might call to the Court's attention Well No. 23 -- I can't distinguish which one it is over there -- but the 1958 deliverability was 791. The 1959 deliverability was 1,856, a 134 per cent increase. Also No. 94 had a 1958 deliverability of 605; 1959, 1,668, an increase of 176 per cent. No. 345 had a 1958 deliverability of 823; 1959 deliverability, 2,305, a 180 per cent increase.

Trial Petitioners' Exhibit "4-C"

Q Now, referring to what has been marked as Petitioners' Exhibit No. 4-D, will you discuss it briefly?

A Exhibit 4-D shows those wells in the Jalmat Pool whose 1958 deliverability range between 1,000 to 2,000 mcf per day. A note might be that Well 118, which had a 1958 deliverability of 1,355 had a 1959 deliverability of 474. That's 65 per cent decrease. Also Well No. 244 had a 1958 deliverability of 1,358 and a 1959 deliverability of 5,925, a 336 per cent increase.

Trial Petitioners' Exhibit "4-D"

Q Referring to what has been marked as Petitioners' Exhibit 4-E, would you describe how that was prepared?

Trial Petitioners' Exhibit "4-E"

A Exhibit 4-E shows those wells in the Jalmat Pool whose 1958 deliverability ranged between 2,000 and 3,000 mcf per day.

Q And basically, does it show the same information as contained on the previous exhibits?

A Yes. It shows quite a wide fluctuation on deliverability.

Q Now referring to what has been marked as Petitioners' Exhibit 4-F, would you discuss it briefly, please?

Trial Petitioners' Exhibit "4-F"

A Exhibit 4-F shows three groups of deliverabilities, Group 6, being the wells whose 1958 deliverability ranged from 3,000 to 4,000 mcf per day; Group 7 are the wells whose 1958 deliverability ranged from 4,000 to 5,000; and Group 8 those wells whose '58 deliverability ranged from 5,000 to 7,500.

Q Now, does it show the same basic information as contained on the previous exhibits?

A It does.

Q As to the individual wells shown on the exhibit?

A Yes, sir.

Q Now, referring to what has been marked as Petitioners' Exhibit 4-G, state what that shows?

Trial Petitioners' Exhibit "4-G"

A Exhibit 4-G shows two groups of wells, Group No. 9, which

shows those wells whose 1958 deliverability ranged from 7,500 to 10,000 mcf per day, and Group No. 10, those wells whose 1958 deliverability ranged from 10,000 to 20,000 mcf per day. I might point out, in Group No. 10 the first two wells, the first one, No. 7 had a 1958 deliverability of 18,797. The 1959 deliverability was 9,941, a decrease of 36.5 per cent. And No. 8 was the largest deliverability well in that pool. It had a '58 deliverability of 19,147; 1959 deliverability was 3,174, an 83.4 per cent decrease.

Q Mr. Lyon, do Exhibits 4-A through 4-G, inclusive, reflect the deliverability tests as you have described them on all the wells in the Jalmat Pool?

A No, sir. There were a few wells on which tests did not appear for both years. Since there was no comparison possible, Idid not show those wells on these exhibits.

Q Now, how many wells in the pool showed identical results on the 1958 and the 1959 deliverability tests?

A Six wells.

Q Did you calculate a percentage of deviation from '58 to the '59 tests?

A For the pool as a whole, the average change was 40.32 per cent. Now, in arriving at that percent change, I took the individual percent change for the wells, added them together and divided by the number of wells in the group on which there was a comparison.

Q Mr. Lyon, in connection with the tests to which you have been referring, who makes those tests?

A El Paso Natural Gas Company actually takes the tests on our wells.

Q Do you know whether that is true on other wells in the pool?

A No, I don't.

Q Now, have you made an analysis of the findings of the pool as a whole on the basis of percentages?

A Yes, sir.

Q Mr. Lyon, were exhibits 4-A, 4-B, 4-C, 4-D, 4-E, 4-F and 4-G prepared by you or under your direct supervision?

A Yes, sir.

Q I believe you have testified your source of information was from the schedules on file with the Oil Conservation Commission?

A Yes, sir.

MR. KELLAHIN: At this time we'd like to offer 4-A, -B, -C, -D, -E, -F and -G.

THE COURT: They will be admitted.

BY MR. KELLAHIN:

Q Mr. Lyon, referring to what has been marked as Petitioners' Exhibit 5, would you describe that exhibit, please?

Trial Petitioners' Exhibit "5"

A Exhibit No. 5 shows these wells in the Jalmat Pool on which there was comparative information, grouped by the degree of

change. In other words, the first bar on the left indicates the percent of wells in the pool whose 1959 deliverability change was less than 5 per cent from the 1958 deliverability. The next bar are those of 5 to 10 per cent, and the third from 10 to 20, fourth from 20 to 30, the next one 30 to 40, 40 to 50, and the latest bar on the right shows a -- wells in the pool, or percent of the wells in the pool, who changed more than 50 per cent from 1958 to 1959.

Q Now, have you shown the percentage change on the exhibit?

A Yes, sir, but I can't read it from here.

MR. KELLAHIN: If the Court please, may the witness proceed to Exhibit No. 5 in order to continue?

THE COURT: Yes.

THE WITNESS: The scale on the left is shown as running between 5 and 30 percent. The first bar here includes 63 wells or 17.5 per cent of the pool which were within 5 per cent. The last bar over here shows that 68 wells, or 18 per cent varied more than 50 per cent in deliverability in 1959 compared to 1958.

BY MR. KELLAHIN:

Q Now, if you have a well of small deliverability, and there is a small change in that well, would not the percentage be greater than, say, a larger change on a well of higher deliverability?

A Well, of course, the best comparison is one of degree one to another, or a comparison of relatively small change in deliverability on a well with an initially small deliverability might indicate a rather large percentage change. However, a change in deliverability of greater magnitude on a well with large deliverability would, of course, indicate a smaller percent change.

Q Now, was Exhibit 5 prepared by you or under your direction and supervision?

A Yes, sir.

Q What was your basic source of information for the material on the exhibit?

A The proration schedules which we have mentioned and the information also contained on Exhibit No. 3.

MR. KELLAHIN: At this time we'd like to offer in evidence Petitioners' Exhibit No. 5.

THE COURT: It will be admitted.

BY MR. KELLAHIN:

Q Mr. Lyon, referring to what has been marked as Petitioners' Exhibit No. 6, would you state how you analyzed the wells for the purpose of this exhibit?

Trial Petitioners' Exhibit "6"

A Exhibit No. 6 is more or less a summary of Exhibits 4-A through -G. The various groups which I mentioned in that, which I showed on those exhibits are shown here as a bar.

The first bar is those wells whose 1958 deliverability was from zero to 200, and these next bars represent the wells in the various succeeding groups shown on Exhibit 4-A through -G.

Q And again having shown the percentage of change on the exhibit after each individual group?

A The percentage, the average percentage change in deliverability for these various groups is shown by those bars.

Q Now, Mr. Lyon, was Exhibit No. 6 prepared by you or under your direction and supervision?

A Yes, sir, it was. Incidentally, this exhibit contains one additional bar, which is a bar representing the total of average change for all the wells in the pool.

Q Do you recall what the total percentage change was as shown by that analysis?

A Forty point three two percent.

Q In other words, was the 1958 deliverability as compared to 1959 deliverability, showing a change of that percentage?

A On the average scores of individual wells, it had much greater or less individual change.

Q Now does that figure substantially compare with the results of your own tests on the Continental operated wells?

A It is almost identical.

Q Now, was Exhibit No. 6 prepared by you or under your direction and supervision?

A Yes, sir.

Q Was your basic source of information the same as on the preceding exhibits?

A Yes, sir.

MR. KELLAHIN: At this time we'd like to offer Petitioners' Exhibit 6.

THE COURT: It will be admitted.

BY MR. KELLAHIN:

Q Now, Mr. Lyon, based upon your analysis of the Continental wells and your experience in well testing of those wells, and your analysis of the Jalmat Gas Pool as a whole, in your opinion is it possible to obtain an accurate deliverability test in the Jalmat Gas Pool?

A No, sir.

Q Now, has there been any change in the reserves underlying individual wells which support or would be reflected in the changes in the deliverability tests of the respective wells?

A It is inconceivable that a change of that magnitude could occur.

Q In your opinion, is there any general correlation between the deliverability of gas wells in the Jalmat Gas Pool and the gas in place under the tracts dedicated to said wells? In your opinion, based upon the studies you have made and the experience you have had -- in the experience

of operation of Continental wells?

A No.

MR. KELLAHIN: That's all the questions I have, sir.

(THEREUPON, a brief recess was had after which the trial continued as follows.)

CROSS EXAMINATION BY MR. CAMPBELL:

Q Mr. Lyon, you have been employed by Continental Oil Company during all the period of gas prorationing in New Mexico, have you not?

A Yes, sir.

Q Were you employed by them back in 1953 when this matter first started?

A Yes, sir, I was.

Q Have you attended all of the hearings that have been held since that time in connection with this gas prorationing in southeastern New Mexico?

A I believe so.

Q Mr. Lyon, I hand you what has been identified as T-P No. R-16 in Case No. 1327 before the Oil Conservation Commission which is a part of the record in this case and ask you to read the introductory remarks in the first paragraph of that, please?

A "To: Operators of Gas Wells in Prorated Gas Pools - Lea County. From: Oil Conservation Commission. As provided for in Orders R-365-A through R-376-A, the New Mexico Oil Conservation Commission staff in cooperation with a committee of engineers representing several operators, have promulgated a Deliverability Shut-in Pressure Test for the nine dry gas pools of Lea County, New Mexico. All affected producers and purchasers of gas in the aforementioned area shall comply as specified in the following directive."

Q What is the date of that?

A March 15, 1954.

Q Now, Mr. Lyon, are you acquainted with whether or not a committee of representatives of various operators was or had been appointed by the committee to consider a matter of setting up deliverability tests?

A I don't remember whether there was a committee set up for taking deliverability tests. I recall there was a committee set up to establish procedures for the taking of four point back pressure tests.

Q Is that a part of testing procedure related to deliverability?

A A portion of it is, yes.

Q Mr. Lyon, I hand you what has been identified as T-P Exhibit No. R-18 in Case No. 1327, and refer you to Page 3, which is a part of the record in this case, and ask you

to read into the record that small paragraph, please?

A This is the introduction:

"This manual is written in compliance with Rule 401 of the Commission's Rules and Regulations of January 1, 1953 in Orders R-368-A through R-376-A, inclusive. Rule 401 requires back pressure tests and the oil-gas well tests, and a statement to be filed once a year. Order R-368-A through R-376-A, inclusive, are proration orders for the designated dry gas pools of southeast New Mexico. Reference is made to Paragraph 7 of the findings of each of the above-mentioned orders which states:

> "7. That an adequate gas well testing procedure should be adopted as soon as possible so that operators, purchasers and the Commission can determine the fairness and feasibility of an allocation factor for the pool which employs the factors of deliverability, pressure or any other factor relating to gas well productivity.'"

Q Mr. Lyon, on Page 1 of that document there is a list of companies and individual representatives comprising the committee. Will you examine that and see if there are representatives of Continental Oil Company on the committee?

A Yes, sir, there are.

Q How many are there?

A Three.

Q Are those representatives of Continental Oil Company to your knowledge people who were employed by Continental at that time?

A At that time, yes.

Q Then, Mr. Lyon, Continental Oil Company, from the time of the original directive and through T-P Exhibit R-18, which

is a manual for back pressure testing, dated February 1, 1956, were acquainted with the procedures being set up for the taking of deliverability tests, were they not? Or should have been?

A Well, they should be familiar with those which might be established but they had no way of knowing which would be established.

Q Is not T-P R-18 in No. 1327 a manual for back pressure testing for natural gas wells?

A Yes, sir.

Q Is that not an essential part of the taking of deliverability tests?

A It is an essential part of the calculating of the deliverability tests, yes, sir.

Q Mr. Lyon, now you have testified that it is impossible in your opinion to take deliverability tests in the Jalmat Gas Pool, is that correct?

A I don't believe I said exactly that.

Q What did you say?

THE COURT: He said it's impossible to get accurate deliverability tests in the pool I believe.

BY MR. CAMPBELL:

Q Is that what you said?

A Yes, sir.

Q Now, with regard to the Continental wells to which you have made reference, in a portion of these exhibits, I would like to ask you a few questions concerning those wells that's related to the taking of deliverability tests. At the beginning of gas prorationing in this area in the Jalmat Gas Pool, how many wells did Continental operate which did not contain any tubing?

A I do not know.

Q Do you have any records with you, or do you have any personal knowledge as to the condition of any of the Continental wells at the time the gas prorationing on a deliverability basis went into effect in the Jalmat Gas Pool?

A I have a fairly good idea.

Q Mr. Lyon, are you presently in charge of the taking of tests, or the witnessing of tests, or placing your wells in condition for the taking of them in the Jalmat Gas Pool?

A Not specifically. I am a staff employee and do not have that responsibility.

Q Who does have that responsibility as far as keeping their wells in a proper condition?

A The superintendent is responsible for that, and I'm in an advisory capacity to him.

Q Who is the superintendent?

A Mr. Parker.

Q Who is Mr. Lott?

A Mr. Lott is presently our Division Gas Coordinator located in Roswell.

Q How long has he been working in that capacity?

A Two or three months, something of that order.

Q Have some of your tests been taken since he came to Roswell in that capacity?

A Yes.

Q Now, Mr. Lyon, do the amount of liquids which may accumulate in a gas well have an effect upon its ability to provide a satisfactory deliverability test?

A Yes, I believe it did.

Q Did the wells in the Jalmat Gas Pool have a tendency to accumulate liquids?

A Some do.

Q Does the fact that a well does not have tubing in it result in unusual accumulation of liquids?

A I don't think so for that particular reason. Each well is an individual case.

Q You have stated that you do not know how many wells of Continental Oil Company that are involved in these exhibits here do not have tubing. Do you know if any of them do not have any?

A I know a good many of them do not.

Q Do you know whether the rules of the New Mexico Oil Conservation Commission require at the present time tubing in gas wells?

A At the present they do.

Q As an engineer, what do you think the reason is for that?

A Well, evidently it presupposes that there will be liquid in the well, and the purpose of the tubing is for unloading the well.

Q Do you know whether, since the original tests to which you have referred, Continental has installed tubing in any of its gas wells?

A Have we ever installed them?

Q Have you, between the times of the original 1958 tests and the tests that you have listed as 1958 deliverability tests, which I believe you stated may be later tests in '59, did they between those times install tubing in any of their wells to your knowledge?

A Yes, sir.

Q How many?

A Three.

Q Which wells were those?

A The Jack A, No. 24, the Jack A, 21, No. 21 -- excuse me, there are four.

Q Do you have your code number on that, please, sir?

A Yes, sir. Jack A, 21, No. 21, Code No. 23. Our tubing was run between the 1958 retest and the 1959 test on that well.

Q You are saying that the tubing on that particular well --

A Yes, sir. The Jack A-20, No, 24, is No. 22.

Q Yes, sir.

A And tubing was run on that well I believe in December of 1958. The Meyer B, No. 22, No. 21, which is Code No. 37, had tubing installed in it in the summer of 1958 prior to the 1958 retest. The Stevens B-18, Unit No. 1, which is Code No. 65, had tubing run in it in the summer of 1958 prior to the 1958 retest.

Q The Stevens -- I'm sorry.

A The Stevens B-18 --

THE COURT: It's Code 65.

BY MR. CAMPBELL:

Q Now, with regard to your Jack A-20 well, your Jack A-21 well, both of those showed a substantial increase in deliverability, did they not?

A Yes, on several occasions.

Q Did you consider that the adding of tubing may have had an effect of enabling you to dispose of liquids and obtaining more satisfactory deliverability tests?

A Well, it did in one case. However, in the retest of 1958 the Jack A No. 21, that was taken without tubing and we had a very substantial increase of deliverability.

Q Do you know whether any other work had been done on that well?

A Prior to installing tubing, the well was water fraced with fifty thousand gallons of water.

Q Doesn't a blow-down line enable you to dispose of liquids which might not otherwise be disposed of?

A Well, I think it's proper that it be done.

Q On how many of your wells have you installed blow-down lines since you took your original deliverability tests?

A I don't know.

Q Do you know whether the Commission personnel actually observed the installation of blow-down lines on eighteen of your wells?

A No, I don't know.

Q Do you know how many of your wells, Mr. Lyon, have since the original deliverability tests been switched from a high pressure gas line to an intermediate line by the use of compressors?

A I know that we have been after El Paso for about two years to reduce the pressure in a large percentage of our business.

Q If a well is unable to buck a particular line pressure to the extent that it cannot unload its liquids, does that affect its ability to test properly for deliverability?

A Of course it does.

Q And, if it is transferred into a lower pressure line, are you not able to more accurately obtain a deliverability test?

A I do not know if you can do it more accurately. You'll sure get a different result.

Q Is it not correct that your Meyers A-29, No. 1, well, your Meyers A-29, 5, B-28, 1, your B-28, 2, and B-33, 1, and your State A-32, 2, 32-3, 32-4, and E-17, 5, between the times of these deliverability tests were transferred from a high pressure to an intermediate line?

A That's what I was talking about, that we had been trying to get El Paso to reduce the pressure. I think that was done.

Q Now wouldn't that affect the deliverability of those wells?

A Of course.

Q Might not that be a factor in some of these variations of which you are speaking?

A There are any number of factors that can affect it.

Q In other words, the vagueness or uncertainty of the deliverability testing procedure that you have referred to may not be the cause for these variations at all, isn't that correct?

A In some of the wells that you have mentioned were tested before, or were retested, before the intermediate pressure line was installed, and we still had a wide fluctuation in deliverability.

Q But the fact is that there are a number of other factors that can enter into the variations of deliverability from

time to time other than the actual testing procedures, isn't that correct?

A Quite true.

Q When you clean the sand out of your wells, can't that affect the deliverability of the well?

A If it is covering gas pay, yes.

Q When you install tubing in a well, can't that affect the deliverability of the well?

A It can.

Q And, as you have previously stated, the pressure of the line it is bucking can also affect it, can't it?

A Yeah, sure.

Q Well, in the installation of a blow-down line which will permit you to blow up the liquid before you commence your testing, will affect the deliverability results?

A Yes, sir, but I can't see that it makes any difference.

Q Are you acquainted, Mr. Lyon, with the deliverability procedure of February 24th, 1958, to which you have made reference as being, as I understood you, vague and uncertain?

A Well, it isn't vague and uncertain as to how to go about it I don't believe.

Q Are you acquainted with that order?

A Yes, sir, reasonably.

MR. CAMPBELL: This is a memorandum. Is it in evidence, may I ask?

MR. KELLAHIN: No, sir, it is not.

BY MR. CAMPBELL:

Q Are you acquainted with it?

A Reasonably.

Q I hand you what has been identified as Respondents' No. 1 and ask you if you can state what that is?

Respondents' Exhibit "1"

A This is a memorandum of the subject of Jalmat Gas Pool deliverability procedure.

Q Have you seen that before?

A Yes, sir.

Q You are acquainted with its provisions generally?

A Yes, sir.

Q And I'll ask you, Mr. Lyon, if you will read Section B(3) of that on Page 2.

A "The daily flowing volume shall be calculated from the rate indicated at the end of the deliverability flow period as defined above. No change shall be made in the choke setting or orifice size during said flow period. During the preflow and flow periods the well shall be produced through either the casing or tubing, but not both. The rate of flow during these periods shall be at a rate sufficient to keep the well bore clean of liquids."

Q Now, Mr. Lyon, if your well bore for any of the reasons that we have mentioned here, like blow-down lines, failure to

buck line pressure, is not clean of fluids, then your deliverability tests might show variations, might they not?

A True.

Q Whether a well contains tubing or contains a blow-down line or is clean, free of sand which may block the gas or prevent the unloading of liquids, is a matter which can be controlled by the operator of the well, is it not?

A To some extent.

MR. CAMPBELL: If the Court please, I would like to move to strike Exhibit 2, 3, 4 and 5 and their subparts upon the ground that the testimony of the witness has disclosed that numerous other factors may bring the results that he had indicated on these exhibits other than the vagueness and uncertainty or indefiniteness of the procedures involved here.

THE COURT: The motion will be overruled, Mr. Campbell. I am aware of the fact that other considerations might cause those differences, but I think that the exhibits are pertinent for -- or at least to be considered for what they apparently show.

BY MR. CAMPBELL:

Q Now, Mr. Lyon, you have testified that El Paso Natural Gas Company conducts the tests on all of these wells?

A Yes, sir.

Q Is it not true that the operator of the well is notified prior to the testing of these wells for deliverability?

A Yes, sir, they extend us that courtesy.

Q And give you an opportunity to be present and witness the testing and the results of the tests?

A Correct.

Q To your knowledge, has Continental Oil Company taken advantage of that opportunity in the past, and are they taking advantage of the opportunity at the present time of witnessing the testing procedures?

A I don't -- how far back we took advantage of that, I'm not prepared to say. We are taking advantage of it at the present time and have been for the past year.

Q You have always had the privilege, have you not?

A Oh, yeah. Oh, yes.

Q Now, Mr. Lyon, in your exhibits here you have made reference to a number of rather extreme situations that appear in and throughout these various groups of wells to which you have referred. I would like to ask you if there are other testing procedures involved in the operation of oil and gas wells in the Jalmat Pool with which you are acquainted that may also under certain varying conditions show wide variations or anomalies, isn't that possible?

A That is correct but the proration formula doesn't include deliverability in those cases.

Q Is the gas-oil ratio test one which is subject to considerable wide variations?

A Yes, it is.

Q Can that affect quite markedly the allowable for your wells for oil or gas purposes?

A It can.

Q Have you made any analysis of the entire Jalmat Pool with regard to the deliverability of the pool in the early tests as related to the present total deliverability, percentage-wise?

A No, I haven't.

Q The only studies you have made then is to percentage differences that occur in particular wells, isn't that right?

A In all the wells.

Q Yes.

MR. CAMPBELL: I believe that's all. I would like to offer Respondents' Exhibit No. 1 in evidence.

THE COURT: It will be admitted.

BY MR. CAMPBELL:

Q Mr. Lyon, are you aware that the orders of the New Mexico Oil Conservation Commission make the taking of deliverability tests the obligation of the purchaser or pipeline company?

A No, I don't believe that's true. The obligation, the

responsibility is the operator's, but the test is run by the purchaser or a testing agency.

REDIRECT EXAMINATION BY MR. KELLAHIN:

Q Mr. Lyon, during cross examination by Mr. Campbell, your attention was directed to a directive of March 1954. Do you know of any order adopting or, after notice of hearing, setting up any well testing procedure at that time?

A No, sir.

Q Referring to Respondents' Exhibit No. 1, a memorandum under date of February 24, 1958, do you know of any order entered by the Oil Conservation Commission of New Mexico, after notice and hearing, pertaining to the testing of wells for the purpose of determining deliverability?

A No.

Q Then Respondents' Exhibit No. 1 is a memorandum only, is that correct?

A That's correct.

Q Is it signed or does it appear to be an official order of the Oil Conservation Commission?

A No, and when Mr. Campbell asked me the question about that, I forgot momentarily that that memorandum does not contain the approved slope which you use in correcting any test flow to the calculated deliverability so that information would be, may I say, in addition to that memorandum.

Q Then the memorandum itself is not a complete direction of how to calculate the complete deliverability of a well after the test has been made?

A No, sir.

Q Now, Mr. Lyon, if you have a testing procedure prescribed which is subject to wide variation outside of the procedure prescribed which do affect the results, would you call that an accurate means of detecting deliverability? If you have a testing procedure, which I believe in response to that question by Mr. Campbell which was clear and unambiguous on its face, you have since modified it by calling attention to the fact that it does not prescribe the slope on which your deliverability would be calculated, but aside from, assuming it is clear and unambiguous on its face and yet in the actual field application of that test it is subject to wide variations because of the testing conditions, do you consider that an accurate means of determining deliverability of wells?

A Evidently it isn't because it varied 40 per cent on the average well for the entire period of 1958 to 1959.

MR. KELLAHIN: That's all I have.

MR. MALONE: That concludes the evidence to be presented by the Petitioners.

MR. CAMPBELL: If the Court please, the motion by the Petitioners this morning with regard to the Oil

Conservation Commission and the sustaining of it by the Court has put us in a position where we need to re-organize our presentation to some extent, and we would like to --

THE COURT: You would like to take a recess until 9 o'clock in the morning ?

MR. CAMPBELL: Yes, sir.

THE COURT: We will do so.

(THEREUPON, at the hour of 3:45 P.M., trial of the cause was adjourned until 9:00 A.M. of the following morning, being July 22, 1959, at which time trial was resumed and proceeded as follows.)

MR. CAMPBELL: Come now the Respondents and move the Court to dismiss the petition of the Petitioners upon the ground that the Petitioners have failed to sustain their burden of proof. It is our position that by the evidence of testimony offered, which consisted of the unsupported statement as to drainage since this order went into effect, and economic data concerning the effect upon operators, and the vagueness of the order which we believe was prudently shown as

attributable to other causes, that the Petitioners have failed to sustain their burden of proof.

THE COURT: The motion will be overruled.

MR. CAMPBELL: The second motion: Come now Respondents and move the Court to dismiss the Petition of the Petitioners on the ground that the Court has lost jurisdiction of this matter by virtue of its ruling excluding as an adversary party the Oil Conservation Commission of New Mexico, which is an indispensable party since it was the only respondent representing the public interest.

THE COURT: The motion will be overruled, and it will be observed that the Conservation Commission is not dismissed but prohibited from -- or is not stricken as a party. The order was to the effect that they might not take an active part in this matter.

MR. MALONE: The motion itself recognized that they were a proper party, and it was directed to their position as an adversary only.

THE COURT: Yes, sir.

MR. CAMPBELL: Has the Court overruled the motion?

THE COURT: It is overruled.

MR. CAMPBELL: Before proceeding with offering testimony, your Honor, the Respondents would like to

state that, of course, by offering testimony which will be strictly in rebuttal to that testimony offered by the Petitioners, the Respondents do not in any respect waive any objections we have made to the introduction of any additional testimony or other evidence before this Court not available to the Commission, or to this specific objection relating to evidence as to matters which have occurred since the Commission ruled upon this matter.

Our first witness will be presented by the respondent, El Paso Natural Gas Company.

THE COURT: All right.

MR. GALATZAN: Your Honor, let the record show briefly, sir, that the evidence that El Paso Natural Gas is offering at this time is subject to the motion which Mr. Campbell has just made, and which motion we join.

MR. MALONE: May it please the Court, may the record also show that the Petitioners do not acquiesce in the statement by counsel in that by presenting this testimony they are not waiving objections heretofore made.

THE COURT: All right.

MR. CAMPBELL: Would the Court rule on that question?

MR. MALONE: If it please the Court, I would suggest that there is nothing to rule on. If the counsel wishes to present the witness, he has the right to do so but he has to take the legal consequences of having done so.

THE COURT: I think so.

MR. CAMPBELL: I believe that that is correct.

THE COURT: You have it in the record. You may proceed.

RESPONDENTS' CASE IN CHIEF

M R. F. N O R M A N W O O D R U F F, a witness called on behalf of Respondents, having been duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. GALATZAN:

Q State your name, please.

A F. Norman Woodruff.

Q Mr. Woodruff, are you a graduate engineer?

A Yes, sir, I'm a graduate petroleum natural gas engineer.

Q When did you graduate, Mr. Woodruff?

A February, 1948.

Q From what school?

A University of Texas.

Q After your graduation, Mr. Woodruff, what was your first position?

A I joined the Railroad Commission of Texas, the Oil And Gas Division, as Petroleum Engineer.

Q How long did you spend with the Texas Railroad Commission?

A Approximately three years, the latter half of which I spent as Head of the Commission's Gas Department. As such, I had under my supervision and surveillance the taking and checking of all gas well tests, as well as the proration of gas in the State of Texas.

Q Mr. Woodruff, what is your present position?

A I am Manager of Gas Proration Operations for El Paso Natural Gas Company.

Q How long have you been with the El Paso Natural Gas Company?

A I have been with them almost ten years.

Q And in what capacity? As a Gas Proration Manager?

A Approximately the last five years I have been the Manager of gas proration operations. Prior to that time, I worked for the Company as a reservoir engineer in the Geological Section.

Q Mr. Woodruff, are you at the present time, or have you at any time, been a member of the Deliverability Committees as set up by the Oil Conservation Commission of the State of New Mexico?

A Yes, I believe I have served on every committee that the Oil Conservation Commission has called for that purpose.

Q Are you a member of any of their committees at this time?

A No, sir.

Q Mr. Woodruff, what is the general relationship between the El Paso Natural Gas Company and the other operators in the Jalmat Pool?

A El Paso Natural Gas Company is a purchaser of gas from between 85 and 90 per cent of the wells in the Jalmat Pool.

Q Is El Paso Natural Gas an operator as well?

A Yes, sir, we are.

Q I hand you, Mr. Woodruff, what has been marked as Respondents' Exhibit No. 1, and I believe it has been introduced in evidence.

A Yes, sir, that is correct.

Q Are you familiar with that document?

A Yes. It is the Jalmat Gas Pool Deliverability Procedures.

Q Does that exhibit, R-1, does it indicate whose responsibility it is for the taking of deliverability tests?

A Yes, it does.

Q Would you read that, please, sir?

A Yes, sir, in Subsection 3 of Section A, entitled "Responsibility for Tests", it provides as follows:

> "The responsibility of accomplishing the annual deliverability and shut-in pressure tests shall rest with the operator of each well. An operator may arrange for the testing of his wells by any qualified testing agency or pipeline company."

Q So then the directive states that it is the responsibility of the operator to take these tests?

A That is correct.

Q Does the El Paso Natural Gas make deliverability tests for the operators?

A Yes, sir, we do.

Q Why do you make those tests?

A Why we make those tests because under our contracts we are obligated to take all back pressure and gas productivity tests on wells.

Q Mr. Woodruff, is it the policy and practice of the El Paso Natural Gas Company before taking such tests to notify the operator that these test will be taken?

A Yes, sir, we do so.

Q You have stated that it is the practice and policy of the El Paso Natural Gas to notify the operators when the deliverability tests are going to be taken, and I have handed you what has now been marked, Respondents' Exhibit No. 2 and 3. Would you look at them, please, and --

A Yes, sir.

Q Is that the notice which you give the operators?

Respondents' Exhibits "2" and "3"

A Yes, sir, Respondents' Exhibit No. 2 is a typical notice given to operators prior to deliverability tests during the year of '58. This notice is a schedule, submits a

schedule of the test, giving the date of the various taking of different features of the deliverability test.

Q Would you read, Mr. Woodruff, please, the portions of R-2 there relating to the responsibility?

A Yes, sir, I will do so:

> "The responsibility for getting the wells tested and reporting the results to the New Mexico Oil Conservation Commission rests with each operator concerned. However, El Paso Natural Gas Company testing personnel are ready and willing to conduct the tests at the discretion of the operator. Three test cars from El Paso Natural Gas Company will be in the field covering approximately twenty wells each. Since deliverability is now a factor in the proration formula of the Jalmat Pool, we strongly urge each operator to have a representative present to witness the tests and see that they are done to their satisfaction even though El Paso personnel may be conducting the tests. If any operator desires to have the wellhead flowing and shut-in pressures recorded, they must furnish their own recording pressure gauges as the supply available from El Paso is very limited. It is strongly recommended that these pressures be recorded because the highest pressure so determined and deadweighted during the 72 hour shut-in period will be used in determining each wells deliverability.
>
> "If any questions arise concerning the schedule or the testing procedure, please contact the undersigned at our office in Jal, New Mexico."

That is signed by R. T. Wright, our Division Engineer.

Q Now is there any portion of that notice, Mr. Woodruff, that you would like to read which you feel might be helpful to the Court?

MR. MALONE: If the Court please, we are going to make no objection to the introduction of these exhibits

but I think it is improper to have them read from until they are introduced.

THE COURT: Do you have any objections?

MR. MALONE: No objections.

MR. GALATZAN: We'll offer them at this time.

THE COURT: They will be admitted. That's Exhibits 2 and 3.

THE WITNESS: This identical wording that I have read, or this identical reasoning that I have read, is included in all notices of schedules that we send operators for all wells that are tested for deliverability, both on the annual test and on additional tests of new wells and retests, and it would vary only to the number of cars that we are going to send out there, but we advise the operators in every instance of their responsibility, our willingness to participate and conduct the test if necessary, and to call to their attention the need for careful preparation of the well, and the need of getting a good deliverability test.

BY MR. GALATZAN:

Q So R-2, which is the 1958 notice which you gave, and the R-3, which is the 1959 notice that you gave, they each contain the same thing, is that correct?

A That is correct.

Q Inviting the operators' attention to the same facts?

A That is correct.

Q Now, Mr. Woodruff, are you acquainted with deliverability test procedure generally in the Jalmat Pool?

A Yes, sir, I am.

Q What is that procedure?

A That procedure provides for the taking of deliverability tests, the first portion of which will be a preflow of approximately three days or 72 hours duration. That preflow is for the purpose of conditioning the well. prior to the following 24-hour test flow. The test flow period is followed by a shut-in period of approximately 72 hours or three days duration. During this test, the Commission prescribes that the test be conducted within certain reasonable limits. For instance, it requires that the wellhead pressure of each well be drawn down at least to a pressure 10 per cent below the shut-in pressure of that well.

Q Now, Mr. Woodruff, is the procedure which you have explained generally for the Jalmat Pool the same type of test used in the entire gas industry?

A Yes, sir, it is.

Q Now, would you look at what has been marked as Respondents' Exhibit No. 1. Now, is there anything in R-1 which directs or suggests to the operator as to what condition he should

have his well in prior to the test?

A Yes, sir, there is.

Q Would you find that , please.

A Yes, sir, it falls in subsection (3) of Section B. It has previously been read to the Court. It provides for that operator's will clean the wells of fluid preparing the well for test.

Q All right. Now does the El Paso Natural Gas Company have authority to do any work on operators' wells to put it in the condition that the directive there requires?

A No, sir, they do not.

Q Has the El Paso Natural Gas ever put any operator's well in condition for the test required by that memorandum?

A Not unless that could be accomplished through producing the well in through our metering facilities into our gas pipeline.

Q Now, Mr. Woodruff, an operator complying with the directive and complying with the other rules and regulations of the Oil Conservation Commission in getting his wells in the proper condition, and those wells being in the proper condition, would any two tests on the same well, would they be approximately the same?

A Yes, sir, they would be approximately the same.

Q If any change were made, Mr. Woodruff, in the condition of

a well between two deliverability tests such as a workover, adding tubing, cleaning out job, or such as that, would the results of the tests be different?

A You would expect them to be.

Q Is the method that is outlined as to how to take the deliverability test as in that directive, is that clear to you?

A Yes, sir, it is.

Q Is it clear to the El Paso Natural Gas Company?

A Yes, sir, it is.

Q Yesterday, Mr. Lyon, I believe it was left the impression -- at least with me if not with the other people in the court, and with the Court -- that there was nothing in that directive with reference to slope. Is that correct?

A That was my understanding.

Q That's the way I understand it. Now would you look at that directive and give us what it mentions regarding slope?

A Yes, in Subsection (15) of Section B, Procedure for Deliverability and Shut-In Pressure Tests, it provides as follows:

> "The value of slope n determined by the last approved multipoint test reported on Form C-122 shall be used in the deliverability calculation set out in this directive. Wells with slopes of .5 or 1.0 which has been determined in accordance with Procedure Rule 10(d) of the New Mexico Oil Conservation Commission Back Pressure Manual shall use the average pool slope of .771 in the deliverability calculation."

Q That is the slope information?

A That is correct.

Q Now, Mr. Woodruff --

A May I add that in addition to these instructions the Commission went further and issued a schedule advising the operators of the slopes of the individual wells even though they had that information in their own records as added aid.

Q If a well just prior to a deliverability test, Mr. Woodruff, the well is in the condition that it should be maintained by a prudent operator, would the result of the test be more indicative of the true deliverability of the well than a test on a well that has not been prudently maintained?

MR. MALONE: We object to the question for the reason that the standard of what a prudent operator would do has not been established in the case.

THE COURT: It will be sustained.

BY MR. GALATZAN:

Q All right, Mr. Woodruff, if an operator put his well in the condition that that directive calls for, and it was in that condition prior to a test, would the result of the test be more indicative of the true deliver ability of the well than a test on a well where the operator had not complied with that directive?

A I would expect it.

Q Well then does the proper maintenance of a well, Mr. Woodruff, increase its deliverability?

A Yes, sir, it does.

Q Would you tell us, Mr. Woodruff, what has been the general result in the increase of deliverabilities of wells where the operators have complied with the other rules and orders of the Oil Conservation Commission?

MR. MALONE: If the Court please, we object to the question unless he has personal knowledge of each operator.

THE COURT: I would think so. With the large number of wells in that field, it is hardly to be supposed that this witness would know.

BY MR. GALATZAN:

Q All right, Mr. Woodruff, do you know of your own knowledge what the general result has been as to the deliverability of wells in the Jalmat Pool where the Commission's order has been complied with?

A I do not know in each individual instance but I have an opinion as to what the result would be.

THE COURT: You were not asked for an opinion.

BY MR. GALATZAN:

Q All right then, I will ask if you have an opinion on that?

MR. MALONE: If the Court please, we object to the

question for the reason --

THE COURT: It will be sustained.

BY MR. GALATZAN:

Q All right, Mr. Woodruff, are those wells you do have personal knowledge of where the operators have complied with the directive, will you tell us where they have complied with the directive and with the rules and regulations of the Oil Conservation Commission with reference to keeping the wells in condition, whether the deliverability of those wells has increased?

A Normally, those wells have had little or any change because the operators complied with the Commission's directive and rules and regulations during both tests. However, I have found that in instances where there was compliance during one test evidenced and apparent non-compliance during another test that there has been a variation in the deliverability data reflected --

THE COURT: Just a minute, Mr. Woodruff. I don't know if I understand you or not. You say, "apparent non-compliance". Are you assuming that, when you find a variation, that there was no compliance or did you ascertain first that there was no compliance and then discover there was a variation?

THE WITNESS: I studied the data on the well and found there was evidence that conditions existed which

would not have existed had the rules and regulations and directives of the Commission been followed.

THE COURT: But you got that information other than from the result of the deliverability test, I take it?

THE WITNESS: Some of the information was from other than some of the data of the deliverability test, yes, sir.

THE COURT: All right.

BY MR. GALATZAN:

Q Mr. Woodruff, yesterday afternoon, I believe it was Mr. Kellahin that put up Petitioners' Exhibits 4-A through 4-G. You remember the great number of exhibits that were put up there?

A Yes, sir.

Q Purporting to show the comparative results of the 1958 and 1959 deliverability tests that were taken in the Jalmat Pool. As I understand, the El Paso Natural Gas took these tests after first notifying the operators, is that correct?

A That is correct.

Q Now, have you made any studies since Mr. Kellahin put those exhibits up there and they were, I believe, introduced in evidence yesterday afternoon? Have you made any study, Mr. Woodruff, which might explain, or may explain, the reason

for the deviation which the exhibits purported to show in some of the test results of 1958 and 1959?

A Yes, sir, I have done so.

Q In the interest of time, and rather than put each one of Mr. Kellahin's exhibits up, if you would refer to his, or the Petitioners' rather, Exhibit 3. Now, glancing at that, Mr. Woodruff, could you by code number -- or explain the reasons for the deviations as shown?

A First, let me explain that we have gone through this list and picked the wells that appeared to have obvious discrepancies By that, they are the wells which show large per cent of changes between '58 and '59, either increases or decreases. We started out in our study trying to make an analysis of each well which had more than 50 per cent increase in deliverability or more than 25 per cent decrease in deliverability, which would amount to the same amount volumetrically. We found that time would not permit us to complete a study of all of those wells and, after having gone through, I would say, possibly 25 per cent of the wells, we changed our procedure to study only the wells which showed a hundred percent change increase in deliverability or fifty percent decrease in deliverability. My total study has included 63 wells. I have performed the analysis of the data which I was able to discern during this period

of study myself.

Q All right, go ahead and give us that now.

A Now may I explain to the Court that 63 wells? I am going to briefly explain the conditions that I found as possible. For instance, I found liquid accumulation in the well bore which was an influence in the productivity of the well. I'll just give the code number of the well and liquid accumulation.

THE COURT: All right.

(Witness continuing): The first well studied was No. 1. It showed liquid accumulation in the well bore. The second well was No. 2. This well was worked over, tubing was installed and the operator was unable to unload liquid accumulation. No. 4, the drop was in deliverability experienced there. Apparently it was due to placing the well in a gas well gas system from casinghead gas system at lower pressure. Also we find that the well did not experience, during either the '58 or '59 tests, as much as a 10 per cent pressure draw down as prescribed by the Commission's rules. And No. 7 has a drop, and '59 pressures show liquid accumulation in the well bore. No. 8 shows a drop. 'Fifty-nine pressures shows a severe accumulation of liquid, and also reflect that in 1958 there was less than 10 per cent draw down of pressure. No. 10 showed a drop. Here I found no apparent cause except the inability to draw

down to the 10 per cent. However, pressure data reflects that there may be some restriction between the wellhead and the meter run. No. 11 has a drop. In the 1959 tests it indicates liquid accumulation in the well bore. No. 19 has a drop. This well has no tubing in it. No. 20, an increase. Pressure data showed liquid accumulation in 1958. The well was blown to remove liquids in 1959 to increase the shut-in pressure and volume produced. No. 21, an increase. This well has no tubing in it. They had a line pressure drop between tests, and there is a possibility of liquids in this well. No. 22: this well was worked over, fraced, tubing was run and shut-in pressure and productivity was increased. No. 23: this well was worked over, cleaned out, fraced , tubing run which increased the shut-in pressure and productivity. No. 26 showed a drop. Pressure data reflects liquid accumulation in 1958. There was a work over, it was cleaned out, tubing was run and, because there was no increase in this instance, it appears that the work over may have been unsuccessful. And No. 29 had a decrease. This well is a dually completed well and the gas is produced through the annulus. It produced and is troubled with liquid and is influenced by its pressure performance history. It also shows more than normal rapidity of reserve depletion. The next well is No.32 which shows a decrease. This well

has no tubing. This well also indicates an apparent rapid depletion of reserves since it was decreased from 168 to 248 per unit. No. 33, an increase. This well has no tubing. It was blown and cleaned out before the 1959 test. No. 34; this well was worked over, fraced, had tubing placed in it and productivity increased between the '58 and '59 tests. No. 36 had an increase. Liquids were indicated in 1958 and these liquids may have been removed prior to the 1959 test. I find no positive indication. However, I do know there was much closer surveillance about the tests by the operator during the 1959 tests. There was also a line pressure change between tests. No. 38: the well had no tubing. No. 39: the well had no tubing and pressures reflect that it was influenced by liquids. No. 45, a decrease. This well had an attempted work over apparently unsuccessful, and it is still bothered with liquids. No. 50, an increase. The well was changed from a -- from one pipeline system to another which probably enabled the well to clean up between tests. No. 51 had a decrease. Pressures show accumulation or fluid in the well bore. No. 52 had a decrease, apparently due to liquid accumulation as indicated by pressure performance. No. 60 had a decrease. This well I can find no apparent reason, but we often find that high deliverability will show marked changes. No. 49 which increased. This well has

no tubing and its system is changed to lower pressure between tests. No. 67: this well had no tubing and probable liquid condiction. No. 65: this well was worked over immediately preceding the '58 or first deliverability test and a decline indicated does not appear to be an excessive decline after work over. No. 70 shows a decline. This well is a dually completed well, producing through the annulus and probably loads up with liquids.

I might explain to the Court, if I may, that to unload liquids, you need normally tubing in a well. It's the gas passing through the liquid which aerates the liquid and brings it to the surface and, if you have no tubing and it is producing through the casing, you have a much larger area, and the gas can just bubble through the oil without unloading the liquid. Likewise, when you are producing through the annulus place from adually completed well, you have almost the same area to cover as you would in a well without tubing, and you have difficulty in unloading liquid under those conditions.

No. 91: this is a poor well, makes lots of oil, has to be blown to maintain production. It lost deliverability. No. 93, decrease in deliverability. This well was worked over, tubing was run immediately preceding the '58 test. Its beneficial results were short lived. It apparently

returned to the status before the work over. No. 94 had an increase. Liquid accumulation as indicated by pressure condition apparently influenced the 1958 test. No. 101 had an increase. The line pressure was lowered. The well went from a high pressure to low pressure system. No. 118: this well indicated a decrease of 65 per cent. However, there was erroneous data used, I believe due to it being carried erroneously on the schedule by the Commission. Probably the well should have shown a 25 per cent increase. No. 124: it's a very poor well. You might class it as a stripper type, makes some liquids. No. 127: the line pressure was changed from 250 pounds to approximately 100 pounds. No. 134, which had a decrease, had fluid production based on reports of fluid production to the New Mexico Oil and Gas Engineering Committee as well as pressure performance. There was also a line pressure change for this well between tests. No. 143: fluid production influenced the pressure performance. No. 153 had a decrease. This, too, appears to be a stripper well. It is a very old well producing into our lowest pressure system. It has liquid accumulation and production based on reports to the New Mexico Gas and Oil Engineering Committee. No. 165 had a decrease. This well had fluid accumulation, fluid in the well bore. In order to take care of it, it operates with an intermitter.

It's a poor well. It might also be termed a stripper type. No. 178 has an increase. Pressure performance indicates that there was fluid accumulation influencing the 1958 test. No. 181 had a decrease. This well had a draw down during both '58 and '59 tests of less than 10 per cent prescribed in the Commission's directive. Another possible reason is that the first deliverability test was taken immediately after first delivery of the well into the pipeline system, and it may indicate a larger decline than the average of a well that has been producing on a line for a long time. I think I said, your Honor, that it "may indicate". I should have said that the decline may be characteristic of a well first coming onto the line as differentiated from a well that's been on there a long time.

THE COURT: Yes, sir, I understand.

(Witness continuing): No. 186, a decrease. The test shown by Mr. Lyon on his exhibit has been superseded by a retest during the year of 1959. This retest was taken after the well was cleaned out. It changes from the minus 79.2 per cent reported on his exhibit to a plus 12 percent. No. 190 shows a decrease. Here we have two wells sharing its allowable, and liquid accumulation is reflected for the pressures of both wells. No. 197 shows an increase. It had line pressure reduced between tests, and it also

indicates that liquids caused the well to log off making it impossible to obtain the shut-in pressure on that well. It It had the use of pressure of an offset well in calculating its test. No. 206 showed a decline. Liquid accumulation here makes the obtaining of shut-in pressure impossible and the use of an offset well. No. 216 showed a decline. This well is in what may be referred to as a pressure deliverability anomaly area. This well is cut off from the gas pool so to speak by oil production. There are oil wells on three sides between it and the gas pool primary. No. 221: this well has no tubing. No. 227: fluid accumulation influenced the productivity during the 1959 test. No. 242 showed an increase. It was worked over, cleaned out, tubing was run and separator was set to recover liquids that were produced from the well. That was between the two tests. This well also indicates an abnormal drop in reservoir pressure, approximately 29 per cent in a year's time. No. 244 shows an increase. Pressures indicate that fluid influences them. The well failed to draw down to 10 per cent during the 1959 test. No. 248 shows a decrease. This is a very poor well in an oil area. It had its '58 test in the casinghead gas system and in '59 it changed to intermediate or higher pressure system. No. 256 showed an increase. This well was worked over between tests, and also

line pressure was lowered. No. 300: the well has no tubing. No. 327 shows a decrease. Here, again, there is an error in the deliverability shown in the schedule, and rather than the minus 88.4 per cent differential reflected, there should be a 9 per cent increase, utilizing the correct deliverability figures. A similar condition exists for No. 326. No. 237, the same condition exists. Instead of it being plus 9.8 per cent, it should be -- the well referred to as 237 should have been referred to as 337. This well had an erroneous deliverability shown on the schedule and instead of the 93 per cent increase shown should be 31 per cent increase. No. 330 showed a decrease. There was an apparent bridge between the tubing and casing during the first 1959 test. The bridge causes erratic recording of pressures. It had less than 10 per cent draw down during both tests. The next is 333. It showed a decline. Liquid accumulation is reflected by pressure data. This well is in our lower pressure system and could be termed of stripper nature. No. 335 showed an increase. This well is a gas-oil dual with gas produced in annulus space and liquid influenced productivity. No. 345 showed an increase. This well was worked over, plugged back, perforated, fraced, changed from a dual completion well where it was producing through the annulus to a single producing well between the

tests. No. 349 showed a decrease. This well is on the west slant of this pool and it is depleting its pressure and reserves very fæ t. The reservoir pressure declineindicates that it has declined 56.2 per cent as compared to the deliverability decline of 68.4 per cent. No. 367 shows an increase. This well is also in an area which may be described as a deliverability anomaly area. There are many oil wells surrounding the area in which this well is located. It also is placed -- removed from a high pressure system and put into a low pressure system during the time between tests.

Your Honor, that completes the wells that I had time to analyze.

Q Mr. Woodruff, in your opinion and in the directive which has been marked as Respondents' Exhibit No. 1, can that be followed by the operators in the Jalmat Pool?

A Yes, sir, I consider it can.

MR. GALATZAN: Pass the witness.

THE COURT: We'll take a recess at this time.

(WHEREUPON, the trial was recessed briefly and thereafter resumed as follows.)

CROSS EXAMINATION BY MR. MALONE:

Q Mr. Woodruff, the study that you made of the comparable deliverabilities and your testimony as to the causes to which you attribute them concluded -- and check me -- tubing or the lack of tubing in the hole or accumulations of liquids in the hole in different quantities on one test than the other, changes in line pressure against which the well is being produced, work overs that may have occurred during the period between the two tests, fracturing of the well that may have been done between the two tests, and what you described as a deliverability anomaly area which results from a gas well being surrounded by oil wells -- now you attributed it to other causes and conditions but those causes you did testify to as being the cause of the variations in various of the wells, did you not?

A Yes, sir, I believe that's -- well, I might say as to liquid accumulation in wells, it was not restricted solely to liquids for one test and no liquids for the other. There may be liquid accumulation affecting both tests.

Q Different quantities?

A Yes.

Q Now, I would ask you if any of the conditions to which you answered indicated a change in the recoverable gas in place under the tract attributable to the well?

A Yes, sir.

Q Liquid in the well bore indicates a change in the recoverable gas in place from one time to another, is that your testimony?

A Liquid in the well bore can so seal a well that it would prevent the operator from recovering the gas available under his tract.

Q And it is your testimony that the existence of liquid in the well bore necessarily indicates a change in the recoverable gas in place under the tract between tests?

A I don't think I said "necessarily".

Q In your opinion, does it or does it not?

A It is my opinion that it can and probably has.

Q Is it your opinion that in the majority of cases that it would be attributable to a change in recoverable gas in place?

THE COURT: He has not said a "change in recoverable gas in place". He said, "a change in the ability of producers to get the gas which they would otherwise get".

BY MR. MALONE:

Q My question was with reference to a change in the recoverable gas in place, and it is to that question that I would like your answer to be directed, please?

A I believe I'd have to answer it almost identical to my previous answer in that, if the operator does not operate

his well so as to make the gas recoverable into his well, then it influences his recoverable gas reserve.

Q I didn't say, "gas reserve"; I said "recoverable gas in place".

A Well, let's distinguish between what I am saying. Now you are saying recoverable gas in place.

Q If you will answer my question, I believe we will get along real well.

MR. GALATZAN: If the Court please, he is trying to answer Mr. Malone's question if Mr. Malone will give him the opportunity to do so.

THE WITNESS: First, to get any gas recoverable under a tract you've got to drill a well. Before you drill a well, there is no gas recoverable. Now the degree that that gas is recoverable is based on how the operator completes his well after he has drilled it and how he operates it, as a matter of degree. If he does not operate his well so that the gas can be produced, then the gas may be in place down under his tract but as far as being recoverable it is not.

BY MR. MALONE:

Q Is not your testimony directed to the question as to whether or not it is recoverable through a particular well as to whether it is recoverable at all?

A Yes.

Q My question was not so limited. Assuming the existence of a limited amount of gas under a tract of land in the Jalmat Field, a test of a well producing from that pool which indicates liquid in the hole affecting the deliverability, a subsequent test which shows a variation in the deliverability indicated which you attribute to liquid in the hole, it is your testimony that that situation indicates a change in the recoverable gas in place in the well, is that correct?

A Recoverable gas in place under the well?

Q Under the tract assigned to the well, I should say.

A Yes, sir, there is a change in what could have been recovered by the well in one condition and the other, the other condition if left to exist.

Q Now, let me ask you if, in your opinion, that change is proportional to the change in deliverability which is indicated by the result -- as a result of the fluid?

A It may be. I can't say positively.

Q You say it would not be proportional to the change in deliverability?

A Not directly in proportion.

Q Now, with reference to the tubing or lack of tubing in the hole which affects the two tests, does that in your opinion indicate a change in the recoverable gas in place under the tract attributable to the well?

A Not the presence or non-presence of tubing as such but the condition which may exist, apparently exists in many of the wells, when there is no tubing it influences the recoverable gas.

Q Would you say that that influence or change is in proportion to the change in recoverable gas in place, the change that results from the existence or non-existence of tubing?

A My answer would have to be identical to that which I gave for liquid accumulation.

Q Which is that it is not proportional?

A I don't believe that that was my answer.

Q I'm not trying to misquote you. I thought that was your answer. If it wasn't, would you tell me what it was?

MR. GALATZAN: The witness stated, "not in direct proportion", if the Court please.

MR. MALONE: I think the witness is capable of stating his answer.

THE WITNESS: Would you be kind enough to restate your question, please?

BY MR. MALONE:

Q I think we'll pass the question. I don't think we'll be able to develop it any further. Now with reference to the condition which exists in an anomalous area of the field such as you refer to, which I believe results from a gas

well being surrounded by oil wells --

A I believe that was my general description. I can go into it in more detail.

Q Do I understand that you felt that that resulted in erratic deliverability tests on the gas well?

A Not the presence in the anomalous area necessarily; the anomalous areas are indicative of something which varies from the normal in the field of course. We know that in these areas there is oil production from wells surrounding or in the vicinity of the gas well so it is a likely assumption, a reasonable assumption, that the condition that exists for the surrounding wells or the presence of oil could also influence the conditions apparent in the gas well.

Q And that situation does result in erratic deliverability tests, is that correct?

A Not always but I believe probably. It is a reason which you can attribute to causes that I explained for some particular wells.

Q Well, you did account for the change in deliverability on two tests on a well due to that condition, did you not?

A Yes, sir.

Q And it is your position that that was the cause of the change?

A I didn't positively say that was the cause for the change as far as I could determine from my study. I could determine that that was a condition which may have caused it.

Q Then you are now saying that that may have caused a large change in deliverability between the two tests, or that there may have been other factors as well, and you are not certain which ones caused it?

A I believe that's correct.

Q You do accept the fact that the change did occur as between the two tests?

A Yes, sir.

Q You referred to a procedure followed under a memorandum I believe of the Oil Conservation Commission in taking deliverability tests?

A Yes, sir.

Q That is a memorandum of the Commission which was issued subsequent to Order 1092-A and -C, was it not?

A I'm not sure of the sequence but I believe that is correct.

Q It was not an order of the Commission or issued upon hearings before the Commission?

A As I understand it, Mr. Malone, it was a memorandum issued as a result of a provision in an order of the Commission.

Q But it was not an order of the Commission?

A As I understand it, no.

Q Now, I believe you said that, if the provisions of the memorandum are complied with by prudent operators, that two deliverability tests will substantially conform to each

other on a given well in the Jalmat Pool, is that correct?

A No, sir.

Q What was your testimony in that regard?

A My testimony to your objection that prudent had not been defined was that an operator who had complied with the directives of the Commission and the rules and regulations of the Commission should expect to have deliverabilities within close approximation of one another.for two subsequent tests, and that should be in close vicinity time-wise to one another.

Q Would you consider the two tests shown by Exhibit 3, by Petitioners' Exhibit 3, as being presumably close time-wise?

A No, sir.

Q You would not?

A No, sir.

Q So then you would -- how much time on the average elapsed between tests, elapsed between the '58 tests shown in the June schedule and the '59 tests shown in the July schedule?

A Approximately one year.

Q Approximately one year?

A Yes, sir.

Q Do you feel that deliverability tests should be taken more frequently than that under this formula?

A No, sir, I see no need for it.

Q It is your opinion then that tests taken at that interval in accordance with the memorandum of the Commission will result in accurate figures as to the deliverability of the well?

A Yes, sir, I think so.

Q I am sure you have anticipated this question, Mr. Woodruff, but I would be interested in knowing how you account for the variations in the El Paso Natural Gas wells No. 81 to 108 on the Exhibit 3 which indicate, if my arithmetic is correct, an average change of 34.5 per cent during the period from 1958 to 1959 with individual changes which range up to a plus 176 from a minus 44 I believe?

A I didn't anticipate it so I have the answer on the end of my tongue. At first your question asked me concerning all of El Paso's wells and why they varied.

Q Did you conform to the directive of the Commission in testing those wells and preparing them for test?

A I would say we attempted to do so but from my analysis I think we could have done a better job on some of the testing we did.

Q That of course is in light of hindsight?

A Of course.

Q You did at the time all you felt a prudent operator should do under the circumstances?

A I can't positively say because I was not there but I am sure

we attempted to do so. Actually, we are all learning as we get into this, into deliverability tests in this area. It's new, and I see marked improvement from one year to the next.

Q You still see on the last two tests a very wide range in variations of deliverability tests of the El Paso Natural Gas wells from 1958 to 1959, do you not?

A Yes, sir.

Q Now you referred as one factor affecting, or which might account for the change in deliverability of certain wells, to a change in the line to which they were connected, or that pressure in the line into which they were produced. Does that affect the result of a deliverability test?

A The pressure of the line itself does not. The change in the pressure of the line affects the ability of the operator of the well to place the well in compliance with the directive. Let's assume that there is a comparatively poor one that is low on pressure and has depleted most of its reserves, say, -- I lost my/thought, I'm sorry. train of

Q You were explaining how a change of pressure in a line against which the well was producing could change the deliverability results obtained in the test.

A If liquids are accumulated in the well bore --

Q Now, this does not assume liquids in the well bore. This

assumes only change in line pressure, my question did.

A All right. I would say, all other conditions being ignored, line pressure does not influence deliverability tests.

Q Does not influence the result of deliverability tests?

A That is correct.

Q Did I misunderstand you in attributing the change in a number of wells in this pressure to a change in the pressure in the line into which it was being produced, or a change in the line to which it was connected?

A No, sir, you didn't misunderstand me.

Q You did attribute it to that?

A Yes, sir.

Q You are now saying that you do not think that's what caused the change in deliverability, is that correct?

A No, sir, that is not correct.

Q Would you clarify your answer?

A Yes, sir, I would be glad to. I believe in starting I would very briefly describe the condition existing in these wells. Now a drop in line pressure enables a well normally to produce more gas. If you produce more gas, it has the ability in many instances to unload liquids. It may be a condition that could have been done without lowering the line pressure. Now the operator may have been able to blow his well and do the same thing. Blowing the well in effect

is lowering the line pressure and unloading the liquids. Lowering the line pressure accomplishes the same thing.

Q So that, whether or not the line pressure is lowered, it will affect the ultimate result of the deliverability test?

A Under the conditions of liquid accumulations that I have described, yes, sir.

Q And those conditions exist generally in the Jalmat Pool?

A You'll find it in many instances. I would not say generally in a form that has to be recognized or combatted.

Q I believe in one instance that you referred to the fact that a change in deliverability tests result was in your opinion attributable to the change in connection from a pipeline to a gas system, did you not?

A No, sir, I did not.

Q I misunderstood you then. Was that to a lower pressure gas system from a high pressure gas system?

A Yes, sir.

Q In your opinion that would have an effect on the result of the deliverability test in that well?

A Only, as I have just described, if for lowering pipeline pressure.

Q Is it or is it not as to that well that changed it have an effect on the deliverability results?

A Yes, sir, it did because of what it enabled the well to do to get in proper condition for the test.

Q Now the pressure which is maintained in a line into which a well is produced is entirely determined or under the control of the pipeline company whose line it is, is it not?

A Yes, sir.

Q And the operator has no control whatever as to the pressure maintained in the line to which his well is connected?

A I think that should be answered no, with a possible qualification.

Q All right.

A That under our contracts El Paso is obligated to lower pipeline pressures. Now the operator can't go out there and lower the pipeline pressure himself but El Paso is obligated to do it in compliance with their contract.

Q Does El Paso always do what is necessary to get accurate deliverability test?

A No. It is done for any number of reasons that may and has an influential effect because a poor deliverability test on a well which has previously been good often triggers the study necessary by both El Paso and the operators to determine what is the cause of it and, if we find it's high pipeline pressure, we're going to take immediate action as soon as we can.

Q Then it would be correct to say that to the extent that the result of a deliverability test is affected by the line

pressure that factor is beyond the control of the operator and under the control of the pipeline company?

A I can't answer that affirmatively as I understand your statement because the line pressure itself does not directly influence the deliverability test, but the change in line pressure influences the ability of the well to remove liquid and other matter which is necessary to condition the well for test.

Q And that in turn influences the deliverability test, does it not?

A Yes, sir.

Q My question is to the extent that that occurs, it is under the control of the pipeline company and not the operator?

A No, sir. The same thing may have been accomplished through the operator installing a blow-down line in many instances and unloading the liquid himself. It is the same effect as lowering pipeline pressure. You lower pressure and you get larger volumes; you unload accumulations which may be causing the deliverability test to be erroneous. Now, if lowering pipeline pressure is the only thing or the apparent thing that needs to be done, it is the pipeline company's responsibility solely to do that. The operator has no choice in that.

Q In certain instances I believe you attributed -- in certain

instances in discussing the well on Petitioners' Exhibit 3, you attributed the erratic deliverability test results in '58 as compared to '59 to a failure to obtain the 10 per cent draw down that was required by the Commission is that correct?

A I said that that was a cause which may have resulted in the variation in the deliverabilities. There again let me say that I can't always say that this particular thing caused it all but it could have attributed to it.

Q Then as to your testimony in the sixty-eight wells that you examined you were merely saying that the factors that you mentioned on direct examination could have resulted in the variation, not that it was your opinion that it did result in it?

A They could, and I consider that it influenced the change. I can't tell by looking at data. I can tell that the condition exists, that it is a condition that could have caused the change but there may have been one or two others which may not be apparent from just a review of data.

Q And you were not expressing an opinion that causes to which you have testified were the reasons for the variation?

A Not for the entire variation but I did mean to testify that they could have been the factors causing the entire variation.

Q But not that they were?

A Right.

Q Would you examine two instruments which have been identified as Petitioners' Exhibits 7 and 8 and state what they are?

Trial Petitioners' Exhibits "7" & "8"

A Petitioners' Exhibits 7 and 8 are reports of one-point back pressure deliverability tests for the year of 1959 for the Continental Meyers B-23, No. 3, well.

Q What was the date of the two tests evidenced by those exhibits?

A By Exhibit No. 7 the date of the test was 1/30 to 2/6/59. The other test was 4/27 to 5/1/59.

Q Is that the form on which El Paso Natural Gas Company customarily reports to the operator on the results of deliverability tests made by it on his wells?

A I do not believe so. I believe that El Paso in reporting to the operatur utilizes a data sheet which does not include all of the calculations but this is the sheet which the operator utilizes in reporting the data to the Commission.

Q You will notice at the top of the sheet that the name, El Paso Natural Gas Company, appears but you say that this is not a sheet that was furnished by El Paso Natural Gas to the operator?

A I did not say that it was not but I thought that our report to the operator was one which showed only the data and not the calculations. I do not calculate the actual tests.

Q Have you ever seen the form that is used in reporting to an operator?

A I am sure that I have but --

Q Do you remember what it looks like?

A This may be the form here.

Q You are not able to say then whether or not this is the form of report that's made by your company to operators in testing wells in the Jalmat area?

A That is correct.

Q I invite your attention to the lower part of Exhibit 7 where there appears the signature of a man which appears to be, EARL S. SMITH, Gas Engineer. Is he an employee of El Paso Natural Gas Company?

A Yes, sir, he is.

Q I invite your attention to the signature at the same place on Petitioners' Exhibit 8 where it appears, JOE B. MUNAY. Is he an employee of El Paso Natural Gas Company?

A Yes, sir.

Q Do you see anyone else's signature on that form?

A On Exhibit 7 or 8?

Q On either of them?

A Yes, I see Mr. W. E. Lott of Continental Oil Company on both exhibits, and in addition on Exhibit No. 8 I see the name of -- excuse me. I do not see the signature of Mr. Lott but I see his name shown as a witness, and also see the name of Eric F. Engbrecht of the New Mexico Oil Conservation Commission as a witness.

Q You don't see the signature of Mr. Engbrecht, do you?

A No, sir.

Q In the light of that further examination of these instruments, will you state whether or not in your opinion these are reports/that were furnished by the El Paso Natural Gas Company to Continental Oil Company evidencing this test?

A No, sir, I cannot positively state that but it certainly appears to me that that is the case.

Q So it is your opinion that this does reflect a test made by El Paso Natural Gas Company and reported to Continental on the well indicated?

A It would appear that it is, yes, sir.

MR. MALONE: We offer in evidence Exhibits 7 and 8.

MR. GALATZAN: No objection, your Honor.

THE COURT: They will be admitted.

BY MR. MALONE:

Q Will you read the typewritten statement which appears at the very bottom of that report, Petitioners' Exhibit 7?

A "A slope of .699 was used in 1958 for Deliverability calculations. Unable to obtain 10% draw down due to high line pressure. Chokes were wide open during test."

Q Now, will you read the typewritten note that appears at the bottom of Exhibit 8?

A At the bottom of Exhibit 8 I find this: "Unable to obtain 10% draw down, due to high line pressure, chokes were wide

open. Second complete test as requested by operator."

Q Now that line pressure to which you have just referred is the line pressure which we agreed a moment ago is entirely under the control of El Paso Natural Gas Company, is it not?

A Yes, sir.

Q And the ability to meet the requirements of the directive in testing this well was entirely under the control of El Paso in that respect, was it not?

A Would you please repeat that statement, would you, sir?

Q The ability ofthis test to meet the requirements of the New Mexico Oil Conservation Commission was entirely under the control of El Paso Natural Gas Company insofar as the relation of the 10% draw down?

A May I see the test, sir? I believe that's correct.

Q Thank you. A test made by the El Paso Natural Gas Company of an operator's well is made in the same way whether or not the operator has a representative present, is it not?

A Yes, sir, that is correct. May I add one thing, please?

Q Certainly.

A That the conditioning of a well prior to the test is something which we are often unable to accomplish because we do not have the privilege of going to the wellhead and blowing the well if necessary to blow the liquids. We are privileged only to regulate the flow which can come through -- I mean into our pipeline. Now, if the operator has been

out there if necessary and blown --

Q Just a moment, Mr. Woodruff. My question was directed to the test and not the condition of the well. Now your answer is with reference to the condition preceding the test.

A Yes, sir.

Q Then your remarks were not directed to the question.

A I cannot separate the two.

Q Well, then this answer is pertinent you feel. Continue.

A If the operator is able to free the liquids from the well bore prior to the test rate, we can probably expect a better test than had the operator not accomplished that work prior to the start of the test. In other words, El Paso can't do it; the operator must do it if it is going to be done.

Q Now, in reference to the liquid which you said you felt accounted for a large number of the variations on Exhibit 3 between 1958 and the 1959 tests, in, I believe, three or four cases you said that reports of the Gas and Oil Engineering Committee indicated the presence of liquid, is that correct?

A Yes, sir, I did make that statement on two wells.

Q Two wells.

A I think probably I should correct my statement to say that the New Mexico Oil and Gas Engineering Committee gets their

data from reports made to the New Mexico Oil Conservation Commission so I say that the reports of the operators went to the Oil Conservation Commission and the Engineering Committee got it from those records.

Q Now in all of the other cases except those two where you expressed an opinion whether liquid had contributed to variation in tests that was based upon conclusions drawn by you from variations in pressure, was it not?

A My recollection is that that was the primary factor of which I determined was influencing the pressure variation.

Q And you concluded in those cases where you said that you thought liquid was indicated, you reached that conclusion from a study of the variations of pressure on the test?

A That is correct.

Q And not from anything on the test report which affirmatively said liquid was present?

A I can't positively recall whether there may have been reference to the accumulation or not on some of the tests, but my primary study was of the pressure performance history of the wells.

Q Your conclusion as to the presence of liquids was based upon a pressure study?

A Primarily, yes,sir.

Q Now, are there any other factors in the well in the Jalmat

Pool which can result in a variation of pressure other than liquid?

A Yes, sir, there are. Other matter within the well bore. Solids, for instance, could influence the condition of the pressure recording and I actually mentioned at least one instance where bridging, solid matter separating the tubing from the casing and probably effectively sealing off a portion of the formation was attributing to it.

Q Blank flow from one zone to another in a reservoir could contribute to it too, could it not?

A I can visualize theoretically that that could happen but I know of no indication that that condition does exist.

Q You would not testify that it did not exist in any of the wells to which you have testified?

A No, sir, I would not, but I certainly would not expect that it did.

Q So that the conclusion that you drew with reference to the existence of or non-existence of liquid could have been affected by other conditions that would be reflected in changes in pressure?

A It is entirely possible that something other than liquids alone influenced the pressure condition, yes, sir.

Q In your opinion, does the manner in which wells are produced prior to the taking of deliverability tests have any effect on the taking or the results of the test?

A In our analysis of wells in the Jalmat Pool prior to the establishment of the deliverability test procedure in the Committees we worked on, we considered this deliverability test procedure would work satisfactorily for the wells in this pool. However --

Q I don't believe you are answering my question at all, Mr. Woodruff.

A I would like to try.

Q In your opinion, was the manner in which --

MR. GALATZAN: If the Court please, the witness ought to at least be permitted to answer Mr. Malone's question. It may not be in the manner expected but --

THE COURT: Reframe your question.

BY MR. MALONE:

Q Does the manner in which a well has been produced prior to deliverability test affect the results of a deliverability test?

A I would expect it to only in the instances of marginal low capacity or where there are liquid accumulations in the well bore; for the normal well, no.

Q Then for the normal allowable well in the Jalmat Pool, it is your opinion that the manner and extent to which it has been produced prior to the test will not affect the result of the test?

A That is correct.

Q The manner and extent to which a well is produced is entirely under the control of the pipeline company, is it not?

A Yes, sir, with the limitation that, if the operator considers we are operating his well in a wasteful manner, he may cause us to restrict it.

MR. MALONE: That's all.

MR. GALATZAN: We have no further questions, your Honor.

M R. W. F. M A R T I N, a witness called on behalf of Respondents, having been duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. CAMPBELL:

Q Will you state your name, please?

A W. F. Martin.

Q By whom are you employed, Mr. Martin?

A Texas Pacific Coal & Oil Company.

Q In what capacity?

A Assistant Auditor.

Q In your capacity as Assistant Auditor for Texas Pacific Coal & Oil Company you maintain statistical data concerning the gas sales of Texas Pacific Coal & Oil Company?

A That is right.

Q In Lea County, New Mexico?

A Right.

Q Have you previously testified before the New Mexico Oil Conservation Commission in connection with the matter now pending here in this Court?

A I have.

Q Are you acquainted with Operators' Exhibit, Mr. Martin, No. 10 which was offered in evidence before the Commission and to which Mr. Leibrock testified yesterday when he was on the stand?

A I am.

Q What was that exhibit?

A His reference yesterday was to their exhibit, Operators' Exhibit No. 10, offered as evidence in a prior hearing in this matter.

Q Since the deliverability formula was placed into effect in the Jalmat Gas Pool, have you studied the effect of the order upon the allowables in reference to the operators indicated on Exhibit No. 10?

A Yes, sir. We maintain a continuous study of it.

Q Mr. Martin, I now refer you to what has been identified as Respondents' Exhibit No. 4 and ask you to state what that is?

Respondents' Exhibit "4"

A Shown on the right-hand side here the increases in the current allocation mcf per month; here the green colors standing out there, for instance, on Cities Service, showing

250,000 mcf.

Q Will you step down there and identify the points you are referring to?

A The green line here as shown in eleven indicates the way the chart was entered in the exhibit in a prior hearing. In other words, it showed the Cities Service have an indicated gain of 250 mcf per month in allowables as a result of changing to deliverability formula.

Q Then, Mr. Martin, let me clarify that if I can. On the left-hand side of the exhibit as you face it, the extremities of the red lines indicate what?

A The decreases, the decrease in current allocation mcf per month. In other words, in the exhibit offered it is indicated that Continental would show a decrease of about 155,000 mcf per month under the deliverability formula as under the acreage formula.

Q So that red was shown in Exhibit 10 on a hearing before the Commission?

A Right.

Q Now on the left-hand side what do the extremities of the blue linesshow?

A The blue lines show the condition or status of the field based on the July 1959 proration schedule. The indicated losses by Continental will be as shown here. It would be,

as I recall, about 60,000 mcf rather than 155,000 mcf per month.

Q Now moving to the right-hand side of the exhibit as you face it, what do the extremities of the green lines indicate?

A They indicate the increases. In other words, Cities Service was going to show an increase of slightly in excess of 250,000 mcf per month on the deliverability formula.

Q And the extremities of the blue lines show?

A The blue lines show the status of the same operators based on July 1959 proration schedule.

Q Now, Mr. Martin, I notice on the exhibit on the left-hand side, you have a tabulation of wells without tubing. Will you state what the source of your information is for those figures?

A Well, that's based upon the deliverability tests that's submitted to the Oil Conservation Commission, a tabulation the Commission had prepared listing the individual wells.

Q Did you examine those deliverability schedules to obtain that information?

A Yes, sir, but I did not make the tabulation. The tabulation was made by Commission personnel.

Q Did you obtain that from the records of the Oil Conservation Commission?

A I did, from the Hobbs office.

Q With regard to the tabulation indicated on the decrease and increase side of the exhibit, you made those calculations yourself, did you?

A That's correct.

MR. CAMPBELL: We would like to offer Respondent's Exhibit 4 in evidence before we ask him any more questions on it.

THE COURT: Any objections?

MR. MALONE: No objection.

THE COURT: It will be admitted.

BY MR. CAMPBELL:

Q Now, Mr. Martin, do you know how many gas units there are in the Jalmat Gas Pool?

A Yes, sir. Yes, sir, there's 400 in July 1959. Proration schedule was a total of 411 and a fraction units.

Q Have you made a tabulation to determine how many of those units are operated by the Petitioners in this case?

A Yes. Out of the 411 units in the field -- your question as to the number of units?

Q I asked you how many units of the 411 you indicated existed in the Jalmat Gas Pool are operated by the Petitioners in this case.

A They have a total of 99 wells, or 114 units, approximately 26% of the units in the field.

Q How many of the units does Texas Pacific Coal & Oil Company operate?

A We operate 52 units, 51-3/4 to be exact.

Q Now, Mr. Martin, I notice from the exhibit, or Respondents' Exhibit No. 4, that your blue lines which are the results as you have caluclated them do not indicate as wide a -- strike that question -- strike the question. Mr. Martin, would you explain to the Court the basis on which you calculated the actual results of the deliverability formula as compared to the acreage formula which that exhibit reflects?

A Well, first, I took the July proration schedule and broke it down by operators as to the ownership of the non-marginal units, and that covers all but 13-3/4 units in the field. All of the field is on a non-marginal status, 388 units. I broke that down and took the actual July allocation of allowable of 12,000,000 mcf. I distributed that by operators based on the acreage ownership. In other words, for instance, like Cities Service has 19.9 units so they would have an ownership in the field on an acreage basis of 4.92% of any allowable that you would allocate on an acreage basis. So I got 12 million mcf on an acreage basis for July. Then I took that on the deliverability formula, which is merely counting on the schedule there. It merely showed of the

field that Cities Service owned 5.37% of the non-marginal allowable or any allowable. Now, rather than make this comparison, which was originally offered as a monthly -- average gain or loss per month, which was originally as the exhibit was presented, I used the month of July and arriving at gains and losses, I took the actual allocation of allowable for the preceding year 1958 wherein the non-marginal wells were allocated, 62 million mcf, and spread it over the actual deliverability ownership in the field, spread on the acreage on the field, came up with a gain or loss, finding it simply by trial. For instance, this Cities Service --

Q Now, Mr. Martin, just a minute there. I noticed -- you heard Mr. Leibrock testify yesterday, did you not?

A Yes, sir.

Q In the first place, what is the price of gas in the Jalmat Gas Pool?

A Well, sir, we have been in a long time. It is slightly in excess of ten cents, 10-1/2 cents.

Q Do you know if there is any 15 cent gas in that field?

A No, sir. I don't imagine the FPC does either.

Q Mr. Martin, I notice from your exhibit that you show considerably less increase to Cities Service, for example, than does Mr. Leibrock. Would you state what the difference

in dollars would be on your calculation and his, and the reason that your calculation does not conform to Mr. Leibrock's?

A Well, if I understood Mr. Leibrock correctly yesterday, his statement was that Cities Service are going to gain somewhat in excess of 250,000 mcf per month. That was their gain. Now that multiplied by twelve would give him a gain of 3 million mcf, 250,000 per month multiplied by twelve would give him 3 million mcf per annum. Well their total allowable under acreage based on last year, the allowable assigned to them was only 3,000,079, and under the deliverability formula using the same method they would have 3 million 361 mcf. In other words, they would have had an annual increase of 281,000 mcf per year; instead of 250,000 mcf per month, it would average some 23,474 mcf per month or $2,500, instead of -- as I recall their figure it was something around $30,000.a month.

Q Do you believe that your calculation is-more accurately reflects the effect upon that particular company?

A Well, I think it would speak for itself. If they were going to show an increase of 3 million mcf per year on this formula, it would mean that their allowable was going to be doubled, and their allowable under the deliverability formula is going to be increased about 7.5%. They are going

gain about 7.5 per cent in allowable in deliverability versus acreage, whereas on the 250,000 mcf basis, they would have a 100% increase.

Q Now, Mr. Martin, do you believe it is proper to use the July 1959 allocation under the schedule and assume that that is the amount multiplied by twelve that these parties are going to gain or lose?

A Well, if you look at it this way, the allocation was 12 million mcf per month. Due to some readjustments in the field, cancellations of allowables, actions for purchases, nominations, asked for 4 million, not 12, but the allocation which happened in the proration period came up 12 million mcf per month, for the month of July. Now, if you multiply that by twelve, you get an annual allowable of 144 million mcf, which is double what the field has ever produced. In other words, using July, the average nomination in allowable gain over the twelve-month period will run about 6 million mcf. In other words, last year the field produced 72 million mcf, which is six million per month on an average so you can see, if you used 12 million and multiplied by twelve, you are getting up to a very fantastic figure.

Q Now, based on Respondents' Exhibit No. 4 as related to original Exhibit No. 10 offered in the hearing before the Commission, what is the relationship between the anticipated

effect and what has actually occurred insofar as wide variations are concerned?

A Well, I think it is quite evident that the gains and losses are substantially less if it is narrowed down closer to a balance there. In fact, if you put -- when you put percentages to it, it gets pretty small.

Q Now, Mr. Martin, one of the companies, and the one which is shown at the top of the line indicates a decrease in allowable by virtue of this deliverability allocation is Continental Oil Company. Have you made any particular analysis about Continental Oil Company ownership in the Jalmat Gas Pool as related to the allocation of allowable just prior to and since the deliverability formula went into effect?

A Yes, sir, I established that position prior to deliverability.

Q Mr. Martin, I refer you to what has been identified as Respondents' Exhibit No. 5 and ask you to state what that is.

Respondents' Exhibit "5"

A Well, that shows the ownership of Continental Oil Company in the Jalmat Field beginning January 1, 1958 through July 1959. The orange color showing their ownership from January 'til June, the straight complete orange bar there under the acreage formula, 100% acreage. That shows that at that time they owned approximately around 15% of the

field of the non-marginal allowable distributed in the field, and the allowable based on the ownership of units in the field, they would be assigned in January slightly better than 15 per cent. As the field changed around a little more, a few more wells, they lost a little bit. This is about 15.5%, something like that. Then when deliverability formula came into position --

Q Is that indicated by the beginning of the blue?

A That's right. Beginning at the blue right here, July 1958. That's when your deliverability formula started. Up here I have shown --

Q You're indicating the figures in the upper right-hand portion of the exhibit?

A That's right.

Q Go ahead.

A The prior exhibit put on indicated that we're going to lose under deliverability 155,000 mcf per month. That was the big, long line in the prior exhibit, their Exhibit 10, so that projected for a year at 155,000, their exhibit indicated they'd lose 1,860,000 mcf per year. The actual allocation under the deliverability formula started here in July, they actually received on the proration schedule for their non-marginal wells 210 million 611 allowable mcf allowable. That should be 110 thousand 611 mcf. Had the

field remained under the straight acreage, 100% acreage, based on their ownership in the field right here, they would have received an allowable of 2,540 mcf. In other words, they received -- let's deduct that -- 1,903 mcf, or loss to Continental is 22.72%. Of course, it started out 22.

Q Now, without going into detail on the balance, for the month, for the year, would you point out on the exhibit what occurred in regard to the allocation of allowable from the beginning of prorationing with the deliverability factor in July 1958 to the latest allowable in June 1959?

A Well, you actually see in Continental's non-marginal wells each month you'll notice some variations depending upon the amount of allowable distributed to that particular month. They received a total of 4,982,569 mcf. Had the field stayed on acreage -- in other words, they received as indicated by this blue line -- had the field stayed on the straight acreage basis, they would have received 5,724,169 mcf as indicated by a continuation of the acreage formula.

Q What did they actually receive over that period of twelve months?

A They received this 4 -- under the deliverability formula?

Q Yes, sir.

A 4,982,569 mcf.

Q What was the reduction total to Continental during that twelve-month period?

A 741,650 mcf.

Q Now referring back to Exhibit 10, --

THE COURT: Just a minute, Mr. Campbell.

MR. CAMPBELL: Yes, sir.

THE COURT: I don't know that it's material but you said "during that twelve-months period". The gentleman has thirteen months included in his blue chart.

THE WITNESS: I have July, of course, which I did not have production figures for. In other words, I come through here. I ended up --

THE COURT: All I meant was that there are 13 months shown there on the chart.

MR. CAMPBELL: Yes, sir.

BY MR. CAMPBELL:

Q Now with regard to the calculation portion of the chart, the figures are figures of actual allowable. What would have been the loss to Continental had their prediction in Exhibit 10 in value had been correct?

A It would have been 1,860,000 mcf.

Q So that their actual loss differed from their anticipated loss by what amount?

A 1,118,350 mcf.

Q Now, Mr. Martin, would you take the stand again. Now, Mr. Martin, do you know of your own knowledge by examination of any records of the Oil Conservation Commission whether or not during the period from July 1, 1958 to February -- or to the end of the period shown as June on the blue mark the records reveal any work over, work on any wells of the Continental Oil Company?

A Yes, sir, I made a tabulation from the schedule and from the data obtained from the Federal, U. S. Geological Survey people of reports made to them. For instance, there are twenty-six wells that I noticed that had an ndicated increase in deliverability. The July test of these 26 wells tabulated -- which are all of them that had any increase of any material amount -- the daily deliverability of those wells, disregarding the acre factor, was 44,802 mcf.

Q This was what?

A July 1958 proration schedule of deliverability would --

MR. MALONE: What was that figure?

A 44,802 mcf. That figure remained constant as far as these wells are concerned until the February 1959 schedule which accounts for the big increase, the jump-up of the blue line there in February. In other words, in there it falls down from January of 17% down to 5% in February. Because of the February schedule, the 26 wells that had

a daily deliverability of 44802 mcf was increased to 69,880, or up to about 56% increase. Now that remained on the schedule substantially until July 1959 when the new proration schedule came out for this next year under the deliverability formula. The same wells had a total daily deliverability of 69,184 mcf compared to in February of 69,880, substantially no change between there.

Q Do you know from your testimony and your examination of the records to which you are referring whether between the commencement of the deliverability factor as a part of the formula in July of 1958 any work was done on any of the Continental wells in the Jalmat Gas Pool?

A Yes, sir, for instance, the Meyers B-22, Well No. 1, a two unit well, meaning it covers two units, 320 acres rather than 160, on the July 1958 schedule it was shown as 283 mcf. On the February 1959, it was shown as 3,147 mcf. On the July 1959, it had increased to 3,728 mcf. Now the records show that that well was reworked and tubing installed on July 13, 1958, but this July schedule, of course, the tests were made prior to the work over. So this well has increased tenfold for them.

Q And are there other wells that reflect similar information?

A Yes, sir, there are six in number that I have here.

Q Now, Mr. Martin, have you made a study of the overall change

in deliverability throughout the Jalmat Gas Pool during the past year?

A Yes, sir, we keep up with it monthly. The overall daily deliverability of the Jalmat Gas Field accumulating all of the 380-some-odd wells there, the July 1958 proration schedule show a daily deliverability of 741,180 mcf per day. Now then the August schedule, that moved up to 748,000 mcf per day to along in May 1959 it was up to 756,225 mcf. In other words, the deliverability, daily deliverability, of all the wells in the Jalmat Field fluctuated from July 1958 through May, an eleven month period, a total of -- plus of 1.90%. In other words, slightly less than 2% increase. Some of that would be attributable to the fact that far more wells were drilled in the field during that time.

Q What was the deliverability then shown by the new deliverability tests, Mr. Martin?

A It shows a total deliverability for the field of 693,000 mcf.

Q Mr. Martin, then using that figure what is the overall decline in deliverability in the Jalmat Gas Pool during that period?

A For the one-year period, there is an overall decline of 6-1/2%. In other words, the field declined 6-1/2% in one year of deliverability.

Q Mr. Martin, did you prepare Respondents' Exhibit No. 5, the chart referring to Continental, or did you prepare the data?

A I prepared all of it personally.

MR. CAMPBELL: I offer Respondents' Exhibit No. 5.

MR. MALONE: No objection.

THE COURT: It will be admitted.

MR. CAMPBELL: No further questions.

CROSS EXAMINATION BY MR. MALONE:

Q Mr. Martin, to be sure that I understood the basis on which you have compared -- let's refer first to the original exhibit that you introduced here. In computing the gain or loss of various companies resulting from the adoption of the deliverability formula as indicated on Respondents' Exhibit 4, you used the deliverability shown on the July 1959 proration schedule?

A Yes, sir.

Q Those were the ones that were taken in the 1958-1959, or up to June 1959?

A That's correct. That's the ones appearing on the last schedule published in July.

Q Those deliverability test results were not available to Mr. Leibrock at the time he prepared the exhibits before the Commission back in '57?

A Certainly that's true.

Q In preparing his exhibit he, of course, would have taken the deliverability tests shown by the Commission in 1957?

A That's true.

Q Now, I believe a witness of T-P worked up a deliverability schedule on the basis of the information available in '57, did he not?

A We did not submit a schedule showing gains or losses.

Q But you did work up a proration schedule on the information then available?

A That's true.

Q Which was the same information available to Mr. Leibrock?

A That's right.

Q So that at least any part of the changes that might be reflected between what Mr. Leibrock original exhibit showed and what this exhibit shows would be accounted for by the change in the results of deliverability as shown by the Commission's records?

A That would be true as to the back part of it. That testimony yesterday, of course, is in direct contrast with this.

Q But as I understand it, you using the figures on these latest tests still find that Gulf under the deliverability schedule is gaining approximately 220,000 mcf a month over what they received on the acreage formula?

A That is correct.

Q At 10 cents an mcf, how much would that be?

A About 22 thousand roughly.

Q About $22,000 a month. And you still find that Western Natural was originally -- at least they are a producing -- subsidiary of El Paso Natural Gas, was it not?

A Well, I couldn't answer that question.

Q Do you know?

A No, sir.

Q What is their gain under the formula as it now exists? How much?

A 126,000.

Q And that would be?

A $12,600 a month.

Q $12,600?

A At 10 cents.

Q Then you found the Texas Pacific Coal & Oil Company had gained a great deal more under the deliverability formula than Mr. Leibrock thought it was going to gain?

A That is correct.

Q How much did Mr. Leibrock originally indicate it was going to gain?

A He originally estimated T-P would gain approximately $5,000 or 50,000 mcf.

Q And they actually gained how much?

A 111,000 mcf.

Q At 10 cents per mcf, how much per month would that be?

A $11,000.

Q Now let's move over to the other side of the schedule and see the effect of the losses. You have indicated by your testimony that Continental's loss was considerably less than what was expected but its loss as reflected here is how much per month?

A 69,000 mcf.

Q That would be how much in dollars?

A $6,900.00.

Q Per month. Olsen Oil Company's loss is how much?

A 118,000 mcf.

Q That's how much in dollars?

A That's $11,800 per month.

Q Let's see. Sinclair here. I see their loss is even more than Mr. Leibrock had anticipated, did they not?

A That is true.

Q How much have they lost?

A They lose 62,000 mcf per month.

Q And Pan American and Phillips have lost even more than Mr. Leibrock anticipated, have they not?

A That is true.

Q And the variation between the testimony of Mr. Leibrock and

his exhibit back in 1957 and this one we have said would be partially accounted for by the changes in deliverability shown in the records of the Commission. It would also be affected, would it not, by the amount of the allowable for the month that you were using to compute it?

A It would if you would -- what I did was take the 1958 which was your last year, full year, of production. 1958 was a year of production and was one of the high years. One of the figures I have here represent the high side.

Q And the fact you divided that by twelve instead of taking an actual monthly allowable figure as Mr. Leibrock did would also result in a difference between those two, would it not?

A Yes, sir. I did not take the monthly figure as explained because -- taking the month of July, well multiplying that by twelve, you'd come up with a figure -- you'd get twice the production the field has ever had in one year.

Q Now, may I refer to Respondents' Exhibit 5, and I understand your conclusions from your exhibit, from this exhibit, to be that Continental's doing better under the deliverability formula although they have never gotten back to where they were had the formula remained as it was?

A That's true. As of June, they were right at 4-1/4%.

Q Did you calculate the accumulated amounts that occurred over that period?

A Yes, sir. It's right there, shown as 41,860 mcf for the 12-month period.

Q Now you testified, I believe, that during the time that this was occurring there was a reduction in the total deliverabilities of the pool occurring?

A No, sir. I testified there was a slight increase, an increase of 1 and nine -- in other words, we had an increase from July 1958 up through May of 1959 of 1.9%. The field as a whole increased slightly less than 2%. Daily deliverability moved up from 741,000 mcf to 756,000 mcf per day. In other words, during that period, deliverability is going up.

Q Just to get my own notes cleared up because I apparently was confused. Why did the 6-1/2% decline figure come into it?

A The following month, the month of July, when the new proration schedule came out, which will be in effect for the next twelve months until the new deliverability -- that reflects a reduction from 756,000 mcf to 693,000 mcf.

Q Is that for July 1959?

A July 1959.

Q As against July 1958?

A That's right.

Q So I would be correct in saying there had been a reduction

in deliverability of the field between July '58 and July '59 of about 6-1/2%?

A If you are looking at it this way, the actual capacity of the field had been reduced, that would be true, but your chance to obtain allowable had not decreased. In other words, the deliverability of the field had increased a little bit to where it showed on there Continental had the right to receive as much allowable from July on up on acreage and deliverability.

Q How much was that increase in percentage?

A 1.90, slightly less than 2%.

Q And during that period that the overall deliverability was increasing 1.9% Continental's percentage of the allowable was increasing a whole lot more than that, wasn't it?

A That is true.

Q And somebody else was losing that allowable that Continental was getting, weren't they?

A Not being a -- this testimony is strictly mathematics.

Q You can't say who was losing but you'd say it was lost by someone, wouldn't you?

A The right to produce might be lost but I wouldn't say Continental loses. Not being an engineer, I couldn't answer it.

Q But then let's limit your testimony to the right to produce it under the allowable schedule, and Continental

gained more in its right to produce it under the schedule during this period than the overall deliverability increased during that period?

A That is true due to these changes in Continental's deliverability on 29 wells -- 26 wells I testified here.

Q But someone had to lose the excess of increase if Continental increased over what the pool increased, didn't they?

A That is true. On the acreage, the same thing is true. If you look back to the first part of 1958, Continental started in over slightly more than 15% over due to re-alignments of acreage of units, and placing new wells. When deliverability came in, they dropped down to 14.5%. They had lost under the acreage formula. .That's true under any formula when you have new wells coming into the field. The allowables every year are judged on the 100% acreage or deliverability or anything you want to use to measure it.

Q Well, your exhibit and testimony demonstrates that it has occurred under the deliverability formula, doesn't it?

A And also under the straight acreage. Of course, you had a decline in the straight acreage and you had a decline -- and you had an increase under the deliverability. In other words, you are losing on the straight acreage. Then you were going up.

Q There is no way that you can tell at this time what's going

to happen on this next bar because of the changes in the deliverability tests on which it will be based, is there?

A Well, sir, unless there is some changes, radical changes, in the work over and stuff like that in the field, there will be very little changes in the thing for another year. In other words, as I have shown you here, July last year started out with 741,000 and it only went up to 756,000 in eleven months, less than a 2% change. Of course, I couldn't say whether it would be up or down in the ensuing year.

Q Does the fact that there was a net 40% change in deliverabilities as shown by the '58 and '59 tests have any bearing on that?

A Well, sir, I do not concur with the method of preparing that.

Q If such a change occurred, it would affect the allowables, wouldn't it?

A That's right.

MR. MALONE: That's all.

REDIRECT EXAMINATION BY MR. CAMPBELL:

Q Mr. Martin, in what respect do you not concur with the method of arriving at the 40% deviation?

A Well, taking that exhibit, which I do not have in front of me, you can take a small, some of the very small wells there that have a 15% deliverability, in fact a stripper well, and the next well shows a hundred -- the next well

shows a 100% increase, well what does it amount to? You put figures together like that and group them by degree of increase, you're taking a well with degree of fifty deliverability and you're putting it in here with a well of 3,000 deliverability and you come up with percentages that in my opinion mean absolutely nothing.

MR. CAMPBELL: That's all.

MR. MALONE: That's all.

THE COURT: We will recess until 1:30.

(WHEREUPON, trial of the cause was recessed at the hour of 12:00 o'clock noon and reconvened at 1:30 P.M. resuming as follows.)

M R. W. O. K E L L E R, a witness called on behalf of Respondents, having been duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. CAMPBELL:

Q Would you state your name, please?

A W. O. Keller.

Q Where do you live, Mr. Keller?

A Fort Worth, Texas.

Q What is your occupation?

A I'm a consultant petroleum engineer.

Q What is the name of your firm?

A Keller & Peterson.

Q Would you please give the Court a brief summary of your education and professional background?

A Yes, sir. I graduated from Texas A. & M. College with a degree in petroleum engineering in 1941 after which I was employed by the Stanolind Oil & Gas Company, now Pan American, as an engineer. I worked in various engineering capacities with Stanolind until 1950, at which time I left to enter into the consulting business. At the time of leaving Stanolind, I was a Reservoir Engineering Supervisor in their general offices in charge of all the reservoir engineering work throughout the company's operations.

Q Are you the same Mr. Keller who made a study of -- I believe the record in the case reflects 322 wells in the Jalmat Gas Pool and testified concerning your study before the Oil Conservation Commission in this case?

A Yes, sir.

Q Mr. Keller, since the issuance of proration orders under the deliverability formula put into effect by Order 1092-C, have you made studies in respect to migration which occurs under that proration schedule as compared to migration that occurred under the prior acreage schedule?

A Yes, sir, I have made such type studies.

Q Does your study indicate that greater or less migration

would occur under the Jalmat Pool under the deliverability formula as compared to the acreage formula?

A My studies lead me to the conclusion that the migration in the Jalmat Field would be less under the deliverability formula than it would have been under the 100% acreage formula. In other words, the operation of the July 1959 proration schedule would be to retard whatever migration was taking place under the acreage formula in existence prior to the Commission order changing the allocation to the deliverability formula.

MR. CAMPBELL: That's all.

CROSS EXAMINATION BY MR. MALONE:

Q Mr. Keller, was your study made on a regional basis or tract to tract basis in the pool?

A Well, sir, my studies were made using the data from each of the wells.

Q Was it made for the purpose of determining migration as between individual tracts or between regions of the pool?

A Well, sir, the studies involved more than just a determination of the migration picture, and they involved the determination of the distribution of the takes from the field relative to the pressures in the various wells.

Q Was your study on a basis to determine the migration to and from individual tracts or on a regional basis?

A Well my study -- I'm not sure that I understand your question. My study did not attempt to evaluate quantitatively the amount of migration. It only attempted to evaluate the change in the magnitude of the migration. In my opinion there is insufficient data in the small time under which the deliverability formula has been in operation to evaluate in a quantitative fashion how much migration was taking place from tract to tract.

Q So that, if I understand your answer, it is that you did not make a study to evaluate the amount of migration from tract to tract?

A That is correct because such a study, in my opinion, cannot reasonably be made to determine that amount of migration now as compared to, say, a year ago.

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

MR. CAMPBELL: That's all.

THE COURT: That's all, sir.

MR. CAMPBELL: That concludes our presentation, your Honor.

THE COURT: Anything further, Mr. Malone?

MR. MALONE: I want to put two witnesses on, one question each on rebuttal.

PETITIONERS' CASE IN REBUTTAL

M R. R O B E R T M. L E I B R O C K, a witness recalled on behalf of Petitioners, previously having been sworn, testified as follows:

DIRECT EXAMINATION BY MR. MALONE:

Q You are the same Robert Leibrock who testified previously in this case?

A Yes, sir.

Q You testified, Mr. Leibrock, as to figures which you had computed showing the changes in production in individual companies as between the acreage schedule and the deliverability schedule. There you have an exhibit that you had prepared for your own use which reflected the figures as to which you testified?

A Yes, sir, I do..

Q Will you produce that, sir, please?

A I left it on the table.

Trial Petitioners' Exhibit "9"

Q I hand you the instrument which has been identified as Petitioners' Exhibit 9 and ask you if that -- whether or not that is the exhibit to which you referred?

A Yes, sir.

Q Are those the figures as to which you testified in the case when you were on the stand earlier, on the witness stand earlier?

A Yes, sir, they are.

Q Now what proration schedule was that computation based on?

A These figures were taken from the July 1959 proration schedule.

Q What deliverability test figures were used on that July proration schedule?

A From the July proration schedule I took the June allowables which were based on the 1958 deliverability.

Q Is that the same or a different set of deliverabilities testified to by Mr. Martin in his exhibit?

A That is a different set.

Q Then am I correct in understanding that the original exhibit referred to here, which was introduced before the Commission, was on the basis of deliverability figures available in 1957?

A That is correct.

Q That your exhibit was on the basis of the figures shown in the proration schedule in June 1958?

A Yes, sir.

Q And that Mr. Martin's were on the schedule for July 1959?

A Yes, sir, that is my understanding.

Q And in your opinion does the fact that different proration schedules were used substantially account for the variations between your exhibit and that presented by Mr. Martin?

A Yes, sir, that is true, specifically with reference to Cities Service where there is appreciable reduction in deliverability between 1958 and 1959.

MR. MALONE: That's all. We offer in evidence Petitioners' Exhibit No. 9.

MR. CAMPBELL: We have no objection.

THE COURT: It will be admitted.

CROSS EXAMINATION BY MR. CAMPBELL:

Q Mr. Leibrock, other than the difference you referred to in connection with the deliverability tests based upon the 1959 July tests, you find no quarrel with Mr. Martin's exhibit?

A No, sir, I do not.

MR. CAMPBELL: That's all.

M R. V I C T O R T. L Y O N, a witness recalled on behalf of Petitioners, previously having been sworn, testified as follows:

DIRECT EXAMINATION BY MR. MALONE:

Q You are the same Victor Lyon who testified in the case previously?

A Yes, sir.

Q I hand you two sheets identified as Petitioners' Exhibits 7 and 8 and ask you to examine them and then state what they are if you know.

A These are Deliverability Test Calculation Sheets which are referred to. They're the same as Forms C-122-C, Commission's forms. They are submitted to us by El Paso Natural Gas Company as an independent calculation of the deliverability which they made.

Q Did your company receive those forms from El Paso Natural Gas Company?

A Yes, sir, we did.

Q Do you have with you at this time similar forms that you received on all wells in the Jalmat Pool from El Paso Natural Gas Company?

A We have deliverability test forms or calculation sheets on nearly all of our wells. We don't have any of their sheets on wells other than those we operate.

MR. MALONE: That's all.

MR. GALATZAN: No questions, your Honor.

MR. MALONE: That's all for the Petitioners, your Honor.

MR. CAMPBELL: If the Court please, may I make my motion? Come now Respondents and move the Court to dismiss the Petition upon the ground that the Petitioners have failed to prove by a preponderance of the evidence that the order complained of is unreasonable, arbitrary or capricious or is in any respect unlawful.

THE COURT: Do you gentlemen want to argue this matter?

MR. MALONE: We are prepared to argue it, your Honor, if the Court wishes to hear argument?

THE COURT: I will listen to argument.

MR. MALONE: The argument on behalf of the Petitioners will be opened by Mr. Kellahin, and I will follow, and then we will handle any rebuttal.

MR. KELLAHIN: If it pleases the Court, the principal portion of my argument will be directed to the contention that the order entered by the Oil Conservation Commission, being Order No. R-1092-A as the former order, and No. R-1092-C, is vague, indefinite and uncertain in that it fails to set up a standard which will guide the operator in the testing of his wells. Nowthere has been considerable testimony presented to the Court in regard to a directive issued by the Commission. It is our position that this fails to cure the deficiency in the order. The order itself defines or directs that the allowable to be assigned to a well will be based upon, in Part A, deliverability factor, which in the order is referred to as the calculated deliverability expressed in thousand cubic feet. This accounts for a portion of the allowable to be assigned to the well in the

ratio of 75% acreage times deliverability plus 25% acreage. The order in Rule 6, subparagraph (c) states that:

> "Annual deliverability tests shall be taken on all gas wells in the Jalmat Gas Pool in a manner and at such time as the Commission may prescribe."

Obviously, on the face of that it does not set up the manner in which the deliverability tests are to be made. Now the Commission itself does not define deliverability in the Rules and Regulations of the Oil Conservation Commission. There is a similar word in use generally accepted as having generally the same meaning, and that is the word, "potential". The Commission's Rules and Regulations, as prefaced by a section designated as "A", and in that Section A it defines potential as meaning:

> "The properly determined capacity of a well to produce oil or gas or both under conditions prescribed by the Commission."

Obviously, on the face of it, the Commission realized when it entered order R-1092-A that some further action was necessary in order to give meaning and effect to the proration if deliverability be included as a factor in the Jalmat Pool.

But subsequent to the entry of the order, and on February the 24th, 1958, the Commission promulgated a directive which provided that a method for determining deliverability on individual wells in the Jalmat Gas Pool

would be followed, and the provisions of that order are before the Court as an exhibit in this case introduced by the respondents, a memorandum. I want to be specific that it is not an order. Our statutes, and particularly in Section 65-3-20, it is provided that the Commission can enter -- I prefer to read it to the Court briefly, if you don't mind -- Section 65-3-20 provides that "except as provided for herein, before any rule, regulation or order, including revocation, change, renewal or extension thereof, shall be made under the provisions of this Act, a public hearing shall be held at such time, place and manner as may be prescribed by the Commission." I don't think it is contended by anyone involved in this case that the memorandum of February 24th, 1958, has the status of an order, as an official action of the Oil Conservation Commission and, certainly, in reading the statute, I can find no exception which would bring it within the range of that particular statute. But, assuming that the Commission can as an administrative duty, and we submit it is not an administrative duty; it is the duty devolved upon the Commission to exercise discretion and judgment in establishing a deliverability factor. As was testified by Mr. Lyon in his direct testimony, he said, "Yes," answering as an answer there he could calculate the deliverability of a

well on the basis of the information in Order 1092-A but that not any two engineers would agree on the result. That is the precise point that is involved in our contention that the order is vague, indefinite and not certain.

Now, assuming that the memorandum is an effective item in the enforcement of this order which is before the Court, we again submit that it is vague, indefinite and uncertain. As was testified by Mr. Lyon, on the basis of the deliverability tests made in 1958 and in 1959, there was an average difference of 40.32% for the pool as a whole. On Continental operated gas wells, this average difference was 40.18% and, incidentally there has been some testimony about tubing. Thirty-one out of fifty-four wells were not tubed on the Continental operated wells and yet their average deviation from the pool as a whole was approximately the same.

Now, out of all the deliverability tests that were made on the 359 wells testified to by Mr. Lyon only six showed the same result, and yet Mr. Woodruff has testified that if the directive is followed you should expect substantially similar results from subsequent tests. Certainly I believe the evidence speaks for itself that those results were not achieved on the wells operated by El Paso Natural Gas Company in whose behalf Mr. Woodruff was appearing.

I think further that the exhibits that have been offered by the respondents in this case further support our contention that deliverability as applied in the Jalmat Gas Pool is not a fixed matter in any sense of the word.

Referring to Respondent s' Exhibit No. 4 that's just been pointed out -- if the Court please, referring to the evidence that is before the Court at this time, I'd like to call attention to a couple of more items in regard to the evidence as was shown by Exhibit No. 3, there was a range or change in deliverability tests running from six wells which tested the same up to a maximum of a change of 28 - 80%, that being the percent number to Well -- I got Lanehart No. 1 well. Now I think the testimony which was submitted by Mr. Norman Woodruff as to the factors which determine a deliverability test in the Jalmat Gas Pool certainly demonstrate that an accurate deliverability test cannot be achieved in this pool. Whether or not that is inherent in the testing procedure itself or inherent in the conditions which exist in the reservoir, it is the practical application of the order, which is the significant thing in this case, and I think we have clearly demonstrated that the formula prescribed by the Commission will just not give reasonably accurate results. Any order, rule or regulation of a commission or administrative body must be

sufficiently definite and certain as to advise those subject to it as to their rights. The rule is stated in 73 C.J.S. 473, Sec. 142:

> "The orders and awards of an administrative agency must state specifically what was determined; and they should be clear, definite, and certain, particularly in cases where there is no provision for appeal to the courts. They should be sufficient to inform the parties what they are required to do, and to protect persons complying with them; and, where the violation of an order will subject a person to a penalty, the order is invalid unless it is sufficiently explicit to inform those who are subject to it what conduct on their part will render them liable to the penalty."

In that connection I would call attention to a New Mexico statute which provides for the violation of any rule, order, regulation of the Oil Conservation Commission, there is a penal provision in the amount of $1,000. I do not believe that would be specifically applicable for failure to take a deliverability test. The penalty for that is prescribed in the order itself, which states that no allowable will be assigned to the well unless an approved deliverability test has been filed with the Commission. That in itself is penalty enough and would deprive the operator of his right to produce oil and gas.

Again in 73 C.J.S. 418, Sec. 100, it is stated that:

> "A rule or regulation of a public administrative body or officer should be definite and certain and should lay down adequate legislative standards, and should not violate constitutional provisions relative to form.

> "A rule or regulation of a public administrative body or officer should be definite and, likewise, such rule or regulation should be certain. It should not be subject to the objection that it fails to lay down adequate legislative standards, since it must contain a guide or standard applicable to all individuals similarly situated so that anyone interested may be able to determine his own rights or exceptions thereunder."

This rule is in accord with the well established rule in New Mexico which was first stated in the case of Steward v. D & RG Railroad, reported in 17 N. M. 557. I think the Court will recall that was the case involving the State Corporation Commission where the railroad had been ordered to provide suitable facilities at a railroad station for the comfort of the passengers, and the court held that that was such a vague and indefinite direction they had no way of knowing whether it was right or not.

In the case of Tobin v. Edward S. Wagner Co., 187 F. 2d 977, a Circuit Court of Appeals case from the Second District, this was a wage-hour case where it was held that the record did not show, and the face of the regulation would not indicate, that certain activities came under the provisions of the regulation. The court stated:

> "Were we interpreting a statute to ascertain what power it conferred on an administrative officer, much could be said for such an argument."

And the argument being that the regulation should not be construed too liberally.. And extending the quotation:

> "Beginning at least with Aristotle, it has often been recognized that, as a legislature cannot foresee all possible particular instances to which legislation is to apply, it must therefore be reasonably so interpreted to fill in gaps. But when the legislature delegates to an administrative official the authority by 'sublegislation,' to insure regulations, in order to fill in those gaps, then the regulations, precisely because they particularize, ought not be as generously interpreted as a statute. In fairness to the regulated, the provisions of the regulations should not be deemed to include what the administrator, exercising his delegated power, might have covered but did not cover."

I think that's precisely the situation here in that the order does not cover the item of deliverability except in general and indefinite terms, and the only attempt to remedy that deficiency was to attempt to remedy without notice of hearing in order to give full force and effect to the order of the Commission.

In Miller v. Harmon Construction Co., an Oklahoma case, there was no finding by the State Industrial Commission as to the degree of disability in a workmen's compensation case. In that case the Court held that the findings were deficient in that there was no indication of how the court or Commission had calculated the degree of disability.

I have one more case which I'd like to bring to the attention of the Court before closing my argument. That's the Lone Star Gas Co. vs. Kelly, a Texas case reported in 165 SW 2d 446. This was an action for damages, claiming

negligence per se for violation of a statute, and the Railroad Commission order promulgated under the provisions of that statute. The order required the addition of an odorant that would give the gas a distinctive odor when present in concentrations of 1 per cent by volume, adding the language:

> "By this is meant the gas shall be given an odor by adding an agent that will vaporize, dissolve in or be so mixed with gas as to produce an odor readily perceptible to a normal or average olfactory sense of a person coming from fresh, ungasified air when gas is present not more than one part to ninety-nine parts of air in cases of natural gas."

In holding this provision was so vague and indefinite as to be impossible of enforcement, the court stated that:

> "When the state, whether by statute or by order of some governmental agency, promulgates a rule of conduct for the citizen, it must speak in specific and definite terms so that he may clearly understand what is required of him."

Quoting later in the opinion:

> "A statute which either forbids or requires the doing of an act in terms so vague that men of common intelligence must necessarily guess at its meaning and differ as to its application violates the first essential of due process of law."

I submit to the Court that we have established the vague and indefinite nature of this order, and the fact that because of its very vague and indefinite and uncertain nature, it is unlawful and void.

MR. MALONE: May it please the Court, it might be helpful if we took a quick look at exactly where we are in this case. The statute, as the Court recognizes, purports to grant a de novo trial in the District Court on an appeal from the Oil Conservation Commission. The question of the validity of that provision as regards the constitutional prohibition and the separation of powers doctrine is undetermined in New Mexico. If we should reach the point of determining it in this case, it will probably turn on the question of whether or not the function of protecting correlative rights is a legislative function or a judicial function. And, if it was a judicial function being performed by the Commission, then a de novo trial in the District Court without question is authorized and valid. If it is a legislative function, it is, of course, invalid in the respect that it seeks to provide for the de novo trial, and we would I think be left to the substantial evidence rule, and the question of whether or not there is substantial evidence in the record to support the decision of the Commission plus the question of whether the order is unreasonable, illegal or arbitrary on the bases which have been pointed out by the testimony presented here. If there is not substantial evidence in the record to support the decision of the Commission, we do not

reach the question of whether a de novo trial is valid or invalid. If there is substantial evidence that the order is valid on additional grounds as to which evidence has been presented, we may reach that point.

I would like to discuss briefly three grounds set out in this petition for review, the first one of which is as set out in Section 8(a) of the Petition for Review of Pan-American Petroleum Company, that the application of Texas Pacific Coal & Oil Company, Case No. 1327, constitutes a collateral attack upon the proration formula that was originally promulgated by Order No. R-520 in Case No. 673 before the Commission. It is our position that the proration formula for the Jalmat Pool, having been fixed in the Order No. 520 of Case 673 of the Commission, and, if it be conceded that the Commission had continuing authority under which they could change that, or change the proration formula, that it could only be done by an application filed in that case in which the formula was established, and that an attempt to accomplish that in an independent case is exactly the same situation as if a separate suit was filed in this Court to satisfy a judgment which had been rendered by this Court on any ground by which that judgment might be set aside, and so we think that the Commission should not have entered in this application in a case in

which it wasn't filed, and we so pointed out to the Commission.

The second ground to which I would like to refer is the proposition that, even if it be conceded for purposes of argument, there is substantial evidence in the record to support the finding of the Commission, that that finding is still insufficient to support the order which the Commission has issued. That is based upon the proposition that the only power given to the Commission for the proration of gas allowable is given under the requirement of the statute:

> "It shall so far as it is practical to do so afford to the owner of each property in a pool the opportunity of producing his just and equitable share of the oil and gas, or both, in the pool, being an amount so far as can be practically determined, and so far as can be practically obtained without waste, substantially in the proportion that the quantity of the recoverable oil and gas, or both, under such property bears to the total recoverable gas or oil, or both, in the pool."

If that statute had not established such standard for the exercise of the legislative power that is vested in the Commission, the statute would have been void because obviously a delegation of legislative powers requires legislative standards for the application. The statute which gives the Commission the power to prorate gas was valid only because it contained that provision. By the same token, action taken by the Commission under that

statute requires as a prerequisite for validity a finding that that provision by the legislature has been met. In other words, an order changing a proration formula in a case of this kind, can only be valid, as we see it, if it finds in the words of the statute that the order will result in the owners of the gas in the pool recovering the gas substantially in the proportion that the quantity of recoverable oil or gas or both under the property bears to all of the gas in the pool, and will do so to a greater extent or to a better end than the pre-existing formula.

Now the legislature said this is a standard by which you prorate. If the Commission was to exercise that power, its got to find that that standard has been met. And there is a perfectly good reason for it because then we have an opportunity to attack the question of whether there is substantial evidence to support that conclusion. But the Commission has not so concluded in this order. And, lacking that vital provision, the order itself is valid even if there is substantial evidence to support it -- it's invalid; I beg your pardon.

Now, let's look at what the Commission did find in this regard. That the applicant has proved that there is a general correlation between the deliverability of the gas wells in the Jalmat Pool and gas in place under the

tracts dedicated to said wells. Now the Commission didn't say the gas can be prorated under the -- correlated between the deliverabilities and recoverable gas in place. It said it must be prorated on the basis of the gas under the tract and the total gas in the pool. And lacking a finding that this is occurring, the order, as we view it, is invalid.

Finally on this proposition the remainder of the finding is that the inclusion of a deliverability factor in the proration formula for the Jalmat Gas Pool would, therefore, result in a more equitable allocation of the gas production. Now, if the legislature of New Mexico had said in this act, the Commission has the power to prorate gas on an equitable base, the statute would have been void because there would have been no legislative standards, because the Commission's idea or my idea or one commissioner's idea as against another's as to what an equitable standard is may vary as far as the poles so that the legislature could not have set an equitable basis. And yet that is all that the Commission has found, and a finding by the Commission which would have been inadequate as a delegation of a legislative power to the Commission certainly makes invalid the attempt to exercise that power, and the finding is wholly deficient.

As authority for that proposition, we cite the case of Hunter vs. Hssey reported in 90 So. 2d, 429. This is a Louisiana case decided in 1956 in which in connection with a water flood project in an oil pool in Louisiana the Commissioner, exercising his authority as he thought

validly, issued an order transferring the allowable from certain down-dip wells to certain up-dip wells with the result that, when the down-dip wells were shut in and the water was injected, a portion of the up-dip wells were going to be given two allowables as against one allowable; the rest were going to be given the two allowables, being to produce the oil for the oil that was assigned for the wells that were shut down. The people objecting to that came in and attacked it. The finding of the Commissioner, on the basis of which he purported to act, was that

> "a more efficient operation of the pressure maintenance program in the whole Brand-May equivalent reservoir can be accomplished with less reservoir voidage and less reservoir energy by producing from the more efficient wells the amount of oil allotted from the wells of high gas ratios and producing an excessive amount of oil which are otherwise less efficient."

A very laudible purpose. They were going to make better use of the reservoir energy and going to increase the ultimate recovery from the pool, but the court said the statute said, just as the New Mexico statute says:

> that "the Commissioner shall prorate the allowable production among producers in the pool on a reasonable basis so as to prevent or minimize avoidable drainage from each developed area which is not equalized by counter-drainage, and so that each producer . . . "

almost in the words of our statute

> ". . . will have the opportunity to produce or receive his just and equitable share subject to the reasonable necessities for the prevention of waste."

And then the Louisiana statute in defining what the just

and equitable share of a property owner was used substantially the exact language that we do, and they said -- getting down to the meat and the part which is substantially in proportion -- that:

> "the quantity of recoverable oil and gas in the developed area of his tract or tracts in the pool bears to the recoverable oil and gas in the total developed area in the pool insofar as these amounts can be practically ascertained."

So the standard there is substantially the same as the standard here. The Court struck down the order of the Commissioner, reallocating the allowable, on the ground that a finding of general benefit to come from the issuance of the order did not meet the requirement of the statute which was that, if allocation was to be made, it had to be made on the basis of a man recovering his reasonable share of the oil in place, and that that must be in relation to the total amount in the pool.

The conclusion is this:

> "In the absence of a finding by the Commissioner, we are unable to determine whether in adopting a limitation upon the transfer of allowables the Commissioner applied the standard provided by the legislature, which was that in prorating an allowable production that the Commissioner must not deprive any producer of his just and equitable share of the production nor cause drainage to any developed tract. It is not within the province of the courts

> to review the specialized evidence, and makes its finding in the failure of the administrator's order to include a finding of the basic facts conditioning the power of the Commissioner to issue the order."

And we say that the same thing is true here, and that the basic finding that was required for any order such as this is a finding that, in the words of the statute, the correlative rights would be better protected, and no such finding exists. At most, the finding is that a more equitable distribution would result.

The final proposition that I would like to mention briefly is the one which I discussed at some length at the opening of the case, which is that there is no substantial evidence in this record to support the decision of the Commission under any circumstances. The new issue of DATA FROM ADMINISTRATIVE LAW, at Page 118, in discussing this question about what is substantial evidence, has this rather learned observation:

> "The meaning of <u>substantial evidence</u> is about as clear and about as vague as it should be. The main inquiry is whether on the record the agency could reasonably make a finding."

At Page 130, Section 29.03 of the same authority, there is this further discussion of the review under the substantial evidence rule:

> "Does review of the whole record mean that each reviewant shall read each page of the administrative

> record? The answer is generally no, although the courts have not explicitly answered the question in formal opinion. The reviewing court must take into account whatever detracts from our evidence that he holds to be substantial and it is not the same that every page must be read. One party normally points out the evidence supporting the finding and the other normally points out the evidence detracting from the finding. By relying on the parties' sifting, the judges may often review quite conscientiously without reading the entire record."

And, finally, the brief observation on 145, Section 29.06:

> "Administrative determination of credibility is often set aside because the reviewing court firmly believes that the evidence supporting the determination is clearly less credible than the opposing evidence."

Probably those all add up to the fact that a scintilla is not sufficient to support an administrative order, and the fact that all of the evidence will be considered in determining whether affirmative evidence offered by the opponent is actually substantial. In referring to the importance of substantial evidence in a case of this kind, it is obvious from the exhibits of the petitioner himself that we are not playing with peanuts. When we talk about a redistribution of the ownership of $25,000 worth of gas a month for one operator, which is the effect of this order insofar as Gulf was concerned -- in this case Gulf is the beneficiary of the redistribution, but nonetheless a redistribution -- we realize the importance of the equities that are determined by proration formula. They actually readjust the ownership of the gas in the reservoir because

the ownership of gas, as the Court knows, is of no value to anybody except he sees it, and he is entitled to produce it.

The substantial evidence that is offered to the Court in support of the finding in this order is all based upon a determination of the reserves of individual wells which is reallocated to the well, assigned to the well, and those reserves are determined not on the basis of the gas that is under the tract but on the basis of all the gas that well has produced throughout its history, and on the assumption that it is entitled to continue to produce that same amount and that that right is reserve and that that is re-allocated to the tracts in question. Now, that wholly ignores the requirement of the statute with reference to proration orders. It wholly ignores the definition of correlative rights. The statute has said that the order must prorate the gas on the basis of the recoverable gas in place under the tracts, and it has been admitted that there is no evidence presented as to recoverable gas in place other than by the redistribution of reserves. It has also been admitted that the redistribution of reserves gives effect to all of the drainage that has occurred in the entire life of that well and perpetuates that drainage for the remainder of the life of it.

On that basis, if it please the Court, we respectfully submit that there is no substantial evidence supporting the order, and that the order is arbitrary, capricious and void.

On the one other proposition which I wanted to mention, and will mention briefly, as to the confiscation of property, which is also under this formula, the testimony showed that a number of the factors that determined the deliverability in these tests, and in particular the amount of gas that a man is going to get on a proration schedule, is entirely out of the control of the operator and is controlled by the El Paso Natural Gas Company or the pipeline company purchasing the gas. Any formula which predicates the right to obtain an allowable upon a factor which is beyond the control of the well owner and in the complete control of a pipeline company is a confiscation of the property of the well owner and void without question. We, therefore, suggest and submit to the Court that the order is invalid and should be struck down.

MR. WARD: If it please the Court, Mr. Campbell and I will divide the argument.

THE COURT: Very well, Mr. Ward.

MR. WARD: While it is fresh in my mind, I would like first to take up this question of confiscation that Mr. Malone

mentioned. He says that the pipeline companies have control over certain of the factors. The relationship between the pipeline company and the operator is a matter of contract entered into betweenthem. If I recall Mr. Woodruff's testimony right, that operator may at any time protest, has a right to complain and, while Mr. Woodruff didn't say that, if the pipeline company does not comply with his contract, he has a right to go to court and enforce them. And so I don't believe there is any validity whatsoever to that argument.

In any event -- and I am going to come back to this from time to time -- that was a matter that was not raised before the Oil Conservation Commission in the motion for rehearing, and our statute specifically provides that no matter may be raised here which wasn't raised before the Commission. But certainly the operator can't complain because he entered into a contract governing his property.

Returning now to Mr. Kellahin's argument that the order is vague and indefinite. It appears to me that there are actually two parts to that argument. One, that because on two different occasions when the pressure tests were taken and the deliverabilities determined there was a wide variation, that there is a defect in the formula.itself. Your Honor, that just is not so. I believe that testimony

has been shown to be completely without weight. Mr. Woodruff's testimony -- I believe he backed it up -- was this, that, if the operator complied with the rules of the Commission by putting in pipe and put his well in proper condition for the test as he is required by the order of the Commission itself, and is required by any prudent operator, then on two occasions reasonably related in time they will bear a very close relationship in the result reached. Now, of course, he didn't testify that that same close relationship would exist from year to year but, because of the many other changes that can take place in the well, the rework jobs they do and will continue to do and all of these other factors, plus the gradual depletion of the pool. Those will all affect and make a difference between an order taken this year and taken next year. But that isn't the question that there's been a change in the well itself from year to year. The question itself, the test, is whether , within reasonably close proximity, they can achieve two tests which are reasonably close and which are both valid and both show the same thing. That's all, your Honor.

This matter of deliverability as a test is nothing new. The record shows that they have been using deliverability as a test in the San Juan Basin ever since they started prorationing, and they have been able to do it without

complaint so there is nothing wrong in the formula itself so now I think it is apparent that the operators in this area are learning what they should do in order to present the best picture they can and have the highest deliverability, and I think the situation undoubtedly will improve. But that is no defect in the order. That is a defect, or the failure of the operator to do those things which both the Commission and his own pocketbook require. We have sort of an anomaly here maybe. I certainly don't think it has been done, and yet you have that situation that ordinarily the best interest of the operator is to have his tests show the highest possible deliverability but now that may not have been true this last year with Continental and these other Petitioners because of the very fact this case is pending.

Now, your Honor, I believe that the testimony of Mr. Woodruff completely eliminated the validity of that argument. I believe that argument was an argument made before the Commission but now this other argument, the failure to define deliverability in Order 1092-A in itself renders the order vague and indefinite, that question was not presented to the Commission. The directive about which they complain was dated or issued February 24,1958, and the hearing in the Commission did not take place for some

three weeks so that, if they had a complaint that that directive was not sufficient, that that was the place to have made that objection and, had they so requested, it could easily have been incorporated in the order issuing out of the hearing, 1092-C. That was not done. But, in any event, your Honor, it is not necessary that technical terms be defined, matters more peculiar to lawyers. We don't feel that such a word "rape", for instance, has to be defined.

THE COURT: You got quite a ways off the subject just then I believe.

MR. WARD: I think I feel kind of more on home ground on that kind of matters.

MR. WARD (continuing): These Orders 1092-A and 1092-C, like most orders of the Oil Conservation Commission, are filled with technical terms. It is a matter of necessity. And certainly they have been talking about all kinds of technical terms here today which have not been defined in the formal orders of the Commission, such as this matter of slope that was raised. The orders would be so voluminous if all those technical terms were defined in the order itself that they would be unworkable. As a matter of fact, the original order setting up the acreage basis for proration did not contain similar definitions. The law does not require that

an order of the Commission contain within its four corners the definition of each and every term used therein. Respondents admit that the intent and meaning of the order of the Commission must be sufficiently clear to apprise the reader of the order but certainly this does not mean that one is precluded from going outside the four corners of the particular order to find the definition of the terms used therein. The theory under which certain laws which from time to time have been declared void for vagueness is that the individuals affected thereby cannot be required to speculate or guess as to what the law requires or forbids, which is certainly good law and with which we all agree. In other words, the statute must be definite. The principle, however, does not require that the law in question contain a definition of the terms. (See Mumm vs. Singer, a Florida case, 64 So. 261; and the People vs. Hessler, 155; Interstate Trucking Co. vs. Dammond, a Wisconsin case, 1 NW 125.) On the contrary the test applied was whether the class of persons affected by the statute have a sufficient understanding of the statute and the terms contained therein to correctly apply the same. (Joseph Trainer Corp. vs. McNeil, an Illinois case, 2 NE 2d, 929, affirmed by the U.S. Supreme Court in 299 U.S. 183.) It is immaterial from whence this understanding comes. The purpose of the

rule is to permit an individual to know what his rights and duties are and, once he knows that, the law doesn't have to go any further.

This part I want to come back to. In the argument that Mr. Kellahin made, he pointed out there was a criminal provision under this statute and that it would be possible for his client to be prosecuted under that criminal provision and, if that be so, then his constitutional rights might be prejudiced. Well, your Honor, I don't think there is no proposition better founded than that a person cannot come into this court and complain that a statute is unconstitutional unless he is then and there complaining that he is being hurt thereby. He certainly can't complain that the vagueness of the statute which might result in some criminal offense when he hasn't been so charged. In the Trainer case, the court held that the statute would not be declared void for vagueness or uncertainty where the meaning of technical terms used therein were well enough known to enable persons within the reach of the statute to apply them correctly. Well, the same rule must apply here. In this particular situation -- and here we have a very poor case for the petitioners to complain of being hurt or they didn't know what this means. Back in 1954, the Commission issued an order which is a part of the record. I'm mistaken.

It is a directive dated March 15, 1954, in which deliverability was defined and/in which the -- all the field that produces in the Jalmat Field was required to follow the procedure outlined to make deliverability tests each year. They did make these tests at least once. In addition, a committee was appointed, created by the Commission, to study the sole question of deliverability and, according to the testimony here yesterday, at least three members of Continental were on that committee. That method was something that was known to all of the producers. That definition was something that was known to them and had been in force since 1954. There was a slight change made/in the 1958 directive or memorandum which, as I understand, merely changed the length of time over which the test be taken from 24 hours I believe or 48 hours from 72 hours. But other than that, they have known all this time what that order meant so they are not in a position to say, "Well here is something we don't know anything about." They cannot complain of the statute -- of the order being vague and indefinite when they knew exactly what it meant, when the orders of the Commission or the directives of the Commission had been in force all of that time.

The Petitioners in their petition have kept asserting that this order, No. R-520, established the acreage basis

for the Jalmat Field. That is not, strictly speaking, correct. There were two orders preceding that establishing that basis. And, in those orders, which were in force at all times until the adoption of the 1092-A, it was specifically stated that the proration was a temporary matter and that further study would be made and the question of deliverability would be considered for further use. So that at all times they had notice that this question of deliverability was coming back. Here is the exact language:

> "that a well testing procedure should be adopted as soon as possible so that operators, purchasers and the Commission can determine the fairness and feasibility of an allocating factor for the pool which employs the factors of deliverability, pressure and other factors relating to gas well productivity."

And that was incorporated in R-368-A and -369-A which established the acreage basis of proration.

Now Mr. Malone said he was going to raise three questions. His first question was that the application of Texas Pacific was a collateral attack on the previous order of the Commission R-520. I believe he should have referred to these other orders which in turn in part were superseded by that order, R-520. Certainly an administrative order will -- like any other order, is not subject to collateral attack. However, in all of the cases setting out that doctrine of a commission or regulatory body as being attacked

in a separate proceedings, in a judicial proceedings. In other words, there is an order of the Commission. The individual doesn't like it so he goes into the Court and seeks to enjoin the enforcement, and the courts say that is a collateral attack and cannot be done. This isn't the case here. The application of Texas Pacific Coal & Oil Company seeks a change in the proration formula with a direct attack which is certainly authorized. This application was instituted for the express purpose of correcting and modifying a previous order of the Commission. It was not an attempt to avoid the previous order. It was an attempt to go ahead, to take that next step upon which the Commission and all of the parties had been talking. It is certainly submitted that, if a party to this, a person actually ! interest, could not at a later time come back in and say, "Now look, we have had a chance to study the operation of this order," then the Commission couldn't act and both the Commission and all parties would be helpless from that time on to correct injustices that occurred in the meantime. I don't believe that any such result could have been contemplated by the legislature. It certainly would have been strange if it did. The legislature specifically imposes upon the Commission the duty to prevent waste and protect correlative rights. I call the

Court's attention especially to Section 65-3-20 of the New Mexico Statute, 1953, Annotated, which is as follows:

> "Except as provided for herein, before any rule, regulation or order, including revocation, change, renewal or extension thereof, shall be made under the provisions of this Act, a public hearing shall be held."

In other words, the legislature by its very laws itself has provided that these orders can be changed. In the case of the Railroad Commission vs. Humble Oil Co., a Texas case coming up from Texas, 67 S.C. 1523, 331 U.S. 791, the facts were these. The Railroad Commission had in effect a proration order in the Hawkins Field under which allowables were based under what was termed a 50/50 base. That is, one-half of the daily allowable was allowed on the well base, and the other half was based on surface acreage. The spacing unit was twenty acres. Under this formula, a well on less than one acre was given one-half of the allowable, on twenty acres. Under the amended basic unit, the tract was raised to forty acres and the allowable of one well on a tract of more than twenty acres was given 5% additional for each additional, thus one well on the forty-acre tract had an allowable of twice that on the twenty-acre tract, or four times that on a tract of one acre or less. There the Supreme Court of the United States said this that the Commission in the interest of production and protecting

correlative rights, its proration orders are subject to change, modification or change at any time, and either upon notice of hearing or upon application of any interested party. This principle is so well established as to establish no citation of authority. It shall also be noted that each of the proration orders regarding Hawkins Field contain the following proviso: that

> "This cause be held open on the docket for such other and further orders as may be necessary, supported by evidence of record."

That order carried down is face notice to each and everyone who had properties on the field that it was subject to a change. Just as the order establishing the acreage basis put the parties on notice that deliverability was going to be considered. I have a detailed discussion on those orders but I am going to omit it. The Texas Supreme Court sums up the whole problem in the Texas Training Co. vs. Stanolind, 161 SW 2d 1046. There the plaintiff appealed from an order of the Commission which cancelled appellant's permit which gave them permission to drill an additional well within a unit. The plaintiff contended that as a matter of law it was entitled to drill an additional well because under the spacing rules and regulations in existence that the subject land was segregated and that when it was acquired and leased the plaintiff had a right to drill

an additional well. The Court said, the contention is overruled. Spacing rules must be subject to change from time to time to permit an equitable adjustment of the machinery of oil prcration to meet changing conditions. If the lease owner could acquire the right to arrest the spacing rules then the Commission would be powerless to act. Certainly this fact gives authority, as contemplated by the Statute, to modify the order of the Commission made at a time when they didn't have sufficient information to go into such a thing as a testing procedure based on deliverability.

Now Mr. Malone's next argument was to the effect, as near as I can understand it, each owner being entitled to produce his fair share of the oil produced, that this order is bad because it does not use the language in any instance contained in the statute. What this order of the Commission 1092-C provides is that:

> "After considering all the evidence presented at the original hearings, and the rehearing in this case, the Commission reaffirms its finding that Texas Pacific Coal & Oil Company has proved by a preponderance of the evidence that there is a general correlation between the deliverabilities of gas wells in the Jalmat Gas Pool and the recoverable gas in place under the tracts dedicated to said wells."

In other words, what the Commission has done is recognize that language made in the statute, and gone the next step further by stating that there is a necessary relationship

between the deliverability and the gas in place. But that is not the only section about law relating to this question. While Section 65-3-14 provides that the owner of property in a pool will be given an opportunity to keep and produce his just and equitable share of oil and gas, or both, in the pool and finds that the just and equitable share is an amount -- that's a definition there too -- as far as can be practically determined, and as far as can be practically obtained without waste, substantially in the proportion that the quantity of recoverable oil or gas, or both, under a property bears to the total recoverable gas or oil, or both, in the pool, and it appears to me that the basis of this argument is that they used "general correlation" instead of the words "substantially in proportion". But Section 65-3-13(c) of the statute provides that in allocating an allowable of production according to wells in the gas pool, the Commission may consider acreage, pressure, open flow, porosity, permeability, deliverability and quality of gas and such other pertinent factors as may from time to time exist. That is exactly what the Commission has done now. Those two sections must of necessity be read together. Each of the factors was considered by the Commission in the instant case before determination was made that the best evidence that they

had before them indicated that recoverable gas in place was in reasonable relation or general correlation to general deliverability. And it should be remembered that the Commission not only has this deliverability in this formula but also acreage, 25% acreage times deliverability. Thus, I think the most all we would be doing is quibbling as to the meaning of terms. And certainly there is that relationship that, if the Commission was authorized to find that relationship between deliverability and recoverable gas in place, which it did find, then it has protected those correlative rights as required by the statute.

Now Mr. Malone has argued that there is no substantial evidence to sustain the order of the Commission, Your Honor, yesterday morning, Mr. Malone and Mr. Campbell read to you short excerpts from the testimony of the witnesses. There seemed to be quite a play on words but I don't see as it makes any difference whether Mr. Keller in making his engineering study first determines the reserves of a well and from that figure determines the recoverable gas in place or whether he is able to make that determination in one step. It is only a matter of degree so, if, as an engineering matter, he must first determine the reserves before he can determine the gas in place, then there certainly is nothing wrong with his testimony or the conclusion that he

reached that there was a reasonable relationship between the deliverability of the well and the recoverable oil -- or gas in place, and further that the tests would tend to minimize drainage, or, in other words, protect correlative rights. It was, in any event, much better in the protection of those rights than a straight acreage formula. I'm not an engineer and I'm certainly not an expert on these oil and gas matters, but I sat down and I read that testimony of those witnesses contained in the transcript -- there is some thousand pages of it -- and those witnesses did not get on the stand and merely recite conclusions. They had these theories worked out, they set those theories out in detail and then gave the other parties an opportunity to cross examine and then thereafter applied those formulas to the actual facts and found them to be valid. This deliverability formula which Mr. Keller testified is in the San Juan Basin and other places, and which he figured this formula which had a deliverability factor to it was the fairest method of allocating the gas in that it would protect correlative rights best, includes such matters as thickness of pay, the pressure, the porosity and permeability and the conant water. What he concluded was that many of these with certain limitations, the same factors which determine the deliverability of the well also determine the

amount of gas in place under a tract. Now, your Honor, as I say, I am not an engineer, but it seems obvious to me that, if you take two tracts of land of 160 acres each, and one has a pay thickness of ten feet, the other one has a pay thickness of forty feet, all other factors being equal, this one over here with forty feet is going to have more gas in it even though the surface acreage is the same. It seems so obvious that I couldn't help but follow his line of reasoning. The deliverability formula does take that into account and, of course, the straight acreage did not Now the same is true, other factors being equal, if you own 640-acre unit which has a pressure twice as high as the other 640-acre unit, other factors being equal, that one with the high pressure of a necessity has to have more gas in place in that particular unit. As the Court will have noticed in the testimony here, this test pressure is of most importance and these tests are made on the basis of these pressure tests and the changes and so on and the various conditions. Now, the well with the high deliverability is the well with the high pressure, and it is a matter of common knowledge that, if you have gas under high pressure in one place and under low pressure in the other, that it would always migrate from the high pressure area to the low pressure and never the reverse. Take two balloons.

Fill one all the way up and one half way up and attach the ends together, they will equalize their pressure by the gas going from the high pressure to the low pressure. Of course that works much more slowly in this formation but that principle is always there. Therefore, when the Commission comes up with a formula whereby the high pressure well is given the high allowable, it cannot cause drainage because in it it has the high pressure. All it can do is produce the gas that is there and prevent the neighbor with the low pressure acreage from draining off that gas.

Mr. Malone made quite a bit out of the fact that the that there was lots of money involved here, and that Continental as of June '59 is losing 4.25% of that, but the mere fact that Continental in the past has been able to obtain an advantage because of the necessary result of the acreage formula resulted in drainage to Continental's wells doesn't give them the right to continue that for all future time.

But the thing I want to get at, this substantial evidence proposition, your Honor, is this that there is this evidence in there. It's abundant. And, certainly, it would be unfair to ask this Court to, based on the statement of counsel or just reading those excerpts from the record, to consider that the Court was in a position to rule whether there was substantial evidence before the Commission or

whether the order of the Commission was fair and reasonable. It certainly would be grossly unfair in view of the fact that there was nc attempt made here to develop that testimony. I think maybe this case is a good example why these regulatory powers are vested in commissions and administrative bodies rather than the courts. I feel certain that the Petitioners here had more evidence available and for one reason and another didn't put it on, perhaps of putting it on in rebuttal. I know the Respondents had additional evidence. It was not put on here because, if they did, it opens the door for additional testimony on rebuttal. So the Court itself is not in the position, based on merely a few excerpts read by counsel, to weigh the validity of all that testimony taken before the Commission and the technical testimony that was there and attach a reasonable basis, that I can understand.

I believe that's all, your Honor.

MR. CAMPBELL: If the Court please, I would like very briefly and with as little repetition as possible to present my views on some of the matters that have been raised here in argument.

I would like to say first that all of the legal arguments raised in the petition for rehearing and the petition on review have not been discussed by Mr. Malone or Mr. Kellahin. There are a large number of matters which were

raised. I do not concur exactly with Mr. Ward on some of these matters which were raised in the petition for review. I can't think of anything that wasn't raised in the petition for rehearing before the Commission on the petition for review here. I believe the petitioners have raised every legal objection to the Commission's order. We have prepared and would like to furnish to the Court a trial brief in which we have briefed the legal questions, and all of them, that have been raised in all of the petitions for rehearing and the petitions for review. There are some questions that were raised in some petitions and not raised in others. These cases have been consolidated, and we feel that, if we are not going to present oral argument on all of them, that at least the Court should have the benefit of what legal references we may have to each of the legal questions that have been raised. I shall not go into each of them because I assume that the Petitioners do not intend to. I shall confine myself to what they have raised and do it very briefly.

I think that perhaps some of us here, including Mr. Dippel and perhaps Mr. Smith and Mr. Kellahin and myself, have survived thus far through about seven years of -- six years at least -- of the stormy history of gas prorationing in New Mexico. The statute was adopted, changed, in 1949 to include gas. Up to that time, it involved only oil.

The regulatory powers of the Commission. It wasn't until 1953 that we actually got under way in trying to establish gas prorationing. It is a relatively new method of regulation, not only in New Mexico but in many places. We are here discussing not only new grounds of law but we are here discussing new grounds insofar as regulation of the production of gas is concerned. I think all of us recognize that. Since 1953, however, I think it is fair to say from all of the hearings that have been held that deliverability as a term and as a possibility is nothing new. In 1953, in October, when the first hearings were held to set up gas prorationing, at the very first hearings, deliverability was proposed, and at those hearings it was the concensus of opinion -- Mr. Smith was there; Mr. Dippel was there; Mr. Hinkle was there for some of the petitioners here; Mr. Kellahin was there; some of the representatives for El Paso Natural Gas Company were there -- and at that hearing it was the concensus of opinion, and statements were made to the Commission, that what we wanted to do was start gas prorationing, and the simplest way to do it was to do it on a straight acreage basis, and deliverability, if it was to become a practice, should be taken up at a later date. I can read from the record that is before the Court here now the statements made by various

attorneys for the companies at that time. I shall not do it in detail. However, I would call attention to the fact that at the hearing in February 1954, Mr. Hinkle, who was representing Amerada, a petitioner here, said:

> "These rules are going to have to be amended from time to time."

Mr. Woodard, who was then representing Amerada, says:

> "We think it is apparent that this is a problem requiring continuing study. However, it has been under study for nearly a year now. These orders now that purport to be the final orders are not the last word. They probably are not the best rule that could be written."

Mr. Dippel, representing Continental said:

> "Any time that anybody feels that his interests are being jeopardized or already has sustained this injury, this Commission is always open to them."

Mr. Vicary, representing Atlantic, a petitioner here, said:

> "Atlantic is aware that changes in the orders may be necessary from time to time."

And recognizing that situation, the Commission designated an Industry Committee to work with the Commission staff, and in the order arising out of that very hearing, they said:

> "We are setting up the allocation formula on an acreage basis, but we are appointing a committee to study the possibility of including other factors including deliverability as part of the proration, gas proration, in the future."

It was on this proposition that Continental and other petitioners here served for a period of several years improving as they went along the methods of testing for

deliverability purpose, even though then deliverability was not a factor in the proration formula, and it seems to me that to come back here now before this Court and urge that Texas Pacific Coal & Oil Company, or anyone else, is estopped, or is making a collateral attack upon an order of the Commission, certainly doesn't jibe with what the history of gas prorationing in New Mexico and before the Oil Conservation Commission indicates.

I think further that the facts that I have mentioned make it apparent that the term deliverability is neither vague nor uncertain nor indefinite to anybody who has had any contact as an engineer, or as an attorney, or as a field man for anybody in the gas business in New Mexico because the tests have been taken since 1954, and they were taken under exactly the same order as the order, that directive, that is being taken at this time. And the order of the Commission, any order of the Oil Conservation Commission or other technical commissions, is going to contain words that to the layman may not be ones that he could take and apply, but certainly anybody in the business who is acquainted with prorationing of gas in the Huggeton Gas Field in Kansas, Oklahoma and Texas as these transcripts all read, or in the San Juan Basin or in other areas of the country, knows when you talked about deliverability what you are

talking about. He may not know what the shut-down period may be, he may not know what the slope curve may be, but those are technical aspects of taking deliverability tests, and they vary from place to place, but the term deliverability is a term which is generally known in the oil and gas industry.

Now, one other point that I would like to make with regard to substantial evidence. Mr. Malone and I tried to go through these voluminous transcripts and point out to the Court our difference of opinion about what the witnesses were testifying to. I want to say this. I have been through those transcripts I know three times prior to this hearing. I am sure Mr. Malone has too. This is an honest difference of opinion about what the witnesses were saying I am sure, but there is no doubt in my mind but that Mr. Keller in his testimony constantly, after this question was first raised about this relationship between reserves and distribution of reserves and recoverable gas in place, that there is a definite and reasonable relationship in the Jalmat Gas Pool between the deliverability of gas wells and recoverability of gas in place under those wells. He does not say it was direct. He did not say it was proportional. He said there is a relationship.

Now is that enough under the statute that we have

relating to correlative rights to sustain an order of the Commission? I believe it is for this reason. The statute that Mr. Malone constantly refers to defining correlative rights requires that a man be given an opportunity so far as is practical and can be practically obtained without waste to recover substantially in proportion the oil or gas under his tract to the oil or gas in the entire pool. The statute regarding gas prorationing says in protecting the correlative rights the Commission may consider permeability, porosity, pressure, acreage, any number and any other pertinent factors, so all the Commission is doing here is trying to protect the correlative rights that are there defined by a formula based upon some of the factors, the authority for which is provided to the Commission in the statute. Certainly every order of this Commission doesn't have to contain the language of the finding of the definition of correlative rights. That is simply the general opportunity that anyone has under spacing, under gas allocation, under method of completion. He has a right to get that opportunity but that doesn't have to be the basis or the language in the order because the statutes permit the Commission, in establishing and protecting correlative rights, to consider these various factors in gas prorationing.

Now, finally, with regard to confiscation. The transcripts contain a large amount of testimony that there

is no forumula that can be devised, if you are going to have gas prorationing at all, that will fully protect the correlative rights of all the people in the field; there is not any way in which you can definitely measure accurately the amount of gas that each man has at any one time under his tract. I think that is apparent from the very nature of the underground reservoirs containing oil and gas. Nonetheless, Mr. Keller testified time after time in his opinion that, while it was true it would not be a perfect formula, that this formula would more nearly permit a person to recover his fair share of the recoverable oil and gas under his tract than does the acreage formula. Why? Because it containsrecognition of the conditions of the well, which indicate and are related to the amount of gas in place under that tract. And that to me, that, in relation to the present formula, which all witnesses admit, does not give recognition to the amount of gas except as to the surface acreage but not to the difference of quality of pay, or the amount of the pay, or pressure in the well, or any of the other factors that relate to how much gas a man has at any time under his tract, that is the test here, and that's the test the Commission applied. They found that this formula would more nearly meet the defintion of correlative rights, and they had the right to consider

deliverability under the very terminology of the statute that sets up gas allocation.

As I indicated when I started, there are many legal arguments raised in this case that apparently are not going to be argued orally. I'm pleased that they aren't. But they are serious legal problems, some of them, and if we may be permitted to do so, we would like to submit to the Court a trial memorandum brief which we have prepared setting out our legal views on the other legal questions and the questions that we are here arguing orally.

MR. MALONE: If it please the Court, I will not unduly extend the argument. The Court has been very gracious about listening to argument in the case. I would like to refer briefly to this history of prorationing problems to which Mr. Campbell referred, and I have no difference with him as far as the fact that the Commission and the Industry have been looking for means of better allocating and more fairly allocating production of both gas and oil, and will always be looking for it.

We have an unique situation here in which one company out of an entire pool decided that a particular formula met that requirement. It is interesting to me that as you look at the companies that are lined up here as against the people who are opposing here and the additional people who are

opposing the adoption of this formula, that they are on both sides of the fence; it doesn't matter what the effect of it is on them individually in the Jalmat Pool. They are sufficiently convinced as to the instability, the unworkability and the unfairness of deliverability in a formula if they are uniformly in opposition to its adoption here.

Now the argument that Mr. Campbell made with reference to increase not reflecting different conditions herein the formation is an old problem. We have had oil production here in New Mexico now for almost twenty-five years and oil allowables are uniformly assigned on the basis of acreage and acreage alone, and natural gas allowables in southeastern New Mexico, since the beginning of proration, have likewise been assigned on the basis of acreage, and acreage alone, and these lacks of uniformity in the potential production of oil wells are just as great as they are in gas wells but it has been concluded and fought out and the conclusion reached long since that oil should be allocated on the basis of acreage. In certain instances, depth is involved, but it has nothing to do with the problems here, that it is an economic consideration. And that same consideration prevailed with reference to the prorationing of gas in southeastern New Mexico, and here for the first time in opposition to all of the rest of the operators who expressed

themselves in this pool the Commission has injected a deliverability formula in here which, as the evidence has shown in this case, as it has actually operated, has had -- well, I can hardly conceive less stability when you consider the fact that the ownership of the gas under the ground is actually being redistributed by this proration formula. When you look at those exhibits that Mr. Lyon prepared as to the fluctuation in deliverability between the three tests that have so far been taken, I think that it clearly and beyond any doubt establishes the proposition that Mr. Kellahin was urging that this basis for the allocation of the ownership of gas in the ground, which is what theformula does, is so vague and indefinite, uncertain and unstable as to constitute, without any question of doubt, a lack of due process of law and the confiscation of the gas of the people whose allowables are affected by it.

Now reference was made to the San Juan Basin in New Mexico and to the fact that deliverability was in the formula up there, and that's true, and it was pointed out in the testimony there before the Commission in this case that that was put in there at the time those pools were first being developed up there, and that the situation was entirely different than in the southeastern New Mexico

where the development has been going on over thirty years and wells, hundreds and thousands of them, have been drilled under conditions which make the injection of deliverability into the formula gross and rank injustice so far as correlative rights are concerned.

I regret that apparently I have wholly failed to make clear, at least to my opposition, the proposition that I was urging with reference to the standards that an order must live up to if it is to be valid under the delegation of legislative authority. I'd like very briefly to have one more try at it. Maybe I can get some help from some other courts.

This Hunter case from which I read earlier and in which they held that an order re-allocating allowables was invalid because it did not find that the re-allocation was in closer relationship to the proportion to the gas in place under the tract and the total gas in the pool, which is exactly what this order, if it was valid, would have to say and would have to have substantial evidence to support. And, in pointing out the necessity in that order, the court said:

> "We have been through the entire volumes of records in the case, and they say, 'this effort has convinced us of the wisdom of the judicial doctrine that an order is invalid when the basic or essential findings to support that part of the order are lacking. The

> case is invalid, being an administrative order, for failure of the administrative agency to make a basic or jurisdictional finding."

Now this is a basic or jurisdictional finding. We had a situation in which the allocation of gas had been made for some four years under an acreage formula. There is no waste question involved. It is strictly a matter of correlative rights and who's going to produce how much gas. Having established that formula, and it having been in effect, and people having made investments on the basis of it, and bought and sold properties on the basis of it, the Commission then changes the formula. Now the only power they have got to change that formula under the statutes of New Mexico is if correlative rights will be better protected under it than under the other formula, and that is a jurisdictional finding to any order that finally is the order, and, if they contend that is the case, then they have got to have a finding to that effect, and they're going to put us in a position there so we can attack that for substantial evidence to support it, and that finding is wholly absent from this order. And the order is predicated entirely upon a finding that it will be more equitable in the opinion of the Commission.

Now, as I said awhile ago, if the legislature passed this act and said the Commission shall prorate gas on an

equitable basis, I don't think there is a lawyer in this room that would contend that such an act would be valid. The legislative standards have got to be erected, and when they are erected as they are in this case, they have got to have findings to show they have been met, they have got to be incorporated in the order, and they've got to appear in the order before an order exercising that power is valid, and I can't say it any other way. That's my proposition. Whether it is right or wrong, I hope at least that the opposition understands it.

To return again to the question of the testimony of Mr. Keller and the question of whether or not it constitutes substantial evidence to support this order, I think it is a crucial question in this case and I would like to close my discussion by reverting to it briefly.

The finding is that there is a general correlation between the deliverabilities between the gas wells in the Jalmat Gas Pool and the gas in place that was changed in "C" to the "recoverable gas in place" under the tracts dedicated to said wells. It is contended that there is substantial evidence to support that finding. It is admitted by the witness by whom the evidence is presented that he made no computation of the recoverable gas in place under the individual tracts, that is evidence with relation to

what gas might or might not be available there. It was based on a redistribution of well reserves which gives effect, not to the gas that is in place under the tract but to the producing history of the well and all of the gas that it may have drained from acres and even miles around it during the entire history of the well. The reason for the great injustice in such a situation in southeastern New Mexico is the fact that some of these wells have been producing for years and have drained tremendous areas prior to proration when it was begun four years ago, and to take the reserves on the basis of an extrapolated curve, which merely says that they are entitled to produce in the future what they have produced in the past, is to give effect and put under the tracts surrounding each well, not the gas that's there, which the statute says is the basis for the protection of correlative rights, but the gas which would have been there when nature laid it down it had crowded under the tract not only the gas that was there but that from all around it and came out through the well bore. That is the reason that I have no hesitation in saying that there is no substantial evidence in this record to support the finding because, in the absence of evidence as to recoverable gas in place, there cannot be evidence of a correlation which exists.

And I'd like to refer in that connection then to the only evidence in the record as to the recoverable gas in place under the tracts and the relation to deliverability, which is the evidence that was prepared by the Petitioners and which shows a complete lack of correlation.

Now, under the statements from Davis which I read at the outset, which permits, and in fact requires, the Court to consider all of the evidence in the case and to weigh it in determining whether or not substantial evidence exists, if it can be said that substantial evidence exists in this record in the face of the condition that I have just outlined, then this substantial evidence rule means absolutely nothing.

If the finding falls, as we think it inevitably must fall, the other two grounds which were included in the original order, and which counsel now contend are no longer in effect, must fall also. They were an attempt by the Commission to issue an order because, as they said in Paragraph 6, the inclusion of a deliverability factor in the proration formula for the Jalmat Gas Pool will result in the production of a greater percentage of the pool allowable, and that it will more nearly enable the various gas purchasers to meet the market demand, a consideration which is wholly foreign to any power which the Commission

exercises. Now this Commission isn't in the business to help purchasers meet market demand; it is in the business to help owners protect rights, correlative rights in the pool, and as T-P's statement is now it has dropped out of the final order. Now whether that is the effect of the final order I have considerable doubt.

So that we feel that without a question of a doubt there is no substantial evidence to support the proposition. There is a complete absence from the order the finding which would benecessary for a valid order to change the proration formula, and that this Court should hold the order to be invalid.

Thank you very much.

THE COURT: Gentlemen, I will not attempt to dispose of the matter at this time. I am going to ask Mr. Malone and his coherts to supply me with a brief, and a copy to Mr. Campbell, and you will reply to it in ten days. The matter will be taken under advisement.

Now, gentlemen, I am busy, and I would be glad if you will refer to the testimony in support or the lack of it because you will save me the trouble of reviewing this record as a whole, which I prefer to escape.

** *** **

(THEREAFTER, to-wit: On July 27, 1959, the Court wrote a letter which is as follows.)

JULY 27, 1959

Mr. Ross Malone
Mr. Jason Kellahin
Mr. Harry G. Dippel
Mr. Willis L. Lea, Jr.
Mr. Manuel A. Sanchez
Mr. John S. Miller
Mr. J. K. Smith
Mr. Frank L. Heard, Jr.
Mr. E. L. Hughston
Mr. Alfred O. Holl

Mr. A. B. Tanco
Mr. C. W. Proctor

Mr. Jack Campbell
Mr. Morris Galatzan
Mr. Ray C. Cowan
Mr. Robert W. Ward
Mr. Lawrence I. Shaw
Mr. Jack Cooley

Re: Continental Oil, et al
v. N.M.O.C.C., et al

Gentlemen:

At the conclusion of the trial of this matter, I requested briefs. I have now concluded, however, that the Petitions should be dismissed, and the Order of the Oil Conservation Commission confirmed. This letter is intended to acquaint the parties with my reasons for so holding.

I am unable to say that the Order of the Commission is vague or uncertain. Implemented by the Directive or Memorandum, it gives a method of determining "deliverability" which is evidently comprehensible to those affected. One witness asserted that the large discrepancies in deliverability test results taken

at different times made it manifest that it was not possible to make accurate tests using the new formula. The validity of the method of testing was not challenged from an engineering or mathematical view point, and no reason was given for the failure of one test to approximate the result to another test. But, when it is remembered that the new program has been in effect less than two years, and that the potential capacity of a well to produce varies from time to time because of numerous factors, some governable by the operator and some due to natural or fortuitous changes in conditions, the apparent discrepancies become understandable. And, as was done, to add all the "plus" percentages for one column and all the "minus" for another, and assert that computation of the result shows an average total discrepancy between tests of more than 40%, is to present an absurdity, apparent on its face, and which proves nothing of value.

As to the claim that the reason for the adoption of the new formula was unsupported by any substantial evidence and hence was arrived at capriciously or arbitrarily, I fail to agree. It was argued that the finding of the Commission to the effect that there is a general correlation between the deliverabilities of the gas wells and the gas "in place" under the tracts dedicated to said wells is unsupported, because there is no testimony as to the recoverable gas in place under the tracts

involved, -- that the testimony pertains instead to the reserves of the wells -- hence, the conclusion reached, that the inclusion of a deliverability factor in the proration formula would result in a more equitable allocation of the gas production, is untenable, that the testimony, on the contrary, showed that there is no correlation between the amount of gas a well may produce at a given time, and the amount of gas which is in the formation underlying the tract assigned to the well.

The owner's share of the gas is that amount which he can obtain in the proportion that the recoverable gas under his property bears to the total recoverability, not the amount in place but the amount recoverable. It does not depend on the proportion which the area of his tract bears to the area of the pool, or solely upon the quantity of gas in place under his tract in such proportion. I find substantial testimony to the effect that there is a general correlation between deliverability of gas wells and gas in place under the tract dedicated to such wells. The fugacious nature of gas must be taken into account and cannot be ignored.

There was substantial evidence that the 100% acreage formula permitted drainage from strong to weak wells, thus denying one group of operators the right to appropriate their share of the gas in place under their tracts to their detriment and to the unjust benefit of the other group. Under such type

of allocation, the inefficient operator might be allowed to produce more gas than his prudent and efficient neighbor with equal dedicated acreage, because of factors in the producing strata over which neither could have control. The field produced for years under this program which gave to each operator the right to produce quantities of gas dependent solely on the proportion which his acreage bore to the total field area, without regard to the many other conditions affecting the potential productivity of the tract. This was a simple method of arriving at allocations and required no complicated formula or tests to achieve, but, as I see it, forced inequities and was inherently unfair to some. It may be that allocation of allowable production based entirely on the operator's ability to produce is the ideal method to follow in fields where output is restricted. The Commission has adopted a compromise between the two methods and, in my opinion, has arrived at a more just and fair division than the former method afforded. It was in evidence that (as to one month) in round figures, eight operators had lost the right to produce $40,000 worth of gas while four others had gained $50,000 worth. This can mean, however, that a previous and possibly greater inequity has been corrected.

I feel, too, that a program which rewards good and prudent operation and discourages the contrary sort, contributes to the prevention of waste and the better utilization of the natural resource, and that the present plan is designed to further that result.

Counsel shall have thirty days in which to submit requested findings of fact and conclusions of law.

Yours very truly,

JOHN R. BRAND

JRB/cvj

** *** **

E X H I B I T S

Reporter's Note: All original exhibits forwarded to Supreme Court of New Mexico in accordance with Stipulation and Order entered herein. See Volume I, Page 130 and 133; also Index to Exhibits.

** *** **

STATE OF NEW MEXICO)
: ss. REPORTER'S CERTIFICATE
COUNTY OF LEA)

I, Clarence V. Johnson, Official Court Reporter of the Fifth Judicial District of the State of New Mexico, in and for the County of Lea, do hereby certify that I reported the proceedings had at the trial of the above entitled and numbered causes; that the foregoing 277 pages of typewritten matter, being numbered 1 to 277, inclusive, Volume II, constitute a full, true and correct transcript of the testimony taken at said trial, objections of counsel thereto, rulings of the Court thereon, and exceptions taken, together with a record of all exhibits, if any, introduced at said trial.

WITNESS my hand on this the 30th day of June, A. D. 1960.

Clarence V. Johnson
Official Court Reporter
Fifth Judicial District
Division III

IN THE DISTRICT COURT OF LEA COUNTY
STATE OF NEW MEXICO

CONTINENTAL OIL COMPANY	16213
AMERADA PETROLEUM CORPORATION	16214
PAN AMERICAN PETROLEUM COMPANY	16215
SHELL OIL COMPANY	16217
THE ATLANTIC REFINING COMPANY	16218
STANDARD OIL COMPANY OF TEXAS	16219
HUMBLE OIL &REFINING COMPANY	16220

Petitioners

-vs-

Consolidated
Under No. 16213

OIL CONSERVATION COMMISSION OF NEW MEXICO, Composed of John Burroughs, Member and Chairman, Murray Morgan, Member, and A. L. Porter, Secretary;
TEXAS PACIFIC COAL AND OIL COMPANY, a foreign corporation;
EL PASO NATURAL GAS COMPANY, a foreign corporation;
PERMIAN BASIN PIPELINE COMPANY, a foreign corporation;
SOUTHERN UNION GAS COMPANY, a foreign corporation,

Respondents

ORDER SETTLING BILL OF EXCEPTIONS

NOW on this day come the Petitioners, Appellants in the above entitled and numbered causes, and comes the Oil Conservation Commission of New Mexico, Cross-Appellant in the above entitled and numbered causes, and move the Court that the official transcript now on file of the Official Court Reporter's notes taken by him in the progress of the trial of said causes be signed, sealed, settled and delivered as Petitioners' Bill of Exceptions

and Cross-Appellant's, Respondent Oil Conservation Commission of New Mexico, Bill of Exceptions, to be used in the above entitled causes on appeal to the Supreme Court of the State of New Mexico;

And the Court, after carefully examining said transcript, finds the same to be true and correct in form and in fact, and is duly certified, according to law, by the court reporter who reported the evidence upon the trial of said causes;

And it appearing by the record that the attorneys for the various appellees have waived the statutory five days' notice of intention to apply for this Order, and no objection being made;

IT IS, THEREFORE, ORDERED that said transcript, consisting of Volume II, Pages numbered 1 to 278, inclusive, being 277 pages duly certified by the Official Court Reporter as aforesaid, be filed as Petitioners' Bill of Exceptions and as Cross-Appellant's, Respondent New Mexico Oil Conservation Commission, Bill of Exceptions in said causes, and that said transcript be, and the same hereby is, signed, sealed, settled and delivered by the Court who was the Trial Judge therein as Petitioners' and Cross-Appellant's Respondent New Mexico Oil Conservation Commission, Bill of Exceptions.

DONE on this the 2 day of August, A.D. 1960.

/s/ John R. Brand
District Judge

STATE OF NEW MEXICO)
: ss. CLERK'S CERTIFICATE
COUNTY OF LEA)

I, W. M. Beauchamp, Clerk of the District Court of the Fifth Judicial District within and for the said County and State, do hereby certify that the above and foregoing, consisting of 595 pages in two volumes of typewritten matter, constitutes and is a full, true and perfect transcript of the record and proceedings in Causes No. 16213, 16,214, 16215, 16217, 16218, 16219, and 16220 on the Civil Docket of said Court, wherein CONTINENTAL OIL COMPANY, AMERADA PETROLEUM CORPORATION, PAN AMERICAN PETROLEUM COMPANY, SHELL OIL COMPANY, THE ATLANTIC REFINING COMPANY, STANDARD OIL COMPANY OF TEXAS and HUMBLE OIL & REFINING COMPANY, respectively, are Petitioners, and OIL CONSERVATION COMMISSION OF NEW MEXICO, TEXAS PACIFIC COAL & OIL COMPANY, EL PASO NATURAL GAS COMPANY, PERMIAN BASIN PIPELINE COMPANY and SOUTHERN UNION GAS COMPANY are Respondents, as called for by the Praecipe for Record appearing in Volume I on Page 135 of the foregoing, all as shown from the files and records of my said office.

WITNESS my hand as Clerk of the said Court, and the seal thereof, at Lovington, Lea County, New Mexico, on this the 2 day of August, A. D. 1960.

(Seal)

s/ W. M. Beauchamp
W. M. BEAUCHAMP
Clerk of the District Court

STATE OF NEW MEXICO)
: ss. CERTIFICATE OF COSTS
COUNTY OF LEA)

I, W. M. Beauchamp, Clerk of the District Court of the Fifth Judicial District, within and for the County and State aforesaid, do hereby certify that the total costs in Causes No. 16213, 16214, 16215, 16217, 16218, 16219 and 16220 on the Civil Docket of said Court, wherein CONTINENTAL OIL COMPANY, AMERADA PETROLEUM CORPORATION, PAN AMERICAN PETROLEUM COMPANY, SHELL OIL COMPANY, THE ATLANTIC REFINING COMPANY, STANDARD OIL COMPANY OF TEXAS and HUMBLE OIL & REFINING COMPANY, respectively, are Petitioners, and OIL CONSERVATION COMMISSION OF NEW MEXICO, TEXAS PACIFIC COAL & OIL COMPANY, EL PASO NATURAL GAS COMPANY, PERMIAN BASIN PIPELINE COMPANY and SOUTHERN UNION GAS COMPANY are Respondents, in the aggregate amount to the sum of $ 727.75, itemized as follows:

	Paid by Petitioners	Paid by Respondents
Clerk's Fees	$ 87.50	$
Sheriff's Fees		
Court Reporter's Fee (Transcript Preparation)	638.25	
Certification Fees	2.00	

All as shown from the docket in said causes.

WITNESS my hand and the seal of said Court, at Lovington, Lea County, New Mexico, this 2 day of August, A. D. 1960.

(Seal)

s/ W. M. Beauchamp

W. M. BEAUCHAMP
Clerk of the District Court