CASE RECORD FILE

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MR. WEBB: That is all.

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

MR. CAMPBELL: I have a little bit of re-direct, please. I would like, if the Commission please, to straighten up a few matters here that perhaps have left the record in doubt in a mathematical sense.

REDIRECT EXAMINATION

BY MR. CAMPBELL:

Q Mr. Keller, would you put those two things up on that board. Mr. Keller, in connection with your cross-examination by Mr. Hinkle, on one of the several hypothetical situations on which you have testified here, and also on a hypothetical question by Mr. Webb, you made some hasty calculations with reference to these situations.

Would you, by reference to the calculations you have put up there on the board, and referring first to Mr. Hinkle's hypothetical case of one well with a thousand pounds of pressure, and one well with five hundred pounds pressure, relate briefly to the Commission what your recalculations indicate as to that situation.

A Well, sir, I made some mistake in my calculations, both in respect to Mr. Hinkle's questions, and Mr. Webb's. I would like to correct them. I thought the easiest way to do so was to set them down in black and white where they are clearly shown. The

assumption under Mr. Hinkle's question was that we had two wells, equal in all respects, except that the pressures varied. Number 1 had a thousand pounds of pressure, Number 2 five hundred, and then the problem was to calculate the deliverability, and the reserve under that assumption.

Correcting that yesterday, I testified that the deliverability would vary as three to one. Comparing the two wells, on calculating it in the quiet of my room, I calculate 3.2 to 1, while the reserve would be in direct proportion, or 2 to 1.

In addition, I have calculated the allowable that would be assigned to two wells under the assumptions involved on the recommended basis, and on the present basis, and I find that the allowable of the Number 1 well would be 2.2, compared to 1 on the Number 2 well, under the recommended basis and, of course, 1 to 1 on the 100% acreage basis, since the assumption was that all other factors about the two wells were equal.

Of course, it is quite obvious, I think, that the ratio of the reserves, or the ratio of the allowable, under the recommended formula of 222 to 1, is much closer to the ratio of reserves to 2 to 1 than is the 1 to 1 basis calculated under the present allocation formula. Actually, the 75, 25 basis was within about 10% of being directly, of the allowable being directly prorational to reserves.

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Q Now, with regard to the hypothetical case posed by Mr. Webb, I believe you, in your calculations, came up with a differential on the one thousand pound, two hundred pound cases of 67 to 1. Did you recalculate that?

A Yes, sir. I made a very large error in that calculation. As I recall, the assumption was similar to the one I just discussed, except that the pressures instead of being a thousand and five hundred, and with a thousand and two hundred in this case, all other factors about the two wells were equal, the question was, what was the relative reserves, and deliverability in the two wells under that example.

I testified that the ratio of reserve would be in proportion to the pressure, or 5 to 1, which is correct, and that the deliverability would be 67 to 1.

Now, I recalculated that, and that is in error. Actually, with an N-value of 1, the ratio of the deliverability would be 25 to 1, but using the 8/10th slope that I have recommended N-value it would be 13.2 to 1.

I have then made some calculations to show the effect of that disproportionately between reserves and deliverability on the allocation on the 75, 25 basis; the ratio of allowable would be 4.6 to 1 in favor of the thousand pound well on the 100% acreage basis, it would be 1 to 1 and, of course, it is obvious under the hypothesis

of these questions, that the 75, 25 which distributes 4.6 to 1, is much closer than the 5 to 1 reserve distribution than is the 1 to 1 basis here.

Although, I want to be sure that I am not creating a false impression that I'm claiming that the 75, 25 formula is near that percent in the Jalmat Field. It actually works out under this hypothetical situation to be a lot closer, I think, or somewhat closer probably than is reasonably possible in the field itself, although the formula that I have recommended is the best formula I have been able to devise to allocate allowables as near as possible to reserves in the Jalmat Field.

Q Now, in connection with the Jalmat Field, you testified on Cross-Examination that you have concluded from your studies in the Jalmat Field, that this formula would approach, at least, the protection of correlative rights, closer than the present formula, and you have also testified, I believe, in the Jalmat Field that there is a relationship of sorts between the deliverability and the gas reserves.

Would you please state generally and briefly, what studies you referred to in your answer to those questions. What type of studies?

A Yes, sir. I evaluated the reserves for all of the wells in the field for which I had pressure production trends that could be extrapolated in order to estimate reserves.

I found 265 wells with sufficient production history that I could estimate reserves on that basis. I had available back pressure tests on a little over 300 wells, where I had both the slope of the back pressure curve, and the open flow from which I could calculate the deliverability on the recommended basis of the flow against 80% of the shut-in pressure for each well.

I estimated the deliverability, or calculated it on that basis for approximately 300 wells.

Now, out of the 265 wells that I had reserve estimates on, and the 300 some odd wells that I had deliverability calculations on, there were about 226 wells that I had both deliverability results, and reserve estimates, and I have made comparisons between reserves and deliverability, employing that data.

Q Did you plot these on maps in the Jalmat Field?

A Yes, sir, I did plot that map.

Q Would you get out those plots, please.

MR. LAYTON WEBB: I would like the record to show which Mr. Webb's testimony he is disagreeing with.

(Marked Texas & Pacific's Exhibits 8 and 9, for identification.)

Q (By Mr. Campbell) Mr. Keller, I would refer you to what has been identified as Texas Pacific's Exhibit Number 8, and ask you to state to the Commission what that is.

A I have, on Exhibit Number 8, attempted to represent the

relative distribution of reserves in the Field, that I arrive at from the 265 wells that I was able to estimate reserves for by extrapolating pressure production information. The Exhibit Number 8 is a map of the Jalmat Gas Field area. I have taken the data on the 265 wells and arranged them in sequence of increasing reserves, that is, with the lowest reserves first, going up in ascending order of reserves to the highest.

I have then broken, or divided, those wells into four groups having an equal number of wells in quarters, so to speak. On that basis, I have found that the fourth of the wells having the poorest reserves all had reserves of less than 1.4 million, correction billion cubic feet per well. I have taken that poorest fourth and colored the acreage assigned to them on the map in dark blue; similarly for the second group of wells.

By that process, I found that the second best wells, the reserves vary from 1.4 billion per well, to 3.09, I have colored the acreage to these wells in light blue. The third group of wells being next to the best group, which have reserves ranging from 3.09 to 5.17, I have colored them in light red. For the best wells, which have reserves greater than 5.17 billion per well, I have colored this dark red.

The result is that the better than average reserve wells, the acreage assigned to them, is colored in red on the map. The best

half of the better half is in dark red, and the next to the best in light red. Conversely, with the less than average reserve wells are in blue, the poorest fourth of the wells being in dark blue, and the next to the poorest in light blue.

Q Will you refer to what has been identified as Texas Pacific's Exhibit Number 9, and state what that is, please, and explain it.

A Yes, sir. I have for each of the groups of wells, or each quarter, arranged in sequence of reserves, I have -- correction Exhibit Number 9 has been prepared by taking the 300 some odd wells that I have deliverabilities taken on, and arranging them in sequence of deliverability, starting with the lowest deliverability and going to the highest deliverability.

I have then divided those wells in fourths on a deliverability basis, and colored in the map on a deliverability map basis, in a similar fashion as I did on a reserve basis on Exhibit Number 8.

The result is that of these 300 wells, the wells that have less than average deliverability for the 300 are colored in blue; for the ones that have greater than average deliverability are in red. I have further broken down just as with reserves, the better wells into the dark red and light red quarters and the poor wells from a deliverability standpoint in a light blue and dark blue.

Q Now, based upon that study, what is your conclusion?

A Well, sir, as I tried to explain from Exhibit 7, it seemed

apparent to me that deliverability and reserves must be related in some fashion; that is, in general, the better the deliverability, the better the reserves, so I was attempting to testify that as applied to actual conditions in the Jalmat Field, and this was what I thought a reasonable method of analyzing to see if there was a correlation between the deliverability and reserves in general throughout the Field.

I found that there was a general correlation, and I believe it shows up in a comparison of the reserve distribution and the deliverability distribution illustrated in the manner I have just described on Exhibit Number 8, and 9.

For example, it will be noted that on Exhibit Number 8, in the vicinity of Township 23 South, Range 36 East, there is a large red area of high reserves which correlates roughly with a large red area on Exhibit Number 9 in the approximate same location, shewing the area of high deliverability. Similarly, we will notice that there is a high reserve and deliverability area indicated by the red in the north end of the Field, that there is a fringe around the edge of this red area, designating the high reserve area; of blue colored wells showing lower than average reserves, which roughly corresponds to a fringe of lower deliverability wells on Exhibit Number 9.

There is also a rough correlation between the reserve distribu-

tion in the south 30 or 40 percent of the field. Most of the wells down there are poorer than average reservewise with a few scattered better than average wells designated by red.

The same thing is true from a deliverability standpoint in the south end; most of them are lower in deliverability, with a few scattered wells of high deliverability. To my mind, this just illustrates that if you will take the actual data in the Jalmat Field, it is still true that good wells are usually good deliverability-wise, and reserve-wise, and conversely.

Q You can come on back down here now, please. You have stated numerous times that that relationship is not an exact relationship, have you not?

A Yes, sir.

Q First, will you state what your study reflected with regard to the ranges of difference in reserves and in deliverability in this field?

A Yes, sir. Let me say this, that as I previously testified, there were 226 wells that I had both deliverability and reserve data on the same wells, so the comparisons that I am about to give you are confined to those 226.

I find that the reserves per acre varied 90-fold among those 226 wells, for my minimum of 8/10ths to a maximum of 91 million per acre. Now, that reserve per acre figure is arrived at by taking

the estimated well reserves from the pressure production extrapolation and divided by the assigned acreage. The deliverability for those same wells varied from less than a hundred thousand per day to as much as about 19.4 million per day. That's a variation of 194.

Now, if we eliminate the extremes, both from a reserve and deliverability standpoint, and take - eliminate the lower 10% and the upper 10%, and just consider the 80% of the wells representing the bulk of them in the middle, then the reserves per acre vary from 5.6 to 48.1, or a variance of about 8.6-fold. The deliverabilities on that same basis of comparisons vary from 360 thousand cubic feet per day, to 6.4 million per day, or a variation of 18-fold.

Q Does that wide variation indicate further to you that the allocation of allowables on the basis of 100% acreage does not serve to protect correlative rights?

A Yes, sir, it very definitely does, because regardless, under the present allocation formula, the acreage that has a reserve of 73 million per acre gets the same allowable as the one that has less than one million per acre, so you have got a 73-fold variation, extreme variation, correction, 91 extreme variation in reserves, but the allowables are 1 to 1 per acre.

(Marked Texas Pacific's Exhibit Number 10, for identification.)

Q (By Mr. Campbell) Now, Mr. Keller, you have constantly

stated here that your testimony as to the relationship between deliverability and reserve is not as to an exact ratio or portion. I refer you to what has been identified as Texas Pacific's Exhibit Number 10, and ask you to state what that is, and what it illustrates.

A Exhibit Number 10 is a graph on which I have plotted the deliverability in terms of M.C.F. per day, against reserves, in terms of millions of cubic feet per acre, calculated as I have previously explained for the data from the 226 wells on which I have both reserve and deliverability estimates.

Q What does that reflect?

A Well, sir, it reflects that there is a general trend or statistical trend relationship between reserves and deliverability. It reflects what I have attempted several times to explain today that they are not in direct proportion to each other, but there is a very definite statistical trend, which says in general that increased reserves are accompanied by increased deliverabilities, and conversely. Not that one is the cause of the other, it is not a cause and effect relationship; it is just a general trend relationship, and it's illustrated by this trend in the grouping of the points.

To illustrate that trend a little more definitely, I have drawn a heavy dashed black line at this position on Exhibit Number 10, which is the Median of the data shown on this graph. It was

arrived at in this fashion: You will recall I arranged the data in reserve order sequence, starting with the lowest to the higher, and divided them into four groups of equal number of wells. I have plotted the average deliverability against the average reserves per acre, resulting from that arrangement, and division into quarters, into red triangles, and have drawn, as you see, and it is a very definite straight line trend of that average data.

I have then taken the same group of wells, arranged them in an increasing deliverability sequence, spaces, taken average reserves and average deliverability after breaking up into those four groups, and plotted that average data that is, deliverability and reserves in general.

You will see that they both show a relationship, the average data does run in a little different direction; it's on that basis that I have attempted to average the trend of all of the data with the dark blue line shown at this position on Exhibit 10.

Q Did this further substantiate your position that deliverability entering into the allocation formula in some manner will serve to protect correlative rights more than the present formula?

A Yes, sir, because it tends to distribute allowables in conformance with a general relationship between reserves and deliverability. The present formula assumes that the reserves per acre throughout the Field are constant. My data shows that the variation

in reserves per acre is up as much as 90-fold, so it seems quite obvious to me that the inclusion of the deliverability formula would tend to protect correlative rights more than straight acreage.

(Marked Texas Pacific's Exhibit Number 11, for identification.)

Q (By Mr. Campbell) Now, Mr. Keller, you have referred in your answer on cross-examination to the situation as to the Jalmat Field, particularly bearing out your proposal as to that Field. Have you made any comparison between these wells in the Field divided into fourths, as to reserves and the allowable under the present and the proposed formula?

A Yes, sir.

Q I refer you to what has been identified as Texas Pacific's Exhibit Number 11, and ask you to state what that is, and explain it, please.

A Yes, sir. I took the 226 wells on which I had both reserve and deliverability data, and as I previously explained, arranged them in sequence of increasing reserves and divided them into four groups, with an equal number of wells, and which I have designated as 1, 2, 3, and 4 on Exhibit Number 11.

The number of wells in each group is also shown on Exhibit Number 4, under each of the bars on the bar-graph. There were 57 in the number 1 group, 56, 57 and 56 which is as near as you can divide 226 into four equal groups.

Then I have taken and calculated the average reserves per acre for each group, which I have designated by a red bar on Exhibit Number 11, which ties into the scale on the left hand side of Exhibit Number 1, for example, considering group number 1, the red bar reaching up to this portion correlating over to the scale, shows that the average reserve per acre for that first group of wells is approximately 6.4 million cubic feet per acre.

Going on up to the best group of wells, the highest group of wells, the average reserves per acre for that group is 46.8 million cubic feet per acre. Now, for each of the groups, I have also calculated the average deliverability which I have illustrated by the green bar. The lowest group, the average deliverability is 1.027 million cubic feet per day; for the best group is about 4 million 577 cubic feet per day.

It will be noticed that when we divide the wells in this fashion, that it is just as one would expect, that in general the average, the fourth of the wells with the lowest reserves also have the lowest average deliverability, and that the two increase in the same direction, although not at the same rate, to where the highest reserve wells also have the highest deliverability, and as you recall, we also found out that they were distributed areally in that same type of relationship. Then I have, in addition, I have shown the relative allowable that each of these groups would receive under the recom-

mended formula, and under the present allocation formula.

Q What is the result of that?

A The result of that is shown for the 100% acreage formula now in effect is shown by the heavy dashed line running horizontally across Exhibit Number 11.

Now, I might explain that this relative allowable as between groups, is relative on an acreage basis, to the average allowable for all four groups, so since 100% acreage treats each acre uniformly, and the relative allowable in terms of allowable per acre, the relative allowable for each group is the same. It's constant, that is, depicted by this horizontal line that the distributional allowable on the average to these groups would be constant on the present formula.

I have calculated the relative allowable per acre by the way that is tied about the scale on the right hand side of the Exhibit 11 for the recommended formula. As shown, that formula results in assigning the group with the lowest reserves, and the lowest deliverability, the lowest allowable, which on the relative allowable scale is approximately 8.56% of the average per acre allowable for all four groups.

It also results in assigning the best wells reserve-wise and also which happen to be the best wells deliverability-wise, a higher than average allowable. In other words, the allowable distributien

as illustrated on Exhibit Number 11, more nearly follows the distribution of reserves under the 75,25 formula, than it does the distribution of reserves under 100% acreage, using all the data, data I have available to me on the actual reserves and deliverability in the Jalmat Field.

To my mind, it very definitely shows that the recommended formula will tend to distribute on the average the allowables more nearly in proportion to the reserves than does the 100% acreage formula. Actually, it might be criticised in that it doesn't go far enough in that direction. For example, considering the lowest reserve group with the highest reserve group, we find that the ratio of average reserves per acre, that is from 46.8 to 6.4, is about 7.3 to 1.

The ratio of the deliverabilities is less than that on the average. It's from 4577 to 1027, or 4.5 to 1. The allowable varies from the best group of wells from a relative allowable of 1.59 to about .564, or a variation of 2.8 to 1.

So in summary, the reserves, the average reserves for these groups varies about 7.3 to 1. The deliverability about 4.5 to 1, and the allowable under the recommended formula about 2.8 to 1, while on the 100% acreage, it would vary as 1 to 1, the allowable would.

MR. CAMPBELL: I would like to offer Texas Pacific's

Exhibits 8, 9, 10, and 11 into evidence.

MR. PORTER: Without objection, they will be admitted.

MR. CAMPBELL: That's all of the questions I have of this witness on Re-direct examination.

MR. PORTER: At this time, the hearing will recess until 1:30.

AFTERNOON SESSION - FRIDAY, NOVEMBER 15, 1957, 1:30 p.m.

MR. PORTER: The meeting will come to order, please. Mr. Campbell, I believe you have one more question?

RE-DIRECT EXAMINATION
Continued

BY MR. CAMPBELL:

Q The question has arisen, Mr. Keller, as to the point, if the Commission should see fit to include deliverability in the allocation formula for the Jalmat Field, what present basis would you use in arriving at the deliverability in the formula?

A Well, sir, I would recommend that each well in the Field be tested in accordance with the testing regulations included in the directive of the Commission dated March 15, 1954, and that the deliverability obtained from that test be corrected to the flow against 80% of each well's shut-in pressure, taken in conjunction with that test in accordance with the equations included in that March 15, 1954 directive.

MR. CAMPBELL: That's all.

MR. PORTER: Does anyone have a question of the witness?

Mr. Utz.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 17, 1957

IN THE MATTER OF:

Case 1327

TRANSCRIPT OF PROCEEDINGS

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 17, 1957

IN THE MATTER OF: CASE 1327

Application of Texas Pacific Coal and Oil Company for an order immediately terminating gas prorationing in the Jalmat Gas Pool; or in the alternative, revising the Special Pool Rules for the Jalmat Gas Pool in Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order immediately terminating gas prorationing in the Jalmat Gas Pool, or in the alternative, an order immediately cancelling all accumulated underproduction and redistributing such underproduction to overproduced wells in the Jalmat Gas Pool, and requiring gas purchasers to nominate a sufficient amount of gas from the pool 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 the Commission to issue such further order or orders as will bring the pool immediately into balance and maintain such balance without waste and without abuse of applicant's or others' correlative rights.

BEFORE:

Mr. A. L. Porter
Mr. Murray Morgan
Honorable Edwin L. Mechem

TRANSCRIPT OF PROCEEDINGS:

MR. PORTER: The meeting will come to order. We will proceed with Case 1327.

MR. COOLEY: Case 1327: Application of Texas Pacific Coal and Oil Company for an order immediately terminating gas prorationing in the Jalmat Gas Pool; or in the alternative, revising the

Special Pool Rules for the Jalmat Gas Pool in Lea County, New Mexico.

MR. CAMPBELL: If the Commission please, I am Jack M. Campbell, Campbell and Russell, Roswell, New Mexico, appearing on behalf of the applicant. I would like, before swearing in the two witnesses that we want to present today, to make a statement concerning the position of Texas Pacific Coal and Oil Company in this matter.

At the time of the inception of gas prorationing in New Mexico, we expressed considerable misgivings as to the effect of gas prorationing upon producers and royalty owners of gas properties. One of our principal concerns involved the effect on the minimum take provisions of gas contracts. The Commission properly felt, and perhaps rightly felt this was a matter between the producer and purchaser; nevertheless, we would not be presenting our entire position if it were not that this continues to plague us and that it will also seriously effect other operators in this pool. What we prefer to do is to sell gas under the contracts which we have, and gas which our gas purchaser apparently wants to buy, but apparently cannot because of the system of gas prorationing as it has been operated. In order to conduct our operations and develop new properties, we need to have some reasonable stability of income. That was the obvious reason for the minimum take provisions of our contracts.

Our first request is that gas prorationing be terminated in

the Jalmat Pool. That seems to some to be a drastic request, but we base it upon two propositions: First, the reason for gas prorationing no longer exists. At the inception of the program, it appeared that Permian Basin Pipeline Company was going to be a considerable factor in the New Mexico gas market picture. That has not been and apparently will not be the case in the foreseeable future. The recently publicly announced gas purchase contract between El Paso and Permian bears this out. Under that contract, El Paso states it has a market demand in excess of the gas it can get, and Permian concedes it has gas for which it has no market. To us this effectively eliminates any true competitive condition which could have led to non-ratable taking, and permits El Paso to meet its market requirements with Permian gas reserves. In the Jalmat Pool this lack of competitive purchasing is even more apparent. Our evidence will show that El Paso purchases eighty-five percent of the production, and we feel it gets almost all of Permian's gas through exchange or under the contract I have previously referred to. The second reason we will present as a basis for termination of gas prorationing is that the system has worked only to penalize the properties with good reserves and restricted the only purchaser in its efforts to meet market demand. This is particularly true in view of the fact that acceding to Permian's plea that they were developing a market which has not materialized, the Commission has failed to balance out production at the end of each prorationing period, as provided in the Rules. The system as it now operates benefits no one. It certainly doesn't

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benefit the producer; it doesn't benefit the royalty owner; and it utterly fails to protect, we feel, our correlative rights, and fails to enable us to obtain our fair share of the gas in the reservoir.

If the Commission should agree with us that gas prorationing should be abolished, then we believe prompt action should be taken to alleviate a critical situation, a situation critical to all producers, to the purchaser, and to the State from a royalty and revenue viewpoint. We intend to point out to the Commission at this hearing some of the conditions which now exist in the Jalmat Pool, and show the Commission that this is not just a problem of Texas Pacific Coal and Oil Company, not just a have your cake and eat it application, as some have implied. It effects all operators in the Pool, it effects the gas purchaser in the Pool, and it effects the State of New Mexico as a royalty owner and from a revenue viewpoint. Today we will offer evidence showing the present conditions as to the entire Pool and as between representative units within the Pool which we believe have created this critical situation.

To remedy or at least alleviate the situation, we will make the following proposals: (1) That the Commission cancel and remove from current accumulated underage all of that which had accrued to June 30, 1956, and had not been made up January 1, 1957, the six-month makeup period; also cancel the underage that had accrued January 1, 1957, and was not made up by June 30, 1957; of course, under the Rules, redistribute this to the non-marginal units in the

Pool. We don't believe that anyone could complain as to the effect of this. It would simply be the Commission carrying into effect the Rules as the Commission originally established them. All parties had the opportunity during the makeup period to make up the underage that had accrued during that time. We do not propose to affect underage which may have occurred during a period when there has not been an opportunity to make up that underage.

Second, that the Commission continue its efforts to realistically reclassify marginal wells in the Pool with the resultant redistribution of underproduction from those wells to all non-marginal units in the Pool; and, third, that the Commission include deliverability in the allocation formula in this Pool upon a basis which we will present today. Fourth, that the Commission establish a maximum take from any unit in the Pool to prevent an excessive overproduction.

We realize that this application affects a number of other operators in the Pool, that our views and recommendations today may require analysis by them in the light of their own situation. We are, therefore, at the end of this presentation of ours, and at the end of any cross examination anyone may wish to undertake, going to request a continuation of this case to the regular November Statewide hearing, to permit us and any other interested party to put on any additional testimony or evidence into the case relating to the matter. We will have the witnesses that appear today for the applicant present at the November hearing, should the Commission decide to continue the case, and they

will be available for cross examination at that time. We are continuing a diligent study developing our own proposals in detail and attempting to determine if State laws have or are being violated.

We are also analyzing the operation of the prorationing system with regard to the relationship of gas takes as between different areas within the State of New Mexico.

With that preliminary statement, I would like to ask that two witnesses, Mr. Martin and Mr. Keller, be sworn on behalf of the applicant.

(Witnesses sworn.)

MR. CAMPBELL: Mr. Martin, will you please take the chair here?

M. F. MARTIN

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

DIRECT EXAMINATION

By MR. CAMPBELL:

Q Will you state your name, please?

A M. F. Martin.

Q By whom are you employed, Mr. Martin?

A Employed by Texas Pacific Coal and Oil Company during the past thirty-one years.

Q What is your present position with that company?

A During the past twenty years I am employed as chief accountant.

Q As chief accountant, what are your duties with Texas Pacific

Coal and Oil Company?

A One of my principal duties is to supervise the preparation of certain analytical data in verifying the correctness of income derived by Texas Pacific Coal and Oil Company from the sale of oil and gas.

Q Does your office maintain records and custody of records of your company relating to the production from your properties and the income as a result of that production?

A All records are maintained in our general office at Fort Worth.

Q Mr. Martin, have you had occasion to study the operation of gas proration in the Jalmat Gas Pool in Lea County, New Mexico?

A Yes, I have.

Q What records have you studied, generally?

A Well, studied the monthly gas proration reports put out by the Oil Conservation Commission, and have made considerable study of the Commission records here in Santa Fe.

Q Have you also studied the records of Texas Pacific Coal and Oil Company since the inception of gas proration in this Pool?

A That is true, that is in the regular course of our verification of income.

Q Have you studied, not only as it affects your company, but as it affects producers in the Jalmat Pool?

A This study has been on a Pool-wide basis, naturally, to determine our relationship with other producers in the field.

Q What is the total number of gas units in the Jalmat Gas Pool, as of January 1, 1957?

A Pool contains 367 units December 31, 1956.

Q And how many of those units were marginal and how many non-marginal?

A 24 marginal, and 343 non-marginal.

Q And of all of the units in the field, how many units are actually owned and operated by Texas Pacific Coal and Oil Company?

A Texas Pacific Coal owns 48 and a fraction units.

Q Who are the purchasers in the Jalmat Pool at the present time?

A Well, actually there's only one purchaser, El Paso Natural Gas Company, having connections to eighty-five percent of the units.

Q What other minimal purchasers are there in the field?

A Pennzoil has approximately ten percent of the units, but it's my understanding that through this gas exchange, El Paso is actually ultimately the purchaser of practically ninety-five percent of the output of the field.

Q Mr. Martin, have you familiarized yourself with the present method of allocating gas production in the Jalmat Pool?

A I have.

Q I hand you, Mr. Martin, the Lea County gas proration schedule of the New Mexico Oil Conservation Commission for October, 1957, which is, of course, a part of the records of the Commission. I ask you to explain to the Commission by reference to it how the

Pool-wide allowable is arrived at in the Jalmat Pool, according to your understanding?

A Well, for the month of October, the purchasers nominated a market demand in the Jalmat Pool of eight billion three hundred seventy-five million cubic feet. However, this was not the amount of allowable that was applied to the units in the field, due to the fact that during the month of August, the allowable having been set at six billion six hundred million and the actual production being only four billion one hundred ninety-nine million, the October nomination was reduced to the extent of in excess of two billion cubic feet of gas, so that although the purchasers manifested a market demand of eight billion cubic feet of gas, the ultimate allowable placed on the books and credited to the individual non-exempt units was on the basis of only six billion three hundred million, or approximately seventy-five percent of the purchasers market demand.

Q As I understand you, then, the allowable for October was adjusted back to the actual takes of the purchaser for August, two months previous, is that correct?

A That is true. The excess nominations by the purchasers in August were adjusted to his actual production for August, which created a reduction of the current allowable by approximately twenty-five percent.

Q Is it correct, then, that the ultimate Pool-wide allowable, except for the two-month lag period, is determined essentially by

the takes of the purchaser?

A That's true.

(Texas Pacific's Exhibit No. 1 marked for identification.)

Q Now, I refer you, Mr. Martin, to what has been marked Texas Pacific Exhibit No. 1 and ask you to state what it is.

A Exhibit 1 is merely a breakdown of the production of the Jalmat Pool for the year 1956 as to producers and ownership of the units and the actual production of eighty-five billion during the year 1956.

Q Was that statistical analysis indicated on Texas Pacific Exhibit 1 prepared by you on the basis of the records that you ascertained to?

A That is correct.

Q Referring to that exhibit, will you please state to the Commission what you consider to be the pertinent determinations made by the tabulations on it?

A Well, it indicates that out of the three hundred forty-three non-marginal units in the field, that one hundred seventy-seven, or fifty-two percent of the units for the year 1956, ended up in an unprorationed status; in other words, the allowable for a unit for the year 1956 totalled two hundred forty-five million cubic feet of gas. The actual production of these one hundred seventy-seven non-marginal units was at the rate of one hundred eighty-three, or approximately sixty million cubic feet under the pool allowable. Then we moved to the hundred sixty-five remaining non-marginal units, which were produced at the rate of three hundred four million per unit, or

an overproduction of approximately sixty million per unit.

Q That three hundred four million is an average of all of the overproduced units in the field?

A That is true. It's an average.

Q With regard to that forty-eight percent of the units which are overproduced in the field, is that confined to any that were overproduced as of December 31, 1956; are there any particular producers in that field that are involved, or are most of them involved in the over production?

A Twenty-six producers, which is primarily all the producers in the field, except a few producers with half units or quarter units, a very small percentage. Other than that, it's a condition that exists for practically every producer in the field.

Q What is the range of overproduction, generally, as between these units?

A Well, it ranges from approximately about two hundred sixty million to a top of three hundred fifty-one million.

Q Are there other producers in the field with units with an average overproduction in excess of those of Texas Pacific Coal and Oil Company?

A Yes, there's a number of them. Texas Pacific's overproduction is pretty well in line with the rest of the field. For example, here is Texas Pacific, thirty-one units that were overproduced at the rate of three hundred sixteen million, whereas the Western Natural Gas Company had twenty-six units overproduced at the rate

of three hundred twelve million. Ohio Oil Company had three and three-quarters units overproduced at the rate of three hundred fifty-six million. Tidewater Oil Company, three and a half units, rate of three hundred fifty-one million. You can go on through the list and get up here to Continental Oil Company, had twenty-five and a half units overproduced two hundred ninety-seven.

Q Then this matter is a Pool-wide matter affecting most operators in the Pool and not just a problem of Texas Pacific?

A That is very definite. All wells had an equal chance to produce, and it just seems that the better wells resulted in a little more overproduction.

Q Referring further to that exhibit and the statistical computation, Mr. Martin, I notice that reflects as an accumulated underproduction as of December 31, 1956, of eleven billion cubic feet. Will you state what that consists of?

A Well, that really consists of the underproduction that is accrued in the field and hasn't been adjusted since the inception of prorationing January 1st, 1954. It's really a three-year accumulation of underproduction. There has been some cancellation, but this remaining eleven billion is the underproduction of three years.

Q To your knowledge has some of that underproduction been cancelled by reclassification of wells since January 1st, 1957?

A Yes, as of June 30, 1957, approximately four billion of this was removed from the schedule by reclassification of wells to

marginal status, and some reallocation of allowable.

Q Of the remaining seven billion cubic feet, what accumulations of underproduction specifically could you refer to, in that remaining seven billion cubic feet?

A Well, the seven billion cubic feet represents or includes, I should say, three billion six hundred million of underproduction as of June 30, 1986, which was subject to cancellation December 31, 1986. It also includes an additional two billion one hundred million of underproduction during the last proration period of 1986, which was subject to cancellation as of June 30, 1987, or a total of five billion seven hundred million of the seven billion that, in accordance with the rules of the Commission, should have been removed from the schedule and automatically redistributed.

Q If that underproduction which accrued and the balancing period expired but it was not cancelled during these two periods, the five billion seven hundred million cubic feet had been cancelled and redistributed to the non-marginal units in the Pool, what would have been the effect on each unit?

A Well, each non-marginal unit in the field would have received an additional allowable of approximately sixteen million cubic feet per unit.

Q Would that, Mr. Martin, in your opinion have alleviated the critical condition that we have indicated exists at the present time in this Pool?

A That's true, this one hundred sixty-five overproduced units,

it's easy to see they were overproduced at the rate of an average of sixty million, If they received an additional allowable of sixteen million, they would have been in a better condition to be brought into balance during subsequent periods.

(Texas Pacific's Exhibit No. 2 marked for identification.)

Q Mr. Martin, I would like to refer you to the graph on the wall which appears on the left up there. It has been marked as Texas Pacific's Exhibit No. 2. Will you please explain to the Commission what that graph represents?

A Well, this graph represents a breakdown in the operation of the Jalmat Pool during three proration periods: the first six months of 1956, the last six months, the first six months of '57, with the orange bar line across indicating the allowable assigned to the Pool during each month of this proration period. The red line represents the Pool status at the end of each month as to overproduction or underproduction. The bottom portion of the graph shows the green column, green bar representing the nominations of the purchaser. The yellow bar representing the actual production for the month. That goes right across through the eighteen-month period, the three proration periods.

Q The Exhibit No. 2 is an exhibit reflecting Pool-wide conditions, is it not?

A That is correct.

Q You have shown on that only the three proration periods of

the first and second halves of 1956 and the first half of 1957. Did you make a similar study and analysis with reference to the proration periods from the beginning of prorationing to the first six months of 1956?

A Yes. A similar study was made of four proration periods prior to this, or years '54, '55.

Q I note that the Pool-wide condition as shown by the red line on your upper portion of your graph for the proration period consisting of the first six months of 1956, at the end of December the Pool appears to be in reasonable balance. Was that condition generally present in all of the other preceding proration periods?

A You have reference to the end of June?

A June, 1956, excuse me.

A That is true. The Pool came into the proration period practically balanced, overproduction accumulated at the end of February was modified slightly in March, went back to an underproduction status in April, and came down to June practically in balance, a [illegible] million cubic feet being the net Pool status. That was brought about by the fact it came in in balance and during these six months proration period, the purchasers nominations were forty billion cubic feet; their actual production was forty billion cubic feet of gas, so they kept the thing in balance and they asked for a right to produce forty billion, and they produced forty billion, so actually the Pool remained in balance as it was the first of the period.

Q With regard again to the first period of 1956 which you say is essentially the same as the prior proration period?

A That is exactly true, during the two years beyond this, two years prior, the Pool was essentially in balance during the entire two-year period.

Q Now will you, in connection with that particular proration period consisting of the first six months of 1956, indicate by reference to the lower portion of the graph or the nominations and production, indicate how that was maintained so that it came out at the end of the proration period in reasonable balance Pool-wide?

A Well, that is the figure I quoted. The nominations. If you notice the month of January, the purchasers nominations were seven billion two hundred millions; their actual production was six billion four. The next month, February, nominated five eight, but produced nine four. Well, subsequent months, they increased their nominations to where they would exceed their actual production and kept the Pool in balance to where by the end of the period that they had nominated forty billion and purchased forty billion, so that the Pool naturally stayed on an even keel it came into the period with.

Q Now refer, Mr. Nutter, to the last six months of 1956, which is the middle portion of the graph and the second proration period that you have referred to. Discuss what apparently occurred during that proration period.

A Well, that can be explained this way. It should be noted

that during the first period, the fluctuation, one month the purchasers nominations would exceed the actual production and vice versa throughout the Pool. However, the following second six-month period of the year, the second proration period, the six months in a row, the production exceeded the purchasers nominations. In other words, there was a departure from the system of keeping the realistic balance between nominations and production. For instance, the month of July, the purchasers nominated five and a half billion but a summer month, purchased eight billion the following month, nominated six billion, purchased eight and a half billion but did not supplement the nominations to where that at the end of the six-month period the nominations by the purchaser were thirty-four billion cubic feet of gas but the actual production was forty-five billion.

Q Will you refer, with that in mind, to the upper portion of the graph, and show what occurred as a result of the actual purchases ~~during~~ that proration period exceeding the nominations consistently?

A Well, as you can see, there has to be a direct relationship between Pool balance and purchasers nominations and production. The overproduction or the underproduced status of a Pool is determined by the in balance between nominations and production due to the July that the purchaser nominating five and a half billion, producing at the rate of eight billion caused this Pool to go from apparent underproduction status to an overproduction status. The thing continued all through the period. In other words, the only

way this line could be brought back upstairs was for the purchasers to have increased their nominations to offset their previous production.

Q So what was the net condition at the end of December, 1956, the end of that proration period Pool-wide?

A Well, Pool-wide, into 1956, two billion eighty million overproduced.

Q In view of your previous testimony that the allowable is adjusted back to the actual taken two months previously, wouldn't that adjust itself without any particular harm to the producers in the field?

A Well, that is not entirely correct. It will adjust itself, there isn't any question, regardless of what the purchaser nominates, his actual production, he is granted subsequent allowable, additional allowable two months later if his production exceeds his nomination, but there is a two-month lag in there to where at the end of this proration period, this Pool was overproduced two billion eight hundred million, due to the fact that during the months of November and December, that the purchasers nominations were less than his actual production by the greater portion of this, better than two billion of it.

Q What is the effect of that, moving into the next proration period?

A Well, that has the effect of denying, at the end of a proration period or at the end of a balancing period, denying the same

marginal units in the field additional allowable; in other words, this two billion eight hundred million, had it been properly nominated, would have granted every non-marginal unit at the end of a balancing period an additional allowable.

Q Now, Mr. Martin, referring further to the last proration period shown on Exhibit No. 2, which is the first six months of 1957, will you discuss what apparently has occurred during that proration period, as compared to the prior two periods?

A Well, the reverse condition existed. You remember during the middle period the production exceeded nominations consistently to where the production was twenty-five percent greater than nominations during that period, but during the first six months of 1957 each month the nominations have consistently been in excess of the production, to where at the end of the six-month period nominations were thirty-six billion, production only twenty-seven.

Q So that in order to compensate for the condition during the second period shown on that Exhibit No. 2, a reverse approach was taken in an attempt to get the field back in balance, is that correct?

A Apparently that's true.

Q Will you indicate what the condition was apparently in the Pool from that analysis at the end of the proration period ending June 30, 1957?

A You notice due to granting of the supplemental allowables in January and February, due to discrepancy of the production in the last two months of the preceding period, the Pool came from over-

produced status to an underproduced, and stayed that way clear up to the end of May. The Pool shows an apparent balance at the end of June, but that was brought about mainly by the cancellation of a four billion allowable as of June 30th previously referred to, due to reclassification of wells and redistribution of certain allowables.

Q Now we have been discussing to this point the Pool-wide conditions with reference to the balance of production of gas. Does the Pool balance necessarily reflect the true situation as between individual gas units within the Pool?

A No, when you get back down to an individual well basis, it is entirely a different picture, due to the lack of balance between individual wells.

(Texas Pacific's Exhibit No. 3 marked for identification.)

Q Refer now to a graph on the wall, at the top of the right-hand portion of the exhibit there, I think it is identified as Texas Pacific's Exhibit 3, and state what that represents.

A Well, that represents the exhibit of the three proration periods, the same periods covered on a Pool-wide basis. In other words, two periods of '56 and the first period of '57, this being on an individual well basis. This particular well being Continental Oil Company Lynx B-26.

Q What does that reflect with regard to the balancing or lack of balancing of that particular unit within the Pool during the

first six months of 1956?

A Well, it's hard to see from where you are sitting, but the double red line represents the purchaser nominations; the green bar represents the ultimate allowable that was finally granted; the yellow bar represents the actual production; the red line represents the status of the well at the end of each month as to over production or underproduction. In this case it is all overproduction. You'll note this well came into the proration period with an overproduction of twenty-three million cubic feet of gas. During the month of January, the allowable was eighteen million, the production twenty-five, built it up to an overproduced status of thirty million. However, in February the allowable was eighteen million but was produced total of ninety million, so that the well jumps from an overproduced status of thirty million to one hundred two million, and the following month reduced to ninety-six; then you will notice a period of several months here of the allowables being greatly in excess of production, the well was practically shut in in April, small production in May and June, to where that this overproduction dropped down to where ever out of the proration period, forty-six million overproduced.

Q That overproduction was carried into the next proration period?

A Yes, that's right. Had the rules been in effect, it would have had coming in here this twenty-three million of overproduction, coming into the period would have had to be straightened out prior

to this time where the well could have been shut in.

Q Was the condition at the end of the first six months of 1956 due primarily to the requirements of large takes in February of 1956?

A Well, that's true, that is what put this well in this condition is this abnormally large take during the month of February.

Q Will you proceed along that line, the history of that well, and indicate what then occurred in the next six-month period?

A Well, going into the period with forty-six million overproduced, it built up to July to fifty-three; then in August, summer month, the allowable of fourteen million but the actual production from this well was eighty-two million, which built this thing from an overproduced status of fifty-three to one hundred twenty-one. Then the following month, in September it produced one hundred nine, down in October to one hundred one, completely shut in in November, down to eighty-three -- remember all this was pretty well eliminated by the fact that in December this well had an allowable of twenty-five, produced ninety-five, so it's back up, goes out of this proration period a hundred fifty-two million overproduced.

Q That overproduction, then, under the rules would have to be balanced by shutin during the last proration period shown on the graph?

A It would have to be straightened out by June 30, 1957.

Q All right, now refer to that last proration period between January and July of 1957, and indicate what was done, apparently.

by the purchaser to attempt to get that well back into balance.

A Well, you can see, readily see here that the nominations were somewhat lower than during the previous periods, but that the production was practically negligible where it was brought down from an overproduced status of one hundred fifty-two to ninety-three.

Q Now, what was the total production in the proration period, the last proration period shown there as related to the prior proration period?

A Well, during the last period of 1956 this well produced two hundred thirty-one million cubic feet of gas; in the ensuing seven months, the first period of '57, it produced only thirty-four million, approximately, oh, say thirteen percent, something like that.

Q What was the approximate reduction percentage-wise in the overproduced condition of that well?

A Well, it was brought down, it was reduced from one hundred fifty-two to ninety-three, reduced about forty percent.

Q So that despite the fact production was reduced some eighty-five percent, the condition of the well in a balanced situation was reduced only forty percent?

A That's true.

Q Why was it not decreased to a greater extent insofar as the condition of the balance of that well is concerned by that drastic cutback in production?

A Well, there are several things that enter into it. One of

the major items, we will note that the well in the first proration period of 1956 received an allowable of one hundred twenty million, the last period, one hundred twenty-five million, but only ninety-one million in the first proration period of '57. This brought about a difference between ninety-one and one hundred twenty-five of approximately thirty-five million, by the fact that due to the low production during this period, resulted in subsequent reduction of allowables to where, although the purchasers gross nominations were high, that due to underproduction from this well standpoint and a Pool standpoint, as explained over here, when they are produced only twenty-seven billion this period compared to forty-five here and forty over in the previous period, that this well had a reduction in allowable of thirty-five million. As we discussed previously, the period in this field is the five billion seven hundred million we are talking about, had that been applied, another one hundred sixteen million would have been credited to the wells, where the well status at the end of June, 1957, would have been approximately half; instead of being ninety-three million overproduced, it would have been out forty-five million, had these things occurred.

Q Do you say that the 116,000,000 was due to the failure to cancel the underproduction?

A That's right. That is the underproduction that had occurred in the Pool-wide standpoint as of June 30, 1956, to three billion six hundred million as was not cancelled in December and additional two billion one hundred million underproduction occurred during this

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period and not cancelled here.

Q That aggravated the situation as to that well during the first six months of 1957?

A That is true, because any cancellation of underproduction due to inability to produce is automatically reallocated to non-marginal wells in the Pool. What effect it has, it doesn't only give the overproduced wells that supplemental allowable, but gives the underproduced wells an equal allowable, if they can't produce it, they lose it in a subsequent period.

Q Due to the fact, as you have testified, the ultimate allowable is dependent on the actual takes of the purchaser considering the twelve month long period, the reduction of takes materially slows down producing any well into balance for that very reason?

A That is true. That is pretty well exemplified here. Say a well is in bad condition due to low takes by a purchaser, the allowable assigned to each non-marginal unit for this year was only eight million, in eighty-seven, it is easy to see that a well that will produce ~~ninety-three~~ million, how long it is going to take with this kind of allowable due to underproduction to ever get back in balance.

Q Make an assumption here, using the first graph here of an individual unit, let's assume that that well, in compliance with the rules, had been shut in in relation to the one hundred fifty million some-odd overproduction at the beginning of that proration period, which was the amount that would have to be made up during

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the following period?

A That's right.

Q By shutin?

A That's right.

Q Would you state what conceivably could occur in that situation or what could occur at a later date, say in January or February of 1956 with the operation of this system working against wells which have been overproduced to an extent such as that?

A Well, I might state that this well is one of the one hundred sixty-five that we show on Exhibit No. 1 overproduced at the end of 1954.

Q Is that a representative well of those one hundred sixty-five?

A It is, the three here we have prepared and could prepare a number of charts comparable to this, some not quite as severe and some more so. It is rather representative of the large fluctuation in production which creates this condition.

Q What could occur under that kind of a situation?

A Well --

Q In regard to the whole Pool?

A If this condition like this continues the rest of the year, during July, August, September, it hasn't been improved a great deal, it's quite reasonable that a large portion of the one hundred sixty-five wells that are overproduced as of December 31st and which represent some of our best wells in the field, by enforcement of the Commission regulations will be shutin, but which these wells

are shutin, the allowable the purchaser is going to nominate for an allowable for the months of January, February, March, 1958, but he is not going to be able to get the gas because some of the best wells are shutin. As a result, those wells, the allowables for subsequent months, due to underproduction, if the purchaser requests seven billion, we will say, in January, and is only able to produce four, then when March comes along, the balancing time, he loses the three to where it is quite possible that the better wells that are overproduced could just be shutin indefinitely.

Q If the better wells in this pool were shutin in that situation, and the nominations of the purchasers during the winter months beginning the first of the year were naturally high, as we would assume they would be as indicated by those charts --

A Right.

Q -- and the other wells in the field were unable to make those allowables and accumulate additional underproduction, what would the effect of that be?

A It is quite reasonable to believe that along about March or April next year this Pool would end up with a negligible or a minimum low allowable comparable to June of this year.

Q Is that due to the working of the system against the wells from which the purchasers must take his gas?

A It is due to the fact of not keeping wells in balance within individual wells and not nominating realistically to where we can, out of this proration period, come out in balance. Like the

condition that existed for the first two years of proration.

(Texas Pacific's Exhibits Nos. 4 and 5 marked for identification.)

Q Mr. Martin, you have two other representations there of individual wells that have been marked Texas Pacific Exhibit 4 and Texas Pacific Exhibit 5, which you have said are based upon the same type of analysis. Will you refer to No. 4 and state what it is and show any particular points of difference or additional points that you have not made on the Exhibit No. 3; and do the same then with Exhibit No. 5, please.

A Well, it should be noted on No. 4 that this well came in practically in balance, came into the first proration period of '56, but January it had an allowable of eighteen million, produced eighty-five million; the following month it followed with eighteen million allowable, produced eighty-three million, went from a balanced condition the first day of the year, in sixty days or a two-months period, balanced condition to one hundred thirty-one million overproduced, by those large takes two months in a row. Then you will note that the well, other than this month here, for one, two, three, four months practically was shut in, and it went out of proration period June 30, 1956, overproduced seventy-two million, compared to coming in in balance. Then it was further improved by shutin July, practically shutin August, cut it down to forty-two million, overproduced, but September allowable twenty-five, production forty-three; October allowable twenty-one, production

seventy-four; November allowable seventeen, production fifty; so that we find at the end of November, up one hundred forty-four million overproduced. Here it is going out of the proration period, December production was held back, and it went out of the period though, one hundred thirty-four million overproduced.

Q At that point let me ask you this. Compare the takes of these two wells which are apparently wells capable of producing sizeable amounts of gas, is there an apparent correlary between the months of the proration period during which high takes were made from these two wells?

A There is in the month of February. This one, and even this one. February, but in January this well was produced twenty-five million and this one eighty-five, and this one fifty-three.

Q I am referring particularly to the middle proration period and as between Exhibits 3 and 4.

A In August this well produced eighty-two, whereas this well produced only three million, was overproduced fifty-four million going into the month of August, but this well was overproduced forty-five million. This well produced eighty-two million and was brought into this bad condition; this well remained shutin.

Q Are there other examples of that type of situation in the studies that you have made of the units in this Pool?

A That is true. It is hard to draw any correlation between individual wells, due to the large fluctuation between them. Individual wells, as to months, summer months, one produced high,

one produced low.

Q Is there any other particular reference you wish to make in connection with your discussion of this individual well unit situation on any of the Exhibits, 3, 4, or 5?

A Well, briefly --

Q Which well is No. 5?

A It is Western Natural Gas Company Blinebry 2-D. That well came into the proration picture practically in balance. Due to excessive takes in January and February went into a bad condition, due to shutins came back to seventy million overproduced at the end of the first period, got down to sixty-two in October, but in October it produced seventy-seven, resulting in one hundred seventeen million overproduction. This was further increased to one hundred forty-four in November, so that it went out of the period one hundred forty-four million--one hundred forty million overproduced. It should be noted then that this well has been cut back considerably; produced the first six months of '56 one hundred eighty-six, the last six months one hundred ninety-four million, down to seventy-five here, due to the production having been cut nearly two-thirds, due to the low allowables granted; due to the low production Pool-wise during this first proration period of '57, the position of this well was only improved from one hundred forty overproduction to one hundred twenty-one million at the end of a six-months period. With a well like that, that's a rather impossible situation.

Q You can't see within the reasonable foreseeable period of

time that well could be in any condition other than shut in, if the rules were enforced?

A No, except the low allowables are going on, the allowable for July and August particularly were very low due to underproduction, in August and September, subsequent cancellation of previous allowables, this condition permits very little improvement to be made in any of the wells in this category between now and the end of the year.

Q All right, Mr. Martin, will you come down here now, please?

MR. CAMPBELL: If the Commission please, my attention has been called to one error in Texas Pacific Exhibit No. 1. If you will note the analysis of Gulf Oil Corporation wells and follow that across to the last computation, which is 1,106,046, the brackets surrounding that particular figure should be removed.

A Because it has a net underproduction rather than over.

Q Mr. Martin, I refer you to what has been identified as Texas Pacific Exhibit No. 6 and ask you to state what that is.

A Well, this is merely a photostat copy of orifice meter charts placed on two Texas Pacific Coal and Oil Company wells during the month of February, 1956, to measure the gas sold, purchased by El Paso Natural. These are El Paso Natural Gas Company, the purchaser's charts, which were sent to us for examination, and these are merely the photostatic copies of same.

Q You returned the original charts, I assume?

A That's right, after the inspection they were returned to

the purchaser.

Q This exhibit does not refer to the identification of the wells that are involved in these particular charts?

A Yes, the back side of the chart.

Q I mean this exhibit you have in front of you.

A No, you are correct, that's right.

Q Will you refer to that exhibit and state -- first let me ask you this, do you make the studies and analyses of the charts that come in to the Texas Pacific Coal and Oil Company offices?

A That is true, under my supervision we analyze and study the charts every month when they're sent to us.

Q What do these charts generally show?

A Well, most instances the charts, various companies, some companies naturally do a better job of measurement than others, but these charts here show one thing, that Texas Pacific Coal and Oil Company lost money and that the royalty owner, who happens to be the State of New Mexico, lost money. For one reason, during this month when excessive takes were made from these wells, these charts, you notice there are four for the monthly period, they are eight-day charts. This well was put on here, on the first day, the well was shut in, remained shut in during the first part of the second day, the well was then turned into the line. It immediately went out of range.

Q What do you mean by that?

A Well, by that, each orifice meter has an orifice plate in

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it in the line, a certain size orifice which is supposed to measure the gas that passes during a given period, whether it is daily or eight days in this case, so that an integrator is run over this and the volume of gas that has been delivered to the purchaser is ascertained, but the integrator naturally can only operate within the range of the chart.

Q So that as to that well, the amount of production taken was beyond the measurement capabilities of the chart?

A That is true.

Q That is true of the other well at all?

A That is true of this well for, in other words, the second day this condition started and it was allowed to stay in that condition until the chart was removed on the eighth day. In other words, for six days in a row, this chart produced gas in excess of measurement and following the same well on a subsequent chart on the fourth day went out of range, stayed out of range until it was removed on the eighth day. Another four days where the production was in excess of the capacity of measurement. On this other well, the same period, the well went out of range on the third day, stayed out of range till noon on the seventh day.

Q There's no way, I assume, of telling actually how far that went?

A No, sir, it so happens that it takes a good well for this to happen, but in a field of high pressure gas and good wells, a condition like this exists, you couldn't even guess how much gas

passed beyond this chart range.

Q Mr. Martin, you have stated in your testimony that there could be certain effects of this condition that has resulted in the overproduced status of individual units in this Pool at the end of the proration period ending June 30, 1957, and that that condition is not going to be improved materially under the present system as of December 31, 1957. Do you believe that there are any steps which the Commission could take to alleviate this situation, immediate steps?

A Why, yes, I think that if the Commission is agreeable to an immediate cancellation of the five billion seven hundred million in the present schedules, that accrued prior to June 30, 1957, with the resultant redistribution of the same to overproduced wells, the distribution being across the board, and then a realistic reclassification of any other wells in the schedule that should be marginal, also, this condition of overproduction at the end of a proration period has existed on Exhibit No. 2 at the end of 1956 could be minimized and practically eliminated, if the purchasers could be requested to go back to the way that they used to do it. In other words, for two and a half years, since the beginning of proration up to June 30, 1956, they kept it in balance, they kept it in balance by making their nominations and their production equalize; they realistically nominated. If they were going to have a high production, they anticipated to where you do not go out of a proration period with excessive imbalance of the Pool resulting in

insufficient allowables to the overproduced wells, and as I said before, also to the underproduced wells. In other words, two and a half year history shows that it is possible to keep the Pool within balance from a Pool-wide status. Those three things would materially improve the situation.

Q Do you believe that some sort of a maximum take provision would help eliminate the high peaks on some individual unit wells and eliminate the situation that apparently arose from the taking of a sizeable amount of gas from individual well units as reflected on these charts, Texas Pacific Exhibit 6?

A That is true. In other words, this well produced to and was out of range during the two periods previously mentioned with a resultant loss of revenue to Texas Pacific and royalty to the State, of taxes to the State. Maximum take from a well during a given month would minimize conditions like this. In other words, if this well had been produced in an orderly fashion, had been limited, a condition like this couldn't exist.

Q So you recommend the cancellation of the underage which has not been picked up during the period when there was an opportunity to make it up, and continuing reclassification of marginal wells as remedies which could immediately relieve the situation before the end of this proration period, and the consequent shutting in of the good gas wells in this Pool?

A That is correct.

MR. CAMPBELL: That is all I have of this witness.

MR. PORTER: Does anyone have a question of Mr. Martin at this time?

MR. CAMPBELL: I might note again that this witness will be available. We will be happy to have him cross examined if you desire.

MR. MOWELL: I do have some questions on cross examination.

MR. PORTER: You may proceed.

CROSS EXAMINATION

By MR. MOWELL:

MR. MOWELL: Ben Mowell, representing El Paso Natural Gas Company.

Q Mr. Martin, what is the dates of the photostats of the charts that are your Exhibit No. 6?

A These are during the month of February, 1956.

Q These charts were taken beginning in the first week of February, 1956, were they not?

A They were taken -- I don't believe I understand you.

Q The charts reflect the gas which was taken in February of 1956?

A That's right, during the entire month of February.

Q That's right. I belive that during the first part of the month the charts reflect that the wells were producing beyond the ability of the charts to register?

A The excessive period is the latter part of the month. The week ending February the 29th is when the six to eight period, from

the 22nd to the 29th.

Q What does it show in connection with the first?

A The first part, the well came on and produced rather, I have the figures of production by weeks; in other words, for the first week this well produced twenty-two million; for the second week, it produced fourteen million; for the third week it produced twenty-three million; for the fourth week it produced twenty-three million. The other well, for the first week, let me find it now and get the dates correct, the first well, the other well produced fifteen million; during the second week, fifteen million; during the third week, fifteen million; during the fourth week, twenty-five million.

Q Now, relating to your Exhibit No. 2, it appears that during the month of February, 1956, the total production from the Jalmat Pool was the highest of any month in the entire eighteen months that you have charted here, was it not?

A That is true, but only slightly higher than three months during the last half of 1956, two of them being summer months.

Q That's right, but in the month of February that was the top month?

A That's right, slightly above the summer months.

Q Slightly above the summer months and also a twenty-nine day month as compared with thirty and thirty-one day months?

A That is true.

Q Do you recall that during the month of February, 1956, Permian Basin, New Mexico, Arizona and Texas suffered a very severe

cold spell?

A That's true.

Q And that the actual takes from the Jalmat Pool, which were some four billion in excess of nominations, are probably related to the unusual and extreme cold spell, are they not?

A That is bound to be correct, that's right.

Q So that the problem that results in production in excess of nominations can very easily be created by weather conditions?

A Well, I agree with you partially. I can see that in February that would be true, but it is hard for me to realistically think that would be true in July and August with your market being the part of the country it is.

Q There are such conditions as allowables fixed by this Commission and by the Texas Railroad Commission which affect the supply of casinghead gas, do they not?

A That is true.

Q That's also a matter which cannot entirely be anticipated, is that not correct?

A That's true.

Q There are such things as mechanical breakdowns in gasoline plants so that gas which would normally be delivered through the tailgate of a plant may not become available in either winter or summer months, is that not true?

A It would be hard for me to realize in the expansive system that El Paso has that a breakdown in any individual plant where they

purchase gas would have an effect on your monthly withdrawal from the area.

Q Assume that we have plants from which we purchase as much as one hundred million cubic feet a day, the shutdown of one of those plants would require securing one hundred million cubic feet elsewhere during the time of the shutdown, would it not?

A That is true, but you need to give the fact, I believe, that the Jalmat Pool represents only a small part of a monthly withdrawal from the State of New Mexico which you have access to.

Q That may be quite true, but still there are a number of factors which affect actual production in spite of nominations?

A That is certainly true.

Q Now, Mr. Martin, I believe you have stated that actually the allowables for any Pool in Lea County are determined by the actual takes?

A That's correct.

Q And actual deliveries, regardless of nominations?

A Ultimately, but there is a two-month lag period in there.

Q Ultimately two months. That being true, any fictitious nomination would be corrected in a period of two months?

A Well, I don't believe I follow you on what your term of fictitious nomination means. My whole reference up there was intended to mean keeping the relationship between production and nomination in close balance, which two and a half years prior to the period disclosed had been the case.

Q Do I understand it is your present recommendation, then, that a gas purchaser should, to the best of its ability, estimate his requirements for a month and nominate for that month its best estimate of its requirements?

A That's true.

Q You have changed your position on that in the last month or two, have you not?

A I do not know what you have reference to.

Q Did you not request us to increase nominations above the market for the last two months of this year?

A No, sir. Any request that Texas Pacific has made has been to try to spread the production of the wells over a twelve-month period to the best of our ability, where we would have a steady market and steady income according to the terms of our contract.

Q The nomination being an estimate for the month, do you know of any provision in the rule that has been violated by any of the purchasers in the Jalmat Field in submitting their nominations?

A I wouldn't say violated. I would say that, getting back again to a historical background of two and a half years, showing that a situation is possible to keep a thing in balance, it is hard to understand, as shown on these two charts, that it would have to get out of balance. I fail to understand why for six months in a row during the last half of 1956 you consistently purchased greatly in excess of your nominations. I fail to under-

stand that.

Q But actually in the application of the formula the overproduction is added to the allowable, so that no penalty results?

A Well, maybe I'm mistaken about something. I would like to ask you this question. Is it not true that the purchasers anticipate their market demand for a given month and make a nomination to the Commission, and that nomination is passed on here as of this morning for the month of November, which gives you an allowable equal to what you anticipate your market demand will be?

Q Are you asking me a question, or asking the Commission?

A I am asking you, if that is the way it works.

Q I would say that it works with this difference, purchasers make nominations. The Commission staff makes the adjustments to take care of previous overproduction or underproduction, and after such adjustment, the nominations usually become the allowables. The Commission has the power, as I understand it, to set the allowables regardless of the nominations.

A That's true. Here's the part I fail to understand. During the first six months of 1956 your company nominated the major portion for the Jalmat Pool which totaled forty billion cubic feet of gas. You actually purchased from the field forty billion cubic feet of gas. Now those nominations were granted by this Commission, forty billion, and you purchased forty billion. What I fail to understand, that in the next six months you came before this Commission and requested thirty-five billion cubic feet of gas

as your withdrawal from that pool, but you actually withdraw from that pool forty-five; what I wonder, why you came here and asked for thirty-five billion and you withdrew forty-five billion when the first six months you asked for forty and withdrew forty. Why would there be a departure that you would have to miss, you came to the Commission and asked for seventy-five percent of the gas in the last six months of last year that you actually purchased out of the field? I fail to see that departure from a balanced condition where you missed your estimate twenty-five percent, ask for seventy-five percent and take one hundred. That wash't corrected any time during the six months period.

Q Are you making a statement or asking a question?

A I'm doing both, I guess.

Q Now, to return to the questioning --

A Okay.

Q -- if you have completed your statement.

A Pardon me. I was trying to answer your question.

Q I would like to ask this question. Assuming that during any particular given period, purchaser A nominates on the basis of one hundred for a unit, and purchaser B nominates on the basis of fifty for a unit; then with an equal number of units, the allowable would be seventy-five, would it not?

A Well, could I stop you just a minute and ask you one question?

Q Well, suppose you answer my question.

A I'm going to answer the question this way. I am going to answer the question this way, that you are propounding an impossible situation with reference to the Jalmat Pool. You are talking about purchaser A nominating fifty percent and purchaser B nominating fifty percent. Jalmat has one purchaser for the Pool.

Q If you will answer my question here, I will --

A Beg your pardon again.

Q That would result in an allowable of seventy-five, assuming that an equal number of units in the Pool, one purchaser nominates one hundred, another purchaser nominates fifty, and they are an equal number of units, then the allowable would be seventy-five?

A I don't follow that. I would say that the allowable would be one hundred fifty, if each one is nominating and you total up your nomination.

Q The allowable per unit, when you divide --

A Allowable per unit?

Q -- would be seventy-five.

A The nomination would be one fifty.

Q Now, supposing that purchaser A had nominated in Pool number one, gets an allowable in that Pool of seventy-five and is unable to take the figure twenty-five from that Pool. It must then go elsewhere to get the gas, if the market demand is to be met, or else overproduce, is that not true?

A I would say that is true as to a month, but I fail to see how it could be true for an extended period.

Q If that situation continues over a period of six months, it would result in the gas supply from certain Pools having to be produced elsewhere, would it not?

A I fail to see how that condition could exist in the Jalmat Pool, other than the Jalmat Pool.

Q I'm talking generally about Lea County, and I shall relate it to the Jalmat Pool if you will just answer the questions, Mr. Martin.

A I fail to see how that condition exists, I will answer it that way.

Q All right. Now have you looked at the Commission's records to the point that you are familiar enough to say whether or not these figures are approximately correct, that in 1957, from January through July, El Paso Natural Gas Company nominations for all Pools in Lea County totaled sixty-nine billion nine hundred sixty-one million? Have you checked the records sufficiently to know whether that is correct or not?

A You are getting out of a Pool condition into an area now, but that's the way you want it --

MR. CAMPBELL: May I inquire as to what your reason is for departing from the Jalmat Pool in this question?

MR. NEWELL: Because the Jalmat Pool, unfortunately, the conditions that require taking or not taking from the Jalmat Pool bear a relationship to the other Pools in Lea County.

MR. CAMPBELL: Are you saying that your takes are on a Lea

County basis and not a Pool-wide basis?

MR. NEWELL: I'm saying that the market demand is met, if it can't be met one place, it is going to be met another. I'm trying to bring a point to the attention of this witness that shows the relationship of one Pool to another, that during the same seven months -- have you your figures there, the Commission totals?

A I think so.

Q Am I correct in stating that in the first seven months of 1957, El Paso Natural Gas Company nominations for Lea County totaled some sixty-nine billion nine hundred sixty-one million?

A Well, I show slightly different than that, but that is close enough.

Q And that the allowables granted to El Paso Natural Gas Company in that time totaled approximately forty-eight billion nine hundred eighty-one million?

A Well, I don't have that figure as to the entire Lea County.

Q For the purpose of our present question, will you assume that is a correct statement?

A Yes, sir.

Q That the allowables granted, and will you also assume for the purpose of this discussion, that the actual production from Lea County during that same period was forty-eight billion nine hundred thirty-eight million five hundred seventy-four from the several Pools that El Paso is connected to?

A You are now referring to the production of El Paso Natural

Gas Company rather than the Pool totals?

Q To the taking by El Paso Natural Gas Company of production from all of the Pools.

A I don't think the thing should be looked at, if you are going to spread it out to the entire Lea County, why, the purchases and takes of the other purchasers in the Eumont shouldn't be involved in this thing.

Q Mr. Martin, if you would just please answer the questions.

MR. CAMPBELL: Answer them if you can. If you are unable to answer, tell him.

Q If you are unable to answer, we won't engage in an argument here. If we can get along with the questioning, I think the point will become clear, that if those figures are correct, that reflects a change from a market that should go to Lea County during that period of some twenty-six billion cubic feet, does it not, where the allowables and the takes are that much less than the nominations?

A Yes, sir, I'm following you.

Q That is correct?

A That is correct, assuming these figures to be correct.

Q Now then, referring to your Exhibit No. 2 for this period in 1957, your blue columns, I believe here, are the nominations from the Jalmat Pool?

A Yes, the green is the nomination.

Q The green, I seem to be color blind. Now the yellow constitutes the actual takes from the Jalmat Pool?

A That is correct.

Q Looking at these wells which you have testified are the overproduced wells --

A (Interrupting) A portion of the overproduced wells, correct.

Q -- which constitute, you say, some of the overproduced wells?

A That's right. That's right.

Q It is apparent that during that same period of time the takes from each of these good wells was at a bare minimum, was it not?

A Well, that's true mostly, would look at --

Q We are referring to the year 1957 and we will look specifically at the Continental Lynn well. I believe during these seven months at no time was the allowable taken from that well?

A That's right.

Q Referring to the Texas Pacific well, from January through May at no time was the take as great as the allowable, but in June there was an excess taken?

A We aren't talking about the full period, are we not? We are not taking off here and going all the way here and then to here?

Q But now, continuing now with Western's --

A Doesn't this answer the question?

Q Mr. Martin, please let me do the questioning.

A Oh.

Q But the point that your chart here demonstrates is that the taking during 1957 from the Jalmat Pool has not been as large as the

nominations, that is correct, is it not?

A That is correct, that's right.

Q Now then, if the good wells that are overproduced by and large are shut in and are not permitted to produce, then that would threw the entire burden of meeting the allowables from the Jalmat Pool on the weaker wells, would it not?

A That is as I previously testified.

Q If these weaker wells are unable to meet those allowables during that period, then the result is that a part of the market of the Jalmat Pool has been lost, has it not?

A Exactly correct.

Q I thought you would agree with me when we finally got down to the point. So then from your testimony and from the actual operation, would you be willing to say that the effect of having some wells overproduced and other wells unable to make up the difference results in a loss of the market to the Pool?

A That's correct.

Q Now then, referring again to the Exhibit No. 3, which covers three individual wells, you have set in each month a nomination, a red line which you show as a nomination?

A That's right.

Q How did you get that figure, because the company does not nominate for individual wells?

A I realize the company does not nominate individual wells, but the statutes and the regulations of the Commission say that the

nominations of the various purchasers shall be totaled and a certain percentage shall be allocated to the marginal wells in the Pool and that the remaining nomination and subsequent allowable shall be allocated to the various wells in the Pool; based on this particular case, the unit of 160 acres, so it is merely a mathematical calculation that if you have three billion cubic feet after you provided for your marginal wells, the allowable for every unit of the marginal units, and you have ten million. There is nothing complicated about it.

Q You still haven't answered the question. How did you get the figure of your nominations that you put on each well? You have told us how allowables are calculated, but how did you get that figure?

A I merely took your nomination for the month of, well, say for the month of July last year, not your nominations, primarily yours, but the Pool nomination of five and a half billion covering three hundred fifty units. The schedule prepared by the Commission said there were thirty at that time marginal units, and they should be assigned two hundred sixty-eight million of that and the remainder of five billion two hundred thirty-one million should be assigned to two hundred of the non-marginal units by three -- into five billion two hundred thirty-one, it gave me allocation per unit of sixteen million fifty-eight.

Q Which you, for your purposes, have set out as being the nomination per well?

A That is correct.

Q Now, referring again to the Exhibit 3 covering three particular wells, those three wells I think your testimony shows are overproduced somewhere in the neighborhood of one hundred million cubic feet, is that approximately correct?

A That is pretty close.

Q What is the average overproduction for the overproduced wells in the Jalmat Pool?

A As of what period?

Q Well, as of the end of your graph there, as of July, 1957?

A As of the end of 1956, which is our last test computation here, they were overproduced sixty million per unit.

Q That was the average, you do not have a July,1957, figure?

A No, sir, we have limited our discussion to the three periods shown on the board.

Q Now then, referring again to your Exhibit No. 1, I'm not sure that I understood exactly what some of your testimony was, and I think that you said some figures of three hundred and fifty-one million overproduced. Now what figure was that?

A What I said, that the three and one half units owned by Tidewater Oil Company produced a billion two hundred twenty-eight million at an average production per unit of three hundred fifty-one million. It is down fourth from the bottom line.

Q All right, fourth from the bottom line. Now what,that is what, the average production per well?

A Per unit.

Q Per unit, that is?

A Right.

Q The average overproduction is a certainly much smaller figure than that?

A That is true, there is some considerably larger than that as to individual wells.

Q But out of the three hundred fifty-one million production, there was an allowable of about two hundred fifty-four million or something of that nature?

A Two hundred forty-five million was the --

Q (Interrupting) Was the allowable during the same period?

A That's right.

Q The graphs you have displayed as to certain wells in Exhibit No. 3 reflect that shortly after the wells became overproduced, production in each instance was cut back?

A Well, that's basically true, but it wasn't continued on that patent. I refer you to the August production of one of them, the October consecutive production of another, in each one of those wells, as you can see, there is at least three or four peaks.

Q That's correct.

A That's right.

Q And you are familiar enough with the gas business to know that you can't store gas very satisfactorily in tanks?

A That is true.

Q And that gas is necessarily produced when the market exists?

A That is true.

Q Now, I believe you have recommended, Mr. Martin, that the cancellation of the existing underproduction will result in reallocation to non-marginal units of additional allowable and reduce the overproduced status?

A That's right if it is made retroactive to June 30th, where it occurred.

Q Let me ask you this further question, that I believe you have recommended the reclassification of marginal wells?

A Reclassification of non-marginal wells to marginal if there is any in the field in that category.

Q If there are wells in the field unable to make an allowable?

A That's right, and if the engineering staff of the Commission sees fit to do it, I have recommended it.

Q You have recommended that they reclassify?

A That's right.

Q Let me ask you if they would not also have substantial benefit in this, that the reclassification to a marginal well will, first, reallocate any accumulated underproduction to the wells capable of producing?

A That is definitely true.

Q And secondly, it will also benefit the overproduced wells and tend to restore the Pool to a state of balance by eliminating the future allocation of allowables to those wells that can't make

the allowables?

A That is correct.

Q So that that will have a double-barreled effect?

A It certainly will.

Q I believe you have further recommended that the realities of production require consideration of the capacity of wells to deliver, that is true, is it not?

A That's -- well, I didn't say it in exactly these words, but I agree with that.

Q That the ability of a well to produce --

A (Interrupting) That's right.

Q -- should be considered in determining the well's allowable?

A That's right. In other words, any one of these numerous wells that are underproduced during 1956 were apparently underproduced due to inability to produce.

Q That's correct, and I believe that your Exhibit No. 3 graphically illustrates the fact that during periods of peak demand the wells that are already overproduced tend to become even more overproduced?

A That's true.

MR. MORRIS: That's all. Thank you, Mr. Martin.

MR. PORTER: Anyone else have a question at this time?

MR. OSBORN: Jack Osborn, attorney from Omaha, Nebraska, representing Permian Basin Pipeline Company. In spite of the opening remarks of Mr. Campbell, I would like to assure the

Commission that Permian retains a sufficient interest in the Jalmat Pool to be heard at this time. I wonder will this witness be available at the continued hearing, if it is continued?

MR. CAMPBELL: Yes, he will.

MR. OSBORN: Well, in view of that, I would like to first of all join in the motion for continuance and reserve cross examination of this or any other witness until then.

MR. PORTER: Does anyone else have a question of Mr. Martin? The witness may be excused.

(Witness excused.)

MR. CAMPBELL: I might say, if the Commission please, we have only one other witness. His testimony, I think, for the benefit of the people who are interested and the Commission, could perhaps be better presented at one time. I'm perfectly willing to go ahead, of course, as long as the Commission wishes to, but the hour is late and I don't know how the Commission feels about it; I'm pooped. We'd be perfectly willing to come back in the morning and present this witness, if the Commission would prefer it that way.

MR. PORTER: The Commission is sympathetic to that request. Mr. Dipple, did you have a question?

MR. DIPPLE: I wanted to ask a question, so I will be sure that I understand what everybody's position is at the present time. As I understand it, if the motion for continuance is granted, this witness, Mr. Martin, will be available for cross examination at the

November hearing?

MR. PORTER: That is our understanding, too.

MR. DIPPLE: Then I want to be sure that if the motion for continuance is not granted that we will have an opportunity to examine him after you make that ruling?

MR. PORTER: The hearing will recess until 9:00 o'clock tomorrow morning.

(Recess.)

MORNING SESSION
October 18, 1957

MR. PORTER: The meeting will come to order, please. At this time we'll resume the hearing of Case 1327. Mr. Campbell, will you proceed with your next witness?

MR. CAMPBELL: I would like to call Mr. Keller, please.

W. O. KELLER

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

DIRECT EXAMINATION

By MR. CAMPBELL:

Q Will you state your name, please?

A W. O. Keller.

Q Where do you live, Mr. Keller?

A Fort Worth.

Q And what is your business or profession?

A I'm a consulting petroleum engineer.

Q You operate by yourself, or are you in a firm?

A I operate in a partnership of Keller and Peterson.

Q How long have you been a consulting engineer?

A A little over seven years.

Q And would you give the Commission, please, a statement of your educational and professional background as a consulting petroleum engineer and your previous experience and background?

A Yes, sir. I graduated from Texas A. & M. in 1941, with a Bachelor of Science degree in Petroleum Engineering. I was then employed by the Stanolind Oil and Gas Company in their Engineering Department. I spent nine years altogether with Stanolind as an engineer. The first three years my experience consisted predominantly of field engineering work, dealing with various field problems involving the operation and drilling of oil and gas wells. The next two years my experience consisted predominantly of proration work in Texas; that is, I represented the company at the various hearings involving proration matters. The last four years I was engaged primarily in reservoir engineering work; that is, work involving the study of oil and gas reservoirs and recommendations as to improvements in operations, secondary recovery and so forth. Upon leaving Stanolind --

Q (Interrupting) What was your position with Stanolind at the time you left the company?

A I was reservoir engineering supervisor, in charge of the reservoir engineering work throughout the company's operations.

which covered the area from the Rocky Mountains through the Mid-continent, West Texas, New Mexico, and the Gulf Coast of Texas and Louisiana.

Q Now go ahead with the later experience.

A Upon leaving Stanolind, I entered into the petroleum engineering consulting business in Midland, Texas, and have been engaged in that work since that time. My experience as an engineer during this period has involved a large variety of work dealing with petroleum engineering problems in connection with the evaluation as well as the operation of oil and gas reservoirs.

Q I don't believe you stated how long you had been in consulting work, after you left Stanolind?

A I have been in consulting work continually since leaving Stanolind in 1950.

Q In connection with your work, have you had occasion to make studies of gas reservoirs which are operating under prorationing, Mr. Keller?

A Yes, sir, I have.

Q What do you consider to be the basic general requirements for a gas allocation formula, under a system of gas prorationing?

A I feel that a gas allocation formula in a field such as Jalmat should meet two criteria. First of all, the allocation method should protect correlative rights; that is, it should provide for the distribution of allowables in approximate relationship to reserves, so that each well will be allowed the opportunity to

produce its fair share of the reserves. The second criteria that an allocation method should meet is that it should be practical to administrate, in that the formula should be simple and the factors entering into the formula should be readily measurable with a minimum of interpretation.

Q Have you acquainted yourself with the formula which is now being used for allocation in the Jalmat Gas Pool in Lea County, New Mexico?

A Yes, sir, I have.

Q And what is the basis for that formula?

A The formula is one hundred percent acreage; that is, all of the allowable of the Pool is distributed to the various wells on the basis of the acreage assigned to the wells, with, of course, provisions being made for marginal wells, that is, wells incapable of producing the allowable allocated on an acreage basis.

Q In your opinion does that method of allocation meet both of the standards which you indicated were required for proper allocation?

A No, sir. In my opinion the present one hundred percent acreage formula fails to protect correlative rights for the reason that it does not give each well the opportunity to produce in relation to its reserves.

Q What do you recommend as a better formula for the allocation of gas in the Jalmat Gas Pool?

A I would recommend as an improvement in the present formula

a formula whereby twenty-five percent of the total allowable of the field is allocated on an acreage basis in a manner similar to what is now being done on a one hundred percent basis. The remaining seventy-five percent of the total field allowable I would allocate to the various wells on the basis of an acreage times deliverability factor, where the deliverability of each well is defined as that amount of gas produced per day by the well, against eighty percent of the shutin pressure of each well, this deliverability to be calculated on the basis of an annual deliverability test conducted in the manner outlined by the directive dated March 15, 1954, issued by this Commission providing for a deliverability test.

Q Is this essentially the same formula that is now being used in the San Juan Area of New Mexico, to your knowledge?

A I believe it is, except the test procedure for determining deliverability is different in the March 15th directive for Lea County fields than that provided for the San Juan Basin field.

Q Do you consider that the testing procedures in that directive are adequate to properly operate the formula which you have suggested here?

A Yes, sir, I believe that they are and that in addition, I believe that the procedure should provide for the correction of the deliverability to eighty percent of the shutin pressure on the basis of the average N-value in volume for the field, which I think is approximately .8 or 82 in Jalmat.

Q Do you feel that that formula which you recommend comes

closer to permitting the owner of properties in the field to recover his fair share of the gas?

A Yes, sir, I do.

Q And why do you feel that the acreage factor alone fails to, as you put it, protect correlative rights in that respect?

A I feel that the acreage factor, that is one hundred percent acreage allocation, fails to protect correlative rights in that it has inherent in it the fallacious assumption that reserves are equally distributed on an acreage basis throughout the field. We all know that this is not the case. As a result, the allocation on a hundred percent acreage basis prevents each well from having the opportunity to produce in relationship to its reserves.

Q Do you feel the recommended formula that you have suggested here recognizes differences in quality in different areas of the field?

A Yes, sir. I believe that the recommended allocation method is a very substantial improvement from a correlative rights standpoint over the one hundred percent acreage allocation now in effect.

Q Now, Mr. Keller, in order to explain that more fully, I would like to refer you to the exhibits which have been posted on the wall there, and ask you if you will step up there. Mr. Keller, I refer you to what's been identified as Texas Pacific Exhibit No. 7, and ask you to explain that particular exhibit.

A Yes, sir. I believe that the reasons why I am of the opinion

that the proposed allocation method will allocate allowables more in proportion to reserves than the present one became apparent in using the Exhibits 7 through 7-D that I have on the board. I would like to point out the relationship between the various factors that govern deliverability and also the relationships that govern the recoverable gas in place, and compare how these factors enter into both the determination of deliverability and the determination of recoverable gas in place. The relative gas reserves of the various wells will be controlled primarily by two basic factors; that is, one, the recoverable gas in place; and, two, the ability of the wells to produce. The ability to produce, of course, is commonly measured by a deliverability test. There are five basic factors, I believe, entering into recoverable gas in place and deliverability. These are, one, acres, which I have designated as "A"; two, net pay thickness; three, pressure; four, quality of the pay as reflected by the porosity, connate water, and permeability of the pay section; and, five, what I have termed efficiency of completion of the well. These factors enter into the determination of recoverable gas in place and deliverability in somewhat different fashions; the manner in which they determine recoverable gas in place is shown by the equation on the left-hand bottom of Exhibit No. 7. This equation is G is equal to A times T times P times Y times (one minus S_w) times R times C_1; may at first glance appear rather complicated, but I think as we examine it further we will find it is a fairly simple relationship. It simply says that the gas in place, recoverable

gas in place is directly proportioned to the acreage, the net pay thickness, the pressure, the connate water, one minus the connate water, a recovery factor or recovery efficiency factor, and a constant which takes into account dimension, conversions, reservoir temperature and pressure base at which the gas is measured, and other factors which are common between units in the field.

On the lower right-hand corner of Exhibit No. 7 is an equation expressing the relationship between some of these factors and deliverability. That equation is D is equal to T times $(P_s^2 - P_w^2)^n$ times K times C_2. This equation says the deliverability of a well is equal to the net pay thickness times the difference in the squares of the shutin pressure and the working pressure raised to the nth power, times the permeability, K, times a constant, C_2, which takes into account such things as conversion factors, gas viscosity, reservoir temperature, et ceters.

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.

Q You have recommended an allocation formula by which deliverability will be given consideration, and with this in mind and referring to the Exhibits 7 A, B, C, and D, would you demonstrate

how in your opinion this would more closely permit the recovery of gas reserves under a property in the Jalmat Gas Pool?

A Yes, sir. I believe this can be readily understood by an examination of how these various factors enter into both the deliverability of the various reserves and also into the distribution of the reserves to the individual well, that is, into the distribution of the recoverable gas in place attributable to the various wells. First of all, let us consider acres, No. 1 on Exhibit No. 7. Exhibit No. 7-A is a simple schematic representation of a 320-acre tract on the left-hand side of the Exhibit 7-A, and 160-acre unit on the right-hand side. Acreage enters into the determination of recoverable gas in place in a direct fashion; that is, all other factors being equal, the gas in place under the 320-acre tract will be twice as great as the gas in place under the 160-acre tract.

Q Now, is that the only factor that is considered in the present gas allocation formula?

A Yes, sir. Acreage is one hundred percent of the present allocation method. I would also like to point out that acreage does not enter in directly into the ability of a well to produce, that is, its deliverability.

Q Now, will you move on to Exhibit 7-B?

A Exhibit 7-B is another simple schematic diagram used to illustrate the role of net pay thickness in the determination of recoverable gas in place, and its role in the determination of the deliverability of the wells. Represented on the left-hand side

of Exhibit 7-B is a 160-acre unit with a net pay thickness of twenty feet. On the right-hand side is a unit with half the net pay or ten feet, as expressed by the formula in the lower left-hand side of Exhibit No. 7. In such example as shown on Exhibit 7-B, if the pay thickness is twice as great in one tract as compared to the other, then the gas in place will be twice as great, all other factors being equal. Considering the effect of net pay thickness on deliverability, we find from the equation on Exhibit No. 7 that deliverability is also directly in proportion to net pay thickness, all other factors being equal; that is, if the pay thickness is twice as great under one tract as under the other, the deliverability will be twice as great for a well on one tract as compared to the other, all other factors being equal.

Q As I understand you, under the present allocation formula in the Jalmat Gas Pool, no recognition is given to pay thickness, net pay thickness?

A Hundred percent acreage allocation, completely ignores the effect of pay thickness upon the distribution of reserves.

Q Or upon the deliverability of the well?

A Yes, sir, upon the deliverability of the well, too. The pay thickness, however, does enter into in some fashion, in a direct fashion, the deliverability of a well, as well as the recoverable gas in place, all other factors being equal.

Q Will you move on to 7-C, please?

A Exhibit 7-C is another schematic diagram illustrating the

role of pressures in the determination of recoverable gas in place, and in determination of deliverability. On the left-hand side of Exhibit 7-C is illustrated a 160-acre proration unit having a pressure of 200 pounds, compared to a 160-acre proration unit having a pressure of 100 pounds on the right-hand side. As expressed by the formulas on Exhibit No. 7, the gas in place varies directly or approximately directly with the pressure. That is, if the pressure is 200 pounds under one, on one tract as compared to 100 pounds, then the gas in place will be approximately twice as great on the higher pressure tract. Considering pressure from a deliverability standpoint, you'll recall we stated that the deliverability of a well would vary as the difference in squares of the shutin and working pressures raised to the nth power. This is illustrated somewhat simply if we take the maximum deliverability, that is, a well producing against atmospheric pressure, if the pressure is twice as great in one instance as the other, then the deliverability will be varied as the square of the pressure, or will be four times as great on the high pressured tract as on the lower pressured tract, all other factors being equal.

Q Now, will you move on to Exhibit 7-D?

A I might point out that the hundred percent acreage allocation now in existence completely ignores the effect of pressures upon the recoverable gas in place, and that the pressures enter into both the recoverable gas in place and into the determination of the deliverability, although in a somewhat different fashion.

Exhibit No. 7-D is a schematic representation to illustrate the role of the quality of pay in respect to recoverable gas in place and in respect to the deliverability or ability of the well to produce. I have expressed quality of pay in terms of porosity, connate water, and permeability, and I would like to briefly discuss each of them in turn. On the left-hand side of Exhibit 7-D are two squares, one square illustrating a porosity of twenty percent, the other square illustrating a porosity of ten percent, with the same connate water of twenty-five percent. In such cases, if the porosity under one tract is twice as great as compared to the other, then the gas in place will be twice as great as under the lower porosity tract; again a direct proportionality between the factor porosity and the recoverable gas in place, all other factors being equal. Porosity as shown on Exhibit No. 7 does not enter directly into the determination of the deliverability or ability to produce. Considering connate water, shown in the central portion of Exhibit No. 7-D are two squares illustrating a tract with a connate water of twenty percent, compared to a tract with a connate water of forty percent. As shown by the equation on Exhibit 7, the gas in place will vary as one minus the connate water, the compliment which is this example, one minus connate water would be in the relationship of one minus twenty, or eighty percent, compared to one minus forty, or sixty percent; that is, eighty to sixty. As required by the equation, the gas in place will vary as eight to six, all other factors being equal. Considering

permeability --

Q (Interrupting) Just a moment, the connate water does not enter into the deliverability?

A No, sir, the connate water does not enter into the deliverability. Considering permeability, represented by the two squares on the right-hand side of Exhibit 7-D, we have illustrated by one square a permeability of 200 millidarcies, compared to a permeability of 100 millidarcies. Permeability enters into the determination of the recoverable gas in place in a somewhat complex fashion which cannot be reduced to a simple relationship. Actually, it enters into recoverable gas in place primarily from the standpoint that it effects the abandonment pressure, therefore the amount of gas left unrecovered, therefore the recovery efficiency which I have shown as "R" in the equation on the lower left-hand side of Exhibit No. 7. Permeability does enter into the deliverability in general, a direct proportionate manner; that is, comparing a factor with 200 millidarcies compared to 100 millidarcies, the deliverability of a well would be twice as great for the well with the 200 millidarcies permeability as for the well with the 100 millidarcies permeability, all other factors being equal.

Q Now, under the present allocation formula, are these factors that enter into the quality of pay given any weight at all?

A They do not enter directly into the hundred percent acreage allocation, no, sir. They are not considered directly.

Q I note that on Exhibit 7 you show a fifth factor affecting

both recoverable gas in place and deliverability. I believe it's the efficiency of production. Would you discuss that, please?

A Well, sir, that's efficiency of completion.

Q Efficiency of completion, yes.

A Yes, sir. That's a catch-all factor, that includes such things as the location of a perforation, or the casing reference to the location of the pay, the effectiveness of stimulation, the completion of a well in respect to possible plugging during drilling, and various other factors that are predominantly man controlled in the completion and operation of a well. There are so many things that enter into that, that is, entering into the efficiency of completion, that it's not possible to draw up a simple schematic diagram illustrating it; but let me say this, that the efficiency of completion does control to some extent the recovery efficiency and the relation is such so that in general, the greater the efficiency of completion, the greater the recoverable oil, recoverable gas in place; although certainly not necessarily in a direct proportion. Similarly, the efficiency of completion enters into the deliverability of a well; that is, the more efficient the completion, in general, the higher will be the deliverability of the well, although again there's no set relationship.

Q Would you come back down now to your witness chair, or do you have something you want to add with regard to that?

A No, sir.

Q Mr. Keller, based upon your analysis of the factors entering

into the determination of gas reserves, and upon your knowledge of the present allocation formula used in the Jalmat Gas Pool, what is your opinion about the extent, if any, to which it affects correlative rights?

A Well, sir, it is my viewpoint that hundred percent acreage allocation does not provide protection to correlative rights because it fails to take into account the fact that reserves aren't equally distributed within the field, that to my mind is the basic fallacy with the acreage allocation. I feel like that acreage certainly has a part as a factor in the allocation method; however, I feel like that the acreage should be modified to take into account quality of the acreage in the vicinity of each well, and that basically my reasoning for putting in the deliverability times acreage factor. I feel that deliverability is an appropriate factor which to modify acreage, to reflect in some degree at least relative quality between tracts; that is, in terms of relative reserves. I don't mean to say that I think that the formula I have proposed is the perfect formula, certainly most any formula you could devise has some shortcomings, but I do feel that it is a very substantial improvement from a correlative rights standpoint over the present allocation method.

Q Mr. Keller, based on your knowledge of gas fields elsewhere, is deliverability in rather common use as a factor in allocation formulas?

A Yes, sir. My experience has been that there are quite a

few fairly large fields that employ deliverability in one fashion or another in the allocation of allowables to the various wells. Hugoton, I suppose, is one of the prime examples.

Q That field extends into more than one state, doesn't it?

A Yes, sir. It covers parts of three states, and as I recall, all three states provide a deliverability factor in the allocation method, and of course, deliverability is a factor in the allocation of allowables in the San Juan Basin field.

Q Mr. Keller, you have heard the testimony of Mr. Martin and seen the exhibits that he presented with regard to the actual operation of gas prorationing in the Jalmat Gas Pool and as between individual units in the Pool. Do you believe that this situation might have been alleviated to some extent had there been some deliverability factor present in the gas allocation formula in the Jalmat Gas Pool?

A Yes, sir. I believe that the situation would have been alleviated, would have been less severe, since the take practices, I believe, during peak periods are always more nearly in proportion to deliverability than they are in proportion to acreage.

Q What is your opinion as to the operation of the system in the future, comparing it as it presently operates and with the addition of some deliverability factor in the allocation formula?

A Well, if you mean in respect to the inbalance between, as to individual wells, between the allowable and the production?

Q That's what I mean.

A I think that the adoption of the allocation method I have recommended would go a long way to alleviating that situation. It would be easier to keep the wells in balance.

Q Why is that?

A Well, for the simple reason that during peak demand periods it's necessary to withdraw more gas from the wells that are in a, have greater capacity to supply.

Q From your examination of the exhibits that Mr. Martin offered, is it your opinion that that is what has occurred generally in connection with the operation of gas prorationing in this Pool?

A Yes, sir, that is my impression, that that's generally true that the better wells have supplied more of the demand during periods of peak demand required.

Q Mr. Keller, do you have any other suggestions as to any changes in the present system which might to some extent avoid the reoccurrence of the condition that Mr. Martin pointed out now exists in this Pool?

A Yes, sir. I think that the possibilities of severe inbalance between production and allowables as to individual wells could be further minimized by placing a maximum limitation on the actual production of a well, and in that connection, I would suggest a maximum limit of twice the allowable. Of course, it's my thought in mind that that would go hand in hand with the revision in the allocation formula.

Q Mr. Keller, you are probably aware of the fact that the

statutes contain a limitation at the present time for a ten-day period of emergency, for the production of the wells in excess of the allowable. Would the limitation you suggest be in addition to that statutory limitation, an additional limit?

A From my understanding of that emergency limitation, yes, I would suggest that it be in addition.

Q Do you believe that with such a system of maximum takes that there would still remain sufficient flexibility to take care of fluctuating market demand by gas purchasers?

A With the recommended allocation method, I do, yes, sir.

MR. CAMPBELL: I believe that's all.

MR. PORTER: Anyone else have a question of Mr. Keller?

MR. SELINGER: Mr. Porter, I assume this witness will likewise be available at the recessed hearing in November?

MR. CAMPBELL: Yes, I think I stated at the outset both these witnesses will be available next month.

MR. PORTER: Any questions? The witness may be excused.

(Witness excused.)

MR. PORTER: Mr. Campbell, do you have any other witnesses?

MR. CAMPBELL: No, sir, not at this time. I would like to say that we do not have available a sufficient number of copies of these exhibits to meet the requests that have been made. If any of the companies or operators who desire copies of Mr. Martin's exhibits or the smaller sets of these exhibits would get in touch with Mr. Adair at Fort Worth, we will be glad to supply copies of

each of these exhibits for examination by the operators during the period before the next hearing.

MR. PORTER: Anyone else want to present testimony in this case this morning?

MR. HOWELL: Ben Howell, representing El Paso Natural Gas. Mr. Chairman, we would like to ask this question: Is the hearing going to be recessed, or is the hearing going to be concluded today, because --

MR. PORTER: (Interrupting) You mean is it going to be continued to next month?

MR. HOWELL: Yes.

MR. PORTER: The motion or request at the first of the hearing?

MR. HOWELL: Yes.

MR. PORTER: I think we can answer that. Unless there's further objection, Mr. Howell, we intend to continue the case. I haven't heard any objection to the motion.

MR. HOWELL: Well, my reason for asking the question was this: That if the hearing were to be closed today, we would put on testimony today. We think, however, that another month's study of the problem will permit us to put on testimony in a more effective manner at the next hearing. If there is no objection, since El Paso Natural Gas Company is the major purchaser in the Jalmat Gas Pool, I think it would not be inappropriate to make a general statement of our company's position in the matter, so that all

operators can be informed of our belief, and if there is no such objection, I shall make a statement here this morning covering our position.

MR. PORTER: You may proceed.

MR. HOWELL: From the date that proration commenced in Lea County, El Paso Natural Gas Company each year has nominated and has actually taken from the gas pools in Lea County, New Mexico, volumes of gas in excess of its total contractual obligations to the producers in those pools. Today, each pool is out of balance with some wells underproduced and other wells overproduced. In each pool three factors have contributed to the accumulation of underproduction for some wells and overproduction for other wells. One factor is the inability of certain wells to deliver at the times production is required and the ability of other wells to deliver large volumes at the times of peak demand. The second factor is the omission of deliverability or producing capacity of the wells from the allocation formula. The third factor is that during 1955, 1956 and 1957 other gas purchasers in the same pools have nominated and taken lower average quantities of gas than El Paso Natural Gas Company.

The record of prior hearings contains a full statement concerning El Paso's operations. In common with other natural gas pipelines, El Paso's demands from its customers fluctuate with weather conditions and other factors beyond El Paso's control. El Paso's supply from the Permian Basin area is predominantly dependent

upon residue gas from plants processing casinghead gas produced incident to the production of oil. The prevention of waste requires marketing of all residue as it becomes available with gas from gas wells supplementing the supply of residue gas. The volumes of residue gas available to El Paso are determined not by El Paso's needs, but by the oil allowables established by this Commission and by the Texas Railroad Commission. When oil allowables are high, residue gas from the tailgates of gasoline plants will lead the pipeline. When oil wells are shut in, either because of proration, mechanical difficulty or any other reason, or when gasoline plants are out of operation for any reason, El Paso's requirements from the Permian Basin area principally must be obtained from gas wells in the prorated gas pools of Lea County. The volumes of gas obtained by El Paso from gas wells in Texas is minor. In normal operations the greatest volume of residue gas becomes available shortly after the first day of the month and tapers off to a marked degree at the end of the month. Concequently, the production of gas from gas wells tends to become concentrated into short periods of peak demand or short supply.

In order to prevent waste of casinghead gas, it is necessary to produce gas from gas wells under field conditions which require high deliverability wells to produce the major portion into the gathering lines because the low delivery wells are incapable of producing such gas.

The fact that the nominations of other purchasers per unit

have been smaller than El Paso's has resulted in the allowable given to El Paso's wells being less than El Paso's market demand. For example, if El Paso nominates one million cubic feet per unit per day and another purchaser nominates one-half million cubic feet per unit per day for an equal number of units, the allowable based upon straight acreage would be three-quarters of a million for each unit giving wells connected to El Paso's system less than its requirements and giving the other purchaser's connections more than its requirement. When the market demand is met, El Paso's wells become overproduced, and the other purchaser's connected wells become underproduced. When peak demands and short supply impose the necessity of producing large quantities quickly, this unbalanced condition is aggravated. During the former hearings El Paso and other pipeline companies pointed out this inevitable result when the deliverability factor is omitted.

This unbalanced condition has been further complicated by carrying forward instead of cancelling underproduction. El Paso is not critical of companies whose problems resulted in carrying forward this underproduction or of the Commission for granting extensions of the cancellation date. However, the result in the Jalmat Pool was as of July 1, 1957 an accumulated underproduction of 8.6 billion cubic feet, and an accumulated overproduction of 8.6 billion cubic feet. The cancellation of underproduction and the redistribution of the underproduction to the non marginal wells will help to relieve this situation. El Paso urges the Commission

to cancel at the beginning of the next proration period all underproduction subject to cancellation under existing rules and to redistribute this underproduction to the non marginal wells in each pool.

Many wells in the Jalmat Pool could be classified as marginal wells. These wells are physically incapable of delivering the average monthly allowable. Failure to classify these wells as marginal wells results in granting to these wells an allowable impossible to make. The weak well is not penalized by classification as a marginal well. On the contrary, the marginal well is permitted to produce all it can produce, and in effect, is freed from any restriction of proration. The owner of the marginal well is not hurt by proper classification, and the owners of non marginal wells are benefited because the demand which cannot be met by the marginal well is properly allocated to the wells capable of delivering this demand under field conditions. El Paso urges the Commission to make prompt classification of all marginal wells, and thus avoid unrealistic allocations.

Finally, El Paso again urges the Commission to recognize the necessity of considering deliverability as a part of the allocation formula. In many instances difference in deliverability reflects the difference between an old, partially depleted well and a new well with initial flush production. Usually the differences reflect a real relationship between the existing recoverable reserves in place attributable to the wells. An allocation formula based solely

upon acreage will result, and we consider has resulted, in injury to correlative rights. When the straight acreage allocation formula is used, experience has proven that wells incapable of increasing their production to meet peak demand conditions will continue to become underproduced and the good wells will continue to be overproduced. This will cause and has caused the market demand to be satisfied from other sources. When the wells connected to El Paso's system in Lea County are overproduced and in danger of shut in, the only solution for El Paso is to obtain from the San Juan Basin or other sources the additional volumes required for its market. The Lea County operator is not helped by transferring market demand elsewhere. The unbalanced condition within each pool in Lea County needs to be corrected for the benefit of all. During 1957 while El Paso has had to restrict its purchases in Lea County in order that overproduced wells might come in balance in accordance with the Commission's rules, it has been necessary to take additional volumes from the San Juan Basin. The San Juan Basin has also had to take most of the swing required to meet our market demand. We find that we have been able to take the varying market demands without severely overproducing wells in the San Juan Basin where we have been unable to do so in the Lea County area. This is to be attributed to the fact that deliverability is considered in the allocation formula for the gas wells in the San Juan Basin.

El Paso earnestly recommends a continued study and the adoption of a formula recognizing the realities of producing and

marketing gas from gas wells. El Paso will gladly cooperate in furnishing all information in its possession to achieve a result more equitable to all parties.

Now, if it please the Commission, I was not under oath when I was cross examined yesterday, and I'm not under oath, but I'm making the statement here today. We do expect to produce the evidence to show that the difference in nominations in other pools in Lea County has resulted during 1956 in our going to the Jalmat Pool to produce volumes of gas that could not be produced elsewhere, and that as a result the Jalmat Pool and the wells which could deliver in that pool became overproduced, and we are having to shut them in and keep production from those wells low in order to attempt to balance those wells. We will be very glad to cooperate with any operator on questions relating to individual wells. I might state that Mr. Woodruff in El Paso and Mr. Bolch in Jal can furnish, I'm sure, information as to individual situations to any operator; and so I join in the motion which I understand has been granted that this be continued until next month.

MR. PORTER: Anyone else have anything to say at this time?

MR. OSBORN: Jack Osborn, representing Permian Basin Pipeline Company. We would like to reserve the right to make a full statement of our position and present evidence in support thereof at the continued hearing. I think I will say at this time, make a short remark with reference to some statements made by counsel for the applicant in his opening statement, with regard

particularly to Permian's position as a purchaser of gas in the Lea County pools. We have waited this morning and yesterday afternoon for some evidence in support of the statement that Permian is no longer a factor in proration in the Lea County pools, and of course we found none. It came as a surprise to us, since Permian has been purchasing gas from the Lea County pools for three years, has invested large quantities or large amounts of money in the installation of facilities as well as in the purchase of gas, and we are now and we have been and will continue to be a purchaser of gas in large quantities from these fields. We consider the statement that Permian is not a factor in proration in Lea County as being unfounded and uncalled for, and in view of the lack of any evidence to support these statements, we wish the Commission to consider our motion to strike that statement from the opening remarks of Mr. Campbell.

MR. CAMPBELL: If the Commission please, I would like to make an observation, if I may, before you rule on that. I think I indicated in my opening statement that it was predicated partially upon a contract entered into between Permian Basin Pipeline Company, and El Paso Natural Gas Company. I have a photostatic copy of that contract which I would be glad to offer, or perhaps Permian Basin has a copy they could offer. I think there will be additional testimony in connection with the acquisition by El Paso through exchange agreement of gas in the Jalmat Gas Pool. I certainly don't apologize for my remarks, they were made in the belief that

there was some basis for the contract of purchase between Permian and El Paso.

MR. OSBORN: If I am not mistaken, I believe the Commission has a copy of that contract.

MR. PORTER: The Commission rules that the statement will remain in the record and will be given consideration if it can be substantiated by evidence.

Any other statements before we continue the case?

MR. KELLY: John Kelly. I'm a lonely independent, I guess. I would like to make a little comment for the Commission's consideration. In listening to the case put on by Texas and Pacific, I sort of felt that they tried to keep their case confined to the Jalmat Gas Pool, but in the cross examinations by various people, they indicated that the Jalmat Gas Pool was just a part of the overall picture of proration in Southeastern New Mexico, and I would like to suggest to the Commission that they, the Commission, on its own motion open up the entire gas question in Southeastern New Mexico and make this case a part of that case, rather than have this case go on through and then have another case for Eumont and another case for the other fields.

MR. CAMPBELL: Before you stop this portion of this case, may I request that the record show that I offered Texas Pacific's Exhibits 1 through 7-D in evidence, please?

MR. PORTER: Any objection to the admission of Texas Pacific's Exhibits? They will be admitted. Mr. Kelly, on your suggestion or

motion, the Commission feels that it cannot be done under the advertisement in this case and would have to be done under a separate case, if that is desirable by operators in other pools at a later date; however, we would like to go ahead and settle the issues in this case. Anyone else have a comment?

MR. SELINGER: If the Commission please, while I will participate in the recessed hearing or continued hearing in November, I would like to make a few remarks at this time. It's quite obvious to the Commission that this problem is a very difficult one. Anything in relation to gas proration, anything, I will agree with Mr. Howell, is very complicated, particularly where it involves the six prorated pools in the Southeast part of the state, and particularly where it involves more than one purchaser in a field. This is a problem that's been plaguing all state regulatory boards, and each in their own way, within the confines of the legislative direction, have found the solution. While nothing has been said, I'm sure the Commission and particularly its staff is fully advised of the existing orders that are now in effect in the Jalmat field. I particularly call your attention to three of the orders: R 520, R 836, R 967. To entirely blame the situation that exists in the Jalmat today on the allocation formula I think is unfair and quite erroneous. The situation we find the Jalmat field in today is due entirely to circumstances over which all of us were aware of, including Texas Pacific, and that is you had suspended your balancing period for this year, and I think that the suspension was a good

one, due to the fact that the Commission was faced with extenuating circumstances. I fully believe that anyone clearly analyzing gas proration would have known the effects of this order as a temporary measure in permitting the field to be unbalanced to the extent that a considerable number of wells would be overproduced. Had these orders, the original orders R 520 and R 836 been carried into effect, this field would not have been out of balance at the present time. Now I might say that a deliverability formula in any factor or any allocation formula without a balancing period would result the same way as it is at the present time. The gist of keeping a field in balance is, the heart of it is, of course, the balancing, and had we a deliverability formula in the allocation formula, without a balancing period, it still would have been out of balance. Now it goes without saying that Skelly Oil Company is opposed to a deliverability formula in the six allocated prorated gas pools in Southeast New Mexico for gas allocation. We believe that the order itself, the last order of the Commission, R 967, on its face indicates that effective January the 1st, 1958, you will balance it, and the five and a half billion feet of underage will be cancelled, and that that amount will be allocated to the overproduced wells, and I'm quite sure that every overproduced well will have secured sufficient relief that I believe even it will aid the Texas Pacific to the extent that they may find that a considerable number of their overproduced wells will be even, or nearly so. We think that the application here is a little premature because the Commission by

its own orders have already put the matter of correcting into effect January the 1st, and we would recommend that the allocation formula be left alone, that the Commission carry out its present orders, and the latitude given the personnel of the Commission is quite wide. As a matter of fact, the Commission may assign minimum allowables, they may reclassify wells from marginal to non-marginal, from non-marginal to marginal status. The terms of the order, we feel, would give adequate protection, and bring the field in balance as of January the 1st, 1958.

MR. PORTER: I'm going to put my next question, then, is there anything to be said that can't be left unsaid until November? The case will be continued to the regular November hearing.

* * * * * * * *

C E R T I F I C A T E

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

WE, ADA DEARNLEY & MARIANNA MEIER, Notaries Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in stenotype and reduced to typewritten transcript under my personal supervision, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this 25th day of October, 1957, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Ada Dearnley
NOTARY PUBLIC

My commission expires:
June 19, 1959.

Marianna Meier
NOTARY PUBLIC

My commission expires:
April 8, 1960.

DEARNLEY - MEIER & ASSOCIATES
INCORPORATED
GENERAL LAW REPORTERS
ALBUQUERQUE, NEW MEXICO
3-6691 5-9546

BEFORE THE
OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO
Santa Fe, New Mexico
March 25, 1958

IN THE MATTER OF: Case 1327

TRANSCRIPT OF PROCEEDINGS

VOLUME 1

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Santa Fe, New Mexico

March 25, 1958

IN THE MATTER OF: In the matter of the rehearing requested by Skelly Oil Company, et al., for reconsideration by the Commission of certain portions of Case 1327, Order No. R-1092-A - application of Texas Pacific Coal and Oil Company for an order immediately terminating gas prorationing in the Jalmat Gas Pool; or in the alternative, revising the Special Rules and Regulations for the Jalmat Gas Pool in Lea County, New Mexico.	Case 1327

BEFORE: Honorable Edwin L. Mechem
Mr. A. L. Porter
Mr. Murray Morgan

TRANSCRIPT OF HEARING

MR. PORTER: The meeting will come to order, please. This is a special hearing of the Commission for the purpose of a rehearing in Case 1327.

MR. PAYNE: In the matter of the rehearing requested by Skelly Oil Company, et al., for reconsideration by the Commission of certain portions of Case 1327, Order No. R-1092-A - application of Texas Pacific Coal and Oil Company for an order immediately terminating gas prorationing in the Jalmat Gas Pool; or in the alternative, revising the Special Rules and Regulations for the Jalmat Gas Pool in Lea County, New Mexico.

MR. MALONE: May it please the Commission, Ross Malone of Atwood and Malone at Roswell. I'm appearing in this rehearing for the purpose of presenting testimony on behalf of the following companies: Continental Oil Company, Atlantic Refining Company, Pan American Petroleum Corporation, Tidewater Oil Company, Cities Service Oil Company, Humble Oil and Refining Company, Shell Oil Company, Sinclair Oil Company, Amerada Petroleum Corporation, Texas Company, and the Standard Oil Company of Texas. All of these companies are united in opposing the inclusion of deliverability as a factor in the proration formula of the Jalmat Gas Pool. I'm authorized to say in addition that Skelly Oil Company, while not a member of the group which is presenting this testimony, is in agreement with the conclusions and recommendations which the group will make. I failed to include Samedan Oil Corporation, which is likewise a petitioner and a participant.

As the Commission will recall, it was at the suggestion of the Commission that these companies undertook to consolidate the presentation of testimony and the cross examination of witnesses in an effort to expedite and facilitate this hearing in its earlier phases, and it is in pursuance of that suggestion of the Commission that they are united at this time for the purpose of presenting testimony. Each of the companies for whom I'm speaking in this regard has its own representatives here and will speak for itself at the conclusion of the hearing.

I want to point out, however, that the position of the respective companies in applying for the rehearing insofar as the issues that are raised in the rehearing and their position on them, is as stated in the respective petitions. I mention that for the reason that the petitions are not identical. All of the companies do not subscribe to each of the propositions which I will present, but some of the companies subscribe to all of the propositions, and the particular companies which do support them is apparent from the petitions that each company has filed for a rehearing in this case.

With the hope of expediting the hearing, I would like to very briefly state the testimony which the Jalmat operators propose to present to the Commission. As the Commission will recall, in Order No. R-1092-A, Finding No. 5 of the Commission was as follows:

"That the Applicant, which was Texas Pacific Coal and Oil Company, 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."

The testimony which will be presented with relation to that particular finding, and most of our testimony, will be directed to that, will be in an effort to show that apparently the Commission

concluded that there was a similarity or that the reserves which were testified to by Texas Pacific Coal and Oil Company as well reserves were the same as the recoverable gas in place under the tract which the statutes requires be considered in the protection of correlative rights, and the testimony will be directed to show that that conclusion, which as we view it could have been the only basis for the finding which the Commission made, in fact resulted from a misapprehension of the application of the testimony of Texas Pacific, and that it is not supported by sound engineering principles or by the testimony in the case.

We will further present testimony designed, we hope, to show that rather than a more equitable application resulting from the allocation resulting from the application of this formula, there will be set up a tremendous amount of drainage as between tracts, with the result that there will be irreparable injury to the correlative rights of a large number of the operators in this pool, injury which amounts to many, many dollars.

Finally, the testimony will be directed to show that as an inevitable result of the order as it has now been issued, economic waste and physical waste occurring underground can be expected to result. We realize that in coming before the Commission on rehearing we are sort of arguing with the umpire about a decision, and that's not a very good place to be. Sometimes you get thrown out of the ball park when you do that. Nonetheless, in the best of

spirit and we hope of being helpful to the Commission in the decision, that is one of the most important questions the Commission has ever dealt with.

We have two witnesses, Mr. Robert Liebrock and Mr. Henry J. Gruy and we'll ask they be sworn at this time.

(Witnesses sworn.)

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MR. MALONE: Mr. Leibrock, will you take the witness stand, please?

ROBERT M. LEIBROCK

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

DIRECT EXAMINATION

By MR. MALONE:

Q Will you state your name, please?

A Robert M. Leibrock.

Q You live in Midland, Texas, Mr. Leibrock?

A Yes, sir, that's correct.

Q You testified in this case at the time of the original hearing on behalf of the Jalmat Operators Group, did you not?

A Yes, sir, I did.

Q And I believe at that time you testified that you were a consulting petroleum engineer and had been engaged for some years in that business at Midland?

A Yes, sir, that is correct.

Q What was the name of your firm, Mr. Leibrock?

A Leibrock, Landreth and Campbell.

MR. MALONE: I assume that the witness' qualifications are acceptable to the Commission?

MR. PORTER: Yes, sir, they are.

Q Mr. Leibrock, you've heard the brief opening statement which I made, and you heard the testimony of Mr. Keller at the hearings

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on December 9th and 10th relating to the so-called reserves as to which Mr. Keller found a correlation with deliverability, did you not?

A Yes, sir, I did.

Q You have also read the order of the Commission in which there was found that there was a general correlation between the deliverabilities and recoverable gas in place under the tracts in the Jalmat Pool, have you not?

A Yes, sir, I have.

Q Have you prepared an exhibit which is designed to demonstrate the inapplicability of reserves computed by the so-called material balance equation to a determination of the recoverable gas in place under a particular tract?

A Yes, sir, I have.

Q Will you refer to that exhibit which for the record has been identified as Operator's Exhibit 1-R, the "R" designating rehearing?

(Operator's Exhibit No. 1-R marked for identification.)

A Yes, sir, I will. By way of introduction of our Exhibit 1-R, I would like to remind the Commission that during the course of the testimony offered by Texas Pacific, they repeatedly referred to the use of the material balance method of estimating reserves. Now there's nothing peculiar about the material balance equation, either you have enough information to solve it or you don't. It's

nothing more or less than the name implies. You simply take the material produced from a well, in this particular instance gas, relate it to the pressure drop associated with that production, and the gas that's moving either to or away from the lease that you are attempting to conduct the material balance on, and that's the procedure that should be followed in conducting a material balance calculation.

Now in their approach to the analysis of individual leases and their reference to the material balance calculation, it's our position that they did not conduct a material balance calculation simply because they did not include all the material involved in the analysis of an individual lease. With that background, I would like to refer to our Exhibit No. 1-R.

As indicated at the top of this Exhibit No. 1-R, it is designed to show the limitations of the material balance equation or the inapplicability of the material balance equation as used by Texas Pacific as in other or individual leases within the reservoir, in the reservoir or individual lease.

Beginning on the left-hand side, we have Case 1, in which we have three tanks, Tank A,B, and C. All three are the same size, they all contain gas at an initial pressure of 1,000 pounds, and we haven't produced any gas out of any one of the three tanks. Now the only difference in the physical set-up of these three tanks is the size of the outlet. Briefly and roughly, the size of the outlet in Tank A is approximately twice the size of the

outlet in Tank B. The size of the outlet in Tank B is roughly twice the size of the outlet in Tank C. Now we open these valves simultaneously.

Q Mr. Leibrock, do I understand that there is the same quantity of gas in each of the tanks at the outset?

A The tanks are the same size and the gas is at the same pressure in each case, yes, sir. Now in the case of Tank A, we open up the valve along with the valves on Tanks B and C, and we reduce the pressure down to 500 pounds in each tank, at which time we have produced a million cubic feet of gas. The results of this production is shown in graphical form on the right-hand side of each of the tanks. In other words, as the pressure drops from a thousand to five hundred pounds in each case, we produced one million cubic feet of gas, the only difference being that it takes longer, of course, to produce the gas out of Tank C than it does out of Tank A, because of the variation in the size of the outlet, because of the variation in the deliverability of the three tanks.

Q Now I want to be sure that I understand you concerning that exhibit, Mr. Leibrock. You say that you produced each one of those tanks down to 500 pound pressure, is that correct?

A Yes, sir, that is correct.

Q Because of the difference in the size of the exit from the tank, the time that is required to do that varies, as I understand it?

A Yes, sir, that is correct.

Q But you ultimately reach the same point with each tank; that is, each tank has produced the same amount of gas down to 500 pounds per square inch of pressure?

A Yes, sir, that is correct.

Q Will you proceed?

A You can see that in this particular case, if you plot the pressure --

Q (Interrupting) Excuse me just a minute. You have referred to the fact that you have plotted a pressure decline curve over here for each of these tanks?

A Yes, sir, I have.

Q Is that the material balance equation that was used by Texas Pacific in the determination of the so-called reserves in the Jalmat Pool?

A Yes, sir, as I understand their procedure, that is.

Q All right.

A So in each case down to 500 pounds pressure we produced a million cubic feet of gas. The only difference being that it takes longer to produce the gas out of the tanks with a smaller opening, so that for each case where we solve graphically the material balance calculation as Texas Pacific did, we get an indication of two million cubic feet down to zero pressure, the amount of gas contained in each of these three tanks.

Now I would like to point out that if Case 1 were analogous

to the situation that exists in the Jalmat reservoir, then Texas Pacific would be perfectly justified in their approach to the problem, but Case 1 is not analagous to the situation that exists in the Jalmat reservoir, because in order for it to be analagous with each tank representing a lease within the reservoir, there would have to be an impermeable barrier within the reservoir itself coinciding with the fence lines or the lease lines on the surface. I don't think that situation exists, and if it doesn't exist then this situation Case 1 is not analagous to the conditions that exist in the Jalmat reservoir. So with that background, I would like to go on to Case 2.

Now in Case 2, we have an identical setup with one exception. We have the same three tanks containing gas at a thousand pounds before any one of the tanks has produced any gas. The one difference is that we have tied these three tanks together with a fairly large pie as indicated on this drawing. Now in this particular case we opened the three valves over here simultaneously, keeping in mind all the time that the three valves vary in size, Tank A approximately twice as big as Tank B, Tank B approximately twice as big as Tank C. We haven't changed anything, the only difference, we have tied the tanks together with this pie. We open the three valves simultaneously and produce a volume of gas, at which time we shut the valves on the tank, that would be similar to shutting in a field for bottomhole pressure survey. It happens at the time we shut the valves in, we have a

pressure of 500 pounds on our system. I would call your attention to the rather remarkable difference that exists in Case 2, as compared to 1. Here Tank A with the large valve and highest deliverability this time has produced down to 502.3 million feet of gas, whereas previously it produced only one million cubic feet of gas, the reason being simply that it had the highest deliverability. In other words, down to 500 pounds it has produced three tenths of a million cubic feet of gas more than it contained in the beginning.

Tank B, on the other hand, which has a smaller outlet, down to 500 pounds has produced six-tenths of a million cubic feet of gas with an indicated ultimate recovery of 1.2 million cubic feet of gas, or less than the tank contained initially.

Now Tank C on the other side, which has the smallest valve and the lowest deliverability, has produced only one-tenth of a million cubic feet down to 500 pounds, with an indicated ultimate recovery of only two-tenths of a million cubic feet, whereas it had an indicated recovery of two million cubic feet, or over ten times as much.

I would call your attention to the fact that the only reason for this condition existing is the variation in the size of the outlet of these three tanks. This recovery relationship that we have plotted opposite each tank is in no way related to the volume of gas initially contained in the tank. It reflects one thing and one thing only, the deliverability represented by the

size of the valve on each of these three tanks.

Q Now where did the additional gas that was produced out of Tank A, you said that Tank A in this situation has produced more gas than there was in the tank to begin with?

A Yes, sir.

Q Where did that gas come from?

A It's apparent that the gas produced out of Tank A, that is, out of the outlet in Tank A, must of necessity been drained from Tanks B and C.

Q Is it also true that some of the gas that was produced through Tank B has come from under Tank C?

A Yes, sir, that is correct.

Q I mean out of Tank C?

A Yes, sir, that is correct.

Q Now, as between Case 1 and Case 2, which is applicable to the individual leases in the Jalmat Pool, which are owned by the individual operators who are producing them?

A I think it's apparent that the Case 2, the setup that we have depicted under Case 2 is analagous to the situation that exists in the Jalmat reservoir where gas is free to migrate across lease lines.

Q And that is true,even at the expense of repetition, because of the fact that there isn't any iron curtain between these leases, is that correct?

A Yes, sir, that is correct.

Q With the result that the gas which is shown by the extrapolation of a curve based on pressure and production in Tank A does not reflect the recoverable gas in place in Tank A but reflects the drainage which occurs in addition, and the gas which comes through the outlet in Tank A from the other tanks?

A Yes, sir, that is correct. It not only does not reflect any, does not give any indication of the recoverable gas contained in Tank A initially, but there is absolutely no relationship between the gas that it will ultimately produce and the gas contained in Tank A.

Q Now, Mr. Liebrock, if you took these three extrapolations out here and assumed that each one of those represented the reserve of the tank which it is opposite, what would you conclude as to the reserves of Tank A, Tank B, and Tank C through the extrapolation of that pressure decline curve?

A Well, simply from extrapolation of the pressure production decline curve, you would conclude that the ultimate recovery down to zero pressure for Tank A would be about 4.6 million cubic feet, or over twice as much gas as it could possibly have contained initially.

Q Now, does that same thing occur when you applied the so-called material balance equation to a particular lease as Texas Pacific did in this hearing?

A Yes, sir, it does. When you attempt to apply the material balance calculation without inserting in the material balance

calculation all the factors that should be properly considered, then you can't help but get this.

Q The factor you are referring to is the gas which migrates into the lease itself because of the higher deliverability of that lease?

A That's right, in the case of Tank A the gas which migrates into the lease, in the case of Tank B and C, the gas which migrates away.

Q Now, Mr. Liebrock, you referred to the fact that the difference that we have in these three tanks is the difference in the size of the outlet and you mentioned the fact that that was comparable to the difference in the deliverability of three gas wells, is that correct?

A Yes, sir, that is correct.

Q Now is there any relationship whatever between the size of that outlet and the amount of recoverable gas in place in that tank?

A Absolutely no relationship between the size of the outlet and the recoverable gas in place in the tank, no, sir.

Q If you insert a deliverability factor in aprorationing formula in a gas field, do you not insert a factor which has no relati onship whatever to the recoverable gas in place?

A Yes, sir, that is correct.

Q And does not the New Mexico Statute say that as between owners in a particular pool, prorationing shall be on the basis of

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the recoverable gas in place in the tract?

A Yes, sir, that is correct.

Q Is there anything further you would like to tell us about that exhibit?

A I think there's just one thing further; that is worth mentioning, and that is, if you apply the material balance equation to this entire system, as it should be applied, for example, if you take the total production from all three tanks, 2.3 million plus six tenths of a million plus one-tenth of a million, down to 500 pounds and apply the material balance calculation properly, then you will come up with an accurate indication of the total gas in place in the entire system, which would be analagous to an entire closed reservoir, and that is the proper way to apply the material balance calculation and is in fact the only way to apply the material balance calculation.

Q If I understand what you are saying, it is that that equation could be applied to the entire Jalmat Pool because there is no drainage back and forth across the exterior lines of that pool?

A That is correct.

Q But that it cannot be applied to an individual lease because effect must be given to the drainage, which cannot be done?

A That is correct. You are not making a material balance when you extrapolate this curve along the straight line as we have done here, and Texas Pacific has done along a number of leases in the Jalmat; you are assuming that that well will ultimately

recover that much gas if conditions in the future are identical to the conditions that were identical in the past, which puts a rather severe qualification on their material balance method of determining reserves or anything else.

Q Let me ask you if it would be a fair statement to say, first referring to finding No. 5 of the order in this case, which is that it has been demonstrated that a general correlation exists between the deliverabilities and recoverable gas in place, would that be the equivalent of saying on this exhibit that a general correlation exists between the size of the opening on the tank and the amount of gas in the tank?

A Yes, there very definitely is a correlation between the size of the opening and the gas that you would produce from the tank.

Q You misapprehend my question.

A I am sorry, there would be no relationship between the size of the opening and the recoverable gas in place.

Q And to say that there is a correlation between the deliverability in gas wells and the recoverable gas in place in the tract is equivalent of saying that there is a correlation between the size of the opening and the amount of gas that there is in one of those tanks?

A Yes, sir, that is correct.

Q Is there any correlation or relationship whatever in that regard?

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A No, sir, there is not.

Q The size of the opening could be doubled,trebled, or quadrupled and it wouldn't change the amount of gas in that tank?

A Yes, sir that is correct.

Q Have you made an attempt to apply the conclusion which is demonstrated by that exhibit to actual situations existing in the Jalmat Pool?

A Yes, sir, we have. I think it's fairly obvious that an exhibit of this type without supporting data from the field wouldn't be as useful as it would be if we could find field examples which depict this sort of thing, and that is the purpose of our second exhibit.

Q Will you refer then to Operator's Exhibit 2-R?

(Operator's Exhibit 2-R marked for identification.)

Q What is disclosed on that Exhibit 2-E?

A Well, as indicated by the title on this exhibit, it's to demonstrate the fallacy of computing individual lease reserves by the material balance or by the graphical solution of the material balance equation as Texas Pacific applied it.

In other words, they have determined or contended that there is a general relationship between their reserves and deliverability, and if there is also a general correlation between recoverable gas and deliverability, then there must necessarily be some relationship, according to their testimony, between the reserves and recoverable gas in place.

We have previously, from our first exhibit, demonstrated the fallacy of that line of reasoning, and here by actual field examples, we can demonstrate further the fallacy of that type of approach.

Q What three wells are involved in Operator's Exhibit 2-E?

A We have the Continental Oil Company Lynn B-26 No. 1, Continental Lynn B-26 No. 2, and their Lynn B-25 No. 2.

Q What is the relative position of these three wells in the Jalmat Gas Pool?

A They are adjacent tracts. Their acreage is contiguous between the three.

Q Will you proceed?

A Beginning over on the left-hand side, we have the pressure production data indicated for Continental Oil Company's Lynn B-26 No.1.

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2-p

I might add that I have a pressure point here initially which has not been colored in and which I will add from my records. This indicates that as of August 1950 this well had produced somewhere just under 7,000,000,000 cubic feet of gas, at which time you had a pressure drop of approximately 40 pounds. 21

Now, at that time, if you had drawn a line from the original pressure through the pressure points that you had at that time you would have had an indicated ultimate recovery of 118,000,000,000 cubic feet.

Q Will you take this red pencil and put your initial pressure point on there, please? Was that pressure point just left off by the draftsman in drafting? A Yes, sir.

Q It is shown on the smaller exhibits that have been distributed?

A No, sir, I don't believe it does.

Q Yes, it is.

A At any rate, at this particular time, utilizing the procedure employed by Texas Pacific, you would have estimated an ultimate recovery from this well of around 118,000,000,000 cubic feet, but at that time you had some additional development in the general area, with the result that the position of the pressure production decline curve was altered rather severely, as you can see from the red pressure points here, so extrapolating a line --

Q (Interrupting) You say that position was altered, but

explain just what the dropping of that -- what causes that line to drop?

A Well, this is caused by additional withdrawals in the general area of the field. In other words, the production from the offsetting wells which were drilled about this time resulted in a departure from the previously established pressure curve. In other words, at this time this well was draining a tremendously large area because there weren't any other wells around, but with the drilling of additional wells it completely upset the drainage pattern of the B-26 No. 1, with the result that you got this rather substantially different pressure production decline trend, and you can see that from this trend you would indicate an ultimate recovery of about fifteen and a half billion cubic feet, which is a rather substantial reduction from the estimate that you arrived at earlier. That is reflected by nothing more than the production from other wells in the area.

Q Now, Mr. Liebrock, if Texas Pacific had undertaken to determine the so-called reserves of this well in August, 1950, in the manner that they determined the reserves under the various tracts in the Jalmat Pool in this case what conclusion would they have come up by the extrapolation of that curve?

A They would have concluded that the ultimate recovery would have been in the neighborhood of 11$,000,000,000 cubic feet.

Q Then if they had redone that same thing at a current date,

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what would be indicated as the reserves under that tract?

A 15.5 billion cubic feet.

Q That's about one-eighth of what the original extrapolation indicated, isn't it? A Yes, sir, that is correct.

Q Had the recoverable gas in place under that tract changed other than as it might have been affected by the production from the well itself?

A No, sir, during the course of the history depicted here, the recoverable gas in place underlying the acreage assigned to the Lynn B-26 No. 1 had not changed except for a small amount of production.

Q The difference from 118,000,000,000 MCF to 15,000,000,000 MCF results entirely from a change in the producing pattern in the general area around the well, did it not?

A Yes, sir, that is correct.

Q And the reserves which were computed by the material balance equation, shown in this case by Texas Pacific, were all subject to that same effect on the basis of production in the pool over the period, were they not?

A Yes, sir, that is correct, except of course as we said previously, they did not make a material balance calculation to determine the recoverable gas in place under that tract. They did one thing and one thing only, nothing more, nothing less, they extrapolated pressure production history, which gives a figure that is in

no way related to the recoverable gas in place, it couldn't possibly be.

Q Will you proceed to Continental Lynn B-26 No. 2 and state what extrapolation of the two curves on that well would indicate?

A Yes, the Continental Lynn B-26 No. 2 was drilled a little later. It was drilled at about the time recovery from this well had been around six to seven billion cubic feet. We have an indicated initial pressure here of around 1200 pounds with an established pressure production decline curve initially as shown by these points.

If we had extrapolated pressure production history as of August, 1951, we would have come up with an estimated 5.25 billion cubic feet down to 100 pounds, but at this particular time, due either to additional development or to higher withdrawals from this well, or lesser withdrawals from the offset wells, the pressure production trend on this lease was established. This very short break in trend could have been caused by nothing else than the effect of offset production, which clearly demonstrates that you must of necessity have tremendous movement of gas across lease lines. That is the only way in the world you can upset a pressure production decline trend. So you see at this point from August, 1951 up to the present, you get an indicated ultimate recovery of almost twice as much as you would have estimated back here.

Q To be sure I understand you, if the basis of computing

reserves used by the Applicant in this case had been used in a hearing before this Commission in August 1951, and the reserves of this well had been computed on that basis, it would have indicated approximately five and a quarter million MCF of ultimate production from that well, is that correct?

A Yes, sir, that is correct.

Q If they came back before this Commission this year dealing with exactly the same well and used exactly the same process for computation, they would have gotten twice the reserves that were originally indicated, is that correct?

A Yes, sir, that is correct.

Q And that indicates the fallacy, as I understand it, of the attempt to use this equation in determining the gas, recoverable gas in place under a particular tract in the Jalmat Pool?

A Yes, sir, that is correct. Nothing in my way of thinking could demonstrate it any more conclusively, obviously both of these answers couldn't be right as to recoverable gas in place, and if either one happened to be close, it would be purely accidental.

Q Will you proceed to Continental Lynn B-25 No. 2?

A This is a plot of the pressure production history on the Continental Lynn B-25 No. 2 which offsets the Lynn B-26 No. 2. Now, in this particular case we can draw a fairly good straight line through the pressure production history, but the main reason for plotting this particular data on the graph is to indicate that

despite the fact that you can draw a straight line through these pressure points, that in itself is no indication that this well is simply draining the area which is assigned to the well. It may be draining more, it may be draining less, and here again, if it happens to be draining only the area assigned to the lease it would have to be accidental.

Q Now, tying this exhibit in to your tank exhibit which was Operator's 1-R, is there any way of determining from which one of these three connected tanks the gas that would be reflected by this curve was being produced? A No, sir.

Q It could be coming from the tank at the top - the tank in the middle, or the tank at the bottom, couldn't it?

A Yes, that is correct. It's obvious from our plot on Lynn B-26 No. 1 for a long period of time it was draining an area much larger than the area assigned to the well.

Q Assuming on these three tanks that each one of them is owned by a different operator, the result would be that tank A would be given credit for reserves which did not belong to that operator because they were not located under the tract assigned to the well, is that correct?

A Yes, sir, that is exactly correct.

Q Is there anything further in connection with that exhibit?

A No, sir, I believe not.

Q Now, Mr. Liebrock, in the light of your testimony as to the

total lack of relationship between the so-called reserves obtained by this method used by Texas Pacific and the recoverable gas in place under the tract which the New Mexico statute says that the operator is entitled to recover and his correlative rights must be based thereon, is there any relationship between the deliverability of the well and that recoverable gas in place?

A No, sir, I do not think that there is any relationship between the deliverability and the recoverable gas in place. From our first Exhibit 1-R we demonstrated by a hypothetical example why there shouldn't be, and by continuing the application on to the field examples in 2-R, we have demonstrated from field data why there should not.

Q Now, have you made an attempt to further test that situation by applying the proration formula which will result from the order issued by the Commission to wells that are located in the Jalmat Pool? A Yes, sir, we have.

Q In an effort to see how that relationship would develop?

A Yes, sir, we have.

Q And have you in connection with doing that given consideration to the porosity and permeability conditions which are found to exist in that pool?

A Yes, sir, as we testified previously, we had access to core data on approximately five wells, and we have studied that data to determine the relative importance of permeability and porosity,

and all the things we have been talking about here. In other words, permeability has been mentioned a lot, porosity has been mentioned a lot, and we have made a further investigation to determine just how these various parameters enter into the determination of recoverable gas in place, and how they enter into the determination of the ability of a well to produce.

Q Would it be a fair analysis to say that changes in the permeability are roughly the equivalent of the size of the opening you had in these tanks? A Roughly, yes.

Q And that it has no relation to the amount of gas that there is in the tank?

A Yes, sir, no acceptable relationship between that and the recoverable gas you have in place in the tank.

Q Now, with reference to porosity, what part does it play in determining the recoverable gas in place? Is it a factor, and if so, is it an important factor?

A Yes, sir, if you take a unit or a given volume of reservoir rock, porosity is the most important single factor entering into the determination of recoverable gas in place.

Q Would it be a fair statement to say that the porosity is just the storage capacity of the rock?

A Yes, sir, I can't think of a better way to put it.

Q You said that is the greatest single factor in determining how much gas there is in place under a particular tract?

A Yes, sir.

Q All right. Will you proceed now to the exhibit which examines the relationship between those?

Q You are referring now to Operator's Exhibit 3- R?

A Yes, sir, that is correct.

As we just stated, for a given volume of reservoir rock porosity is the most important single factor that enters into the determination of the storage capacity. At the same time, permeability is the most important single factor in determining the ability of the rock to give up gas.

Q Is it also the most important single factor in deliverability?

A Yes, sir. Beginning over on the extreme left-hand side of this exhibit, we have here plotted the red points that are shown. These red points are average permeability values for each one percent increment of porosity change. This is data which is normally plotted on a semi-logarithmetic graph paper, but for clarification we have plotted it on a linear scale in both directions. You will see the relationship, the best average relationship we could draw between the points indicated here.

Now on the same graph we have super-imposed this 45 degree line here which is roughly the relationship that would be required in order for permeability to reflect storage capacity of the reservoir rock. Now to elaborate a little more on that, when you get an increase tenfold in porosity at the same time you get a tenfold increase in permeability.

Q That is, that is what you would have to get if permeability reflected the recoverable gas in place?

A Storage, yes, sir, that is correct. This is the relationship that you would have to have but which you do not. Here with a twenty percent increase in porosity, you would have to have a twenty-fold increase in porosity, you would have to have a twenty-fold increase in permeability, roughly, for permeability to reflect storage capacity of the rock. You do not have that relationship. You have this relationship that we have plotted here, which as you can see very readily differs extremely from the forty-five degree relationship that would be required, so we have shown here in bar graph form the significance of this type of analysis and what it means; for example, starting here where we have a permeability of one millidarcy, we have a porosity of twelve percent. Where we have a permeability of four millidarcies we have a porosity of fifteen percent, reading directly off of the appropriate curve here. Where we have a permeability of twenty millidarcies right here where we have a porosity of nineteen percent. So you can see the porosity here over the range that we have investigated varies from twelve percent to nineteen percent.

Q That, Mr. Liebrock, is the storage capacity of the rock that you referred to earlier, is it not?

A Yes, sir.

Q That varies within what percentage?

A Porosity varies from twelve percent to nineteen percent.

Q That is the principal factor in the recoverable gas in place specified by the New Mexico Statute?

A Yes, sir, that is correct.

Q All right.

A So to sum up the results of this analysis, for a fifty-eight percent variation in porosity, from twelve percent to nineteen, taking the difference from twelve to nineteen and referring it to twelve, for fifty-eight percent variation in porosity, there is a corresponding two thousand percent variation in permeability. Now that reflects this and nothing more, that while you have a very slight variation or a minor variation in storage capacity, you have a tremendous variation in permeability. This is just from analysis of the rock itself, before it's been fracked. This is a variation you have before you have done anything to the rock in the way of fracturing. Now let's take a look at it for a minute to see what would happen if we went in and fracked some of the wells. I don't think there's any question but that under a frack program in a field as large as Jalmat that you would tend, without a doubt, to expand, to result in a greater spread between the effective permeability that we have indicated here, so that instead of a two thousand percent in permeability you can easily wind up with a four thousand to six thousand percent variation.

Q Now, Mr. Liebrock, when you do that frack job, do you increase those green bars down there, which is the storage capacity of the rock?

A No, sir, and that's the next thing to discuss. In increasing the effective permeability of the system, you do not alter the

storage capacity of the rock. In other words, we are not in a position to alter the storage, we can't put any more gas in the reservoir, but we can alter tremendously the ability of the wells in that reservoir to deliver gas. You have already got a tremendous spread, and with fracking it is going to be even more severe.

Q When you put deliverability in a gas proration formula, are you giving effect to this tremendous permeability range which has no relation to the porosity range, which is the storage capacity of the tract?

A Yes, sir. You very definitely are, and the calculations that we have shown over here on the right indicate why, because as we said previously, for a given thickness or given volume of reservoir rock, permeability is the greatest single factor in determining the ability of a well to produce. For example, and this is nothing more than a sum-up of what we have already said, but for a permeability of one millidarcy and for the thickness we have used here, you would have a productivity as against 500 of 127 MCF per day, whereas for a permeability of twenty millidarcies you would have a productivity of 2,540 MCF per day just by varying the permeability, an increase of two thousand percent, just as we have shown here. In the formula which is used for determining recoverable gas in place, permeability is not even a factor, admittedly it enters into some extent in determining the abandonment pressure of a well, but it is not an important factor and Texas Pacific apparently believed that because they extrapolated

all their pressure production down, you have curves down to 100 pounds. This formula for calculating recoverable gas in place, the factor that is the greatest and most important single factor, namely, permeability, doesn't even enter into the determination of recoverable gas in place. When the two most fundamental factors, such as porosity and permeability, one entering into one formula and not in the other and vice versa, how could there possibly be any relationship between recoverable gas in place and the ability of a well to produce.

Q Mr. Liebrock, to look a little further at the effect of giving effect to this range in permeability by including deliverability in a gas proration formula, you've said there was a range of about two thousand percent in permeability in the Jalmat Pool, with a range of only fifty-eight percent in porosity, is that correct?

A Yes, sir, for the example that we have taken here, we have investigated the permeability range which would result if we had a range in porosity of twelve to nineteen percent, but you will recall previously from our study within our area of investigation we didn't find this much porosity variation, but we have this much permeability variation from the deliverability of the well.

Q Does a deliverability factor in a proration formula inevitably give a proportionately greater allowable to the well, so that the two thousand percent increase in permeability is reflected

in the allowable, where only a fifty-eight percent difference exists in the storage capacity of the rock?

A Yes, sir.

Q And hence in the recoverable gas in place referred to by the Statute?

A Yes, sir, that is correct.

Q Is there anything further in connection with that exhibit, Mr. Liebrock?

A Yes, sir, there's one thing that I would like to add before leaving this particular exhibit. I would like to quote and read directly from an article which was just called to my attention last night. It appears in the March, 1958, issue of the Petroleum Engineer. The title of the paper is "Predicting Reservoir Performance from Core Analysis." The paper starts on B-95. I'm reading an excerpt from page B-100 under the sub-heading "Permeability and Porosity Relationship". This paper was written by Mr. Ben A. Elmdahl, who is head of Elmdahl Engineering Company in Houston, Texas, and formerly associated with Core Laboratories. He has had an opportunity to observe porosity and permeability relationships on a tremendous number of sandstone cores.

"For any given geologic formation with intergranular porosity and permeability, there is a direct relationship between these factors over a specific range of porosity. This relationship is such that at a certain lower limit of porosity, a formation becomes permeable and from this point both factors increase in a

semi-log manner(a 3 percent increase in porosity usually affords a 10 fold increase in permeability)." I would like to repeat that. "A 3 percent increase in porosity usually affords a 10 fold increase in permeability."

Q May I interrupt to ask how that relates to the increase you found in this particular pool?

A Yes, sir. I'm calling your attention to the fact that we investigated the permeability variation for a porosity variation of twelve percent to nineteen percent so that we investigated a seven persent range of porosity and for our seven percent range of porosity we observed a two thousand percent variation in permeability, which ties in very closely with what Mr. Elmdahl quotes in his paper. I might say that he's talking about dirty sands and when I say dirty sands I have reference to sands which have a relatively high concentration of shaly material. I think without a doubt from my discussions with engineers and geologists that the Jalmat sand reservoir comes under the classification of a dirty sand. He is talking about exactly the same type of sand lithologically that I'm talking about here.

I would like to continue this quote, I will have to read back. "This relationship is such,that at a certain lower limit of porosity a formation becomes permeable, and from this point both factors increase in a semi-log manner until an upper limit of porosity for the formation is reached. At this point permeability becomes independent of porosity and may continue to increase while

the latter remain constant,"while permeability remains constant. That's exactly what you would suspect from --

Q (Interrupting) You misread that, I believe.

A While porosity remains constant.

MR. CAMPBELL: We would at least like to have it read properly.

MR. MALONE: Would the witness read it again, please?

A Yes, sir. I'm reading the last sentence where I misread. "At this point permeability becomes independent of porosity and may continue to increase while the latter remains constant." That is, while porosity remains constant. That is exactly what you would anticipate from the graphical relationship that we have shown here. When you get up in the higher porosity ranges where the shaly content of the formation is less of a factor, then you can get tremendous increase in permeability with a minor variation in porosity, with a minor variation in storage capacity.

Q Does that mean, in effect, a tremendous increase in allowable where deliverability goes in the formula, when there is a very minor increase in recoverable gas in place?

A That is correct, with virtually no increase of recoverable gas in place, so I think that is significant from the standpoint of fracking, too, you would be working on the up end of the curve so when you materially increase the permeability of your formation you can do it over a tremendous range without increasing the storage capacity; so for all practical purposes permeability and

porosity has no reasonable relationship as far as this field is concerned.

Q Would you just have a seat now for a moment, Mr. Liebrock? You testified on behalf of the operators in the original hearing in this case, or in the December hearing of the case, with reference to a study which you made on a portion of the Jalmat Gas Pool.

That study related to a determination of the recoverable gas in place by a pore volume calculation or so-called volumetric calculation of the recoverable gas in place under the individual tracts; what was the area that was included in that study?

A It was an area of approximately 11,000 acres.

Q Approximately 11,000 acres?

A Yes, sir, that is correct.

Q In the Jalmat Pool?

A That is correct.

Q At that time you testified in substance that you felt that was an acceptable unit of the Pool on which to base a study such as you made, and that you had not made a study of the entire Pool or a pore volume calculation on the entire Pool because of the inadequate time that was available for that purpose. You recall your testimony in that regard?

A Yes, sir, I do.

Q You proposed to testify further with reference to some of the information that was disclosed in that 11,000 acre study, did you not?

A Yes, sir, I did.

Q Now, since the meeting or since the hearing in December, have you expanded the pore volume study to include the entire Pool?

A No, sir, we have not.

Q Have you made a further study of some aspects of the entire Pool in determining whether or not you would be justified in expanding your study?

A Yes, sir, we have.

Q What did the further study which you made disclose in this regard?

A Well, at the time of the last hearing we fully intended to expand the study, our pore volume study to the entire field; however after we reviewed the additional information, we found that we had deliverability data on approximately fifty percent of the wells outside of our original 11,000 acre area, whereas we had deliverability data on eighty-seven percent of the wells within the 11,000 well area that we had previously studied.

Q Let me be sure I understand you. If you had expanded your study to include the rest of the Pool, you would have only had deliverability information on half of the wells in that additional area?

A That is correct, approximately half.

Q Would that have very materially reduced the value of the study for the purposes for which it was made, so far as the additional

area in the Pool was concerned?

A Yes, in my opinion it would have materially. We could not have supported any conclusions or recommendations that we might have arrived at on the basis of expanded study to the same extent that we could support our conclusions on the small area where we had adequate information. It boiled down to the case of having adequate information on a portion of the Pool and insufficient information on the remainder of the Pool.

Q Were there any other factors that entered into the decision not to expand this study to the entire Pool?

A Yes, sir, realizing that we did not have sufficient information on the area outside of the original area studied, and at the same time taking into consideration that it would require approximately a thousand man hours of work, we could not recommend to the operators that the study be expanded, because we could not give them any assurance that we could come up with anything that we could support to the extent that we could support it in the smaller area.

Q This resulted from the absence of adequate data on the wells outside the 11,000 acre area?

A Yes, sir, that is correct.

Q Now, have you prepared a net pay map and an isobar, a pressure map covering the 11,000 acre area which was the subject of your study, to which you testified in the December hearing?

A Yes, sir, I have.

Q Will you refer to that exhibit, please?

A Yes, sir.

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Q You are referring now to Operator's Exhibit 4-R, is that correct?

A Yes, sir, that is correct. Referring first to the map on the left-hand side of the Exhibit 4-R, we have indicated a bottom-hole pressure map for the 11,000 acre area which we studied. The boundaries of the area are indicated in red on the map.

Q Your left or the map's left are you talking about?

A On this side of the map.

Q What is shown there?

A This is the net pay map, I am sorry. Correction, on the left-hand side of the map we are referring to the left-hand side of the exhibit, we are referring to the net pay map. Now, the procedure followed in estimating net pay for this area has been previously discussed. However, I might mention briefly that we made use of the core data which we previously had reference to in previous hearings, and all of the available logs in this area relating them first to the cored intervals and then expanding the study to include the entire area, with the result that you see indicated here on this net pay map.

Now, on the right-hand side of this exhibit we have a bottom-hole pressure map of the same area, the area again being outlined in red. The pressures here have been corrected to bottom-hole conditions, and are based on measurements taken within three months before or after January 1st, 1957, which was the last complete,

really complete pressure information that we had.

Now, you can see the results of our contouring of the pressure data in this area.

Q Now, what generally does that pressure data indicate?

A Well, the pressure data indicates that within the area studied we have very little variation, relatively little variation compared to other places in the field. For example, a fair indication would be a variation of 100 pounds say from 900 to a thousand pounds.

Q Now, a small variation in pressure as between wells in an area of that kind indicates what, if anything, with reference to communication and the migration of gas back and forth between leases?

A Any time you see a pressure plateau of this type such as covers our area study, then you can immediately conclude that there is excellent communication throughout the reservoir, throughout that portion of the reservoir.

Q What do you mean by communication?

A I mean simply that gas is extremely free to move across lease lines depending on the withdrawal rate from individual wells, just as our first exhibit, our Case 1-R, the second case, our Exhibit 1-R, the second case where we showed that gas was free to migrate from tanks B and C to tank A. This is analogous gas, is free to migrate at will throughout this area.

Q It will indicate that you had a large pipe between the tanks

shown on Exhibit 1-R? A Yes.

Q You have referred to the fact, Mr. Liebrock, that there is a relatively small variation between the pressures which you find in this area? A Yes, sir.

Q And that in some other areas of the pool much larger differences exist? A That is correct.

Q For the purpose of the study which you are making to compare deliverabilities in wells to the net pay or to the recoverable gas in place, is it a more favorable or a less favorable condition to have uniformity in pressures such as exist here?

A It is a much better study where you have uniformities of pressure within a given area because it is in these areas that the migration will be greatest, it is in these areas where the migration of gas across lease lines will be maximum. It is in these areas where correlative rights is subject to damage.

Q (Interrupting) It is where they will be damaged as a result of the migration of the gas if an unfair proration formula is used? A Yes, sir.

Q Is there anything further in connection with the Operator's Exhibit 4-R?

A Yes, sir. I would like to elaborate a little more. I think it ties in with what you have just said, and it also ties in to statements by Texas Pacific earlier that this is an extremely poor area to study because there's very little variation in pressure

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and because there is only approximately a three-fold variation in net pay.

I believe they said it was a poor area because if you have little variation how can you evaluate differences. As a matter of fact, I can't think of a better area in the whole field to evaluate differences. We have better information here than any other place. It is only logical that the competent engineer will take the area where he can properly evaluate it.

I might point out that while we have only a three-fold in net pay and a small variation in pressure, we have a forty-three fold variation in deliverability, and not a great deal of variation in pressure and net pay thickness, then how can there be any correlation. For example, if we have very little variation in these factors, then we shouldn't have very much variation in deliverability, but we have a forty-three fold variation in deliverability, so as a practical matter and taking into consideration the availability of data and the procedure that any engineer could follow, I can't think of a better place to investigate the applicability of the proposed deliverability formula.

Q Now, have you made a study to determine what will actually happen as between wells if a deliverability formula is used on the wells in this area in relation to the recoverable gas in place which measures the correlative rights of the operators in that area?

A Yes, we have.

Q Will you refer to that study, please?

The exhibit to which you are now referring is entitled Exhibit Showing Absence of Relationship Between Recoverable Gas In Place And Deliverability Allowable, is that correct?

A Yes, sir, that is correct. In reviewing this area and the type of information available, it occurred to us that perhaps one of the clearest ways to depict the tremendous variation you have across lease lines would be to run cross sections at several points through the field.

First we have prepared cross section A, A_1 which runs from Tidewater King No. 1 on the north to the Amarada State LMT No. 2 on the south. On this exhibit we have shown the order of magnitude of variation in recoverable gas in place expressed in MCF per acre for the various wells that are included in this cross section.

Now, for the same wells we have shown the deliverability which would result from, we have shown the allowable which will result from the adoption of the deliverability formula. So the result is indicated here, we have approximately a 40% variation in recoverable gas in place between these wells shown on cross section A, A_1, but for the same wells we have approximately a 460% variation in the allowable under the deliverability formula.

Q Now, Mr. Liebrock, let me be sure I understand what you mean by that. Do you mean that considering those wells and comparing the wells as between each other that are shown on your cross section A, A_1, that there is a variation in the recoverable gas in

place of how much?

A Forty percent, approximately.

Q But that applying the allowable formula that would result from the Commission's Order R-1092-A, there would be a variation in allowable of how much?

A Approximately 460%.

Q That's as between those individual wells that are shown on A, A_1?

A Yes, sir, that is correct.

Q Now, when you get a roughly ten to one variation in allowable as between wells which have a substantially equal amount of gas under the tract, or recoverable gas in place, what is going to happen so far as drainage is concerned?

A Well, sir, there is only one thing that can happen, you must of necessity have tremendous drainage across lease lines.

Q That means that the well that gets the tremendously high allowable because of the injection and deliverability in the formula does not necessarily have any higher recoverable gas in place, is that correct?

A That is correct. It does not necessarily have any higher recoverable gas in place, but it will recover a much greater portion of the total gas in place in the area than it's entitled to.

Q Whose gas is the owner of that well going to be recovering?

A Well, from the various offset tracts.

Q It's going to be recovering somebody else's gas besides his own?

A That is correct.

Q Does or does not that relate directly from the injection of a deliverability factor in the proration formula when there is no correlation between the deliverability and the recoverable gas in place? A Yes, sir.

Q All right, would you proceed with the description of that exhibit?

A I will continue on to cross section B, B_1 which is a west-east cross section extending from the Texas Pacific State A No. 1, [illegible] on the west to the Gackle King No. 1 on the east.

Q That's an east-west cross section, isn't it?

A Yes, west-east.

Q Or west-east?

A Yes. Now, on this particular cross section we have approximately 110% variation in recoverable gas in place as we have shown here, whereas for the same wells we have approximately a 470% variation in allowable under the deliverability formula. So here again, you have the same pattern which will result in migration of gas across lease lines. It must of necessity result in migration across lease lines, it just simply can't help resulting in it.

Q Those individual bars each indicate an individual well which you have labeled on that exhibit, do they not?

A Yes, sir, that is correct.

Q And the green bar up above indicates the recoverable gas

in place under that tract? A That is correct.

Q The red bar down below indicates the allowable that the well will receive under the present Commission order?

A That is correct.

Q Now, if there was a general correlation between deliverability and recoverable gas in place, what would you find with reference to the relationship between the green bar on any well and the red bar?

A If there was a general relationship you would find that the length of these two bars would tend to coincide much closer.

Q And comparing the upper and lower bars, the green bars up above and the red bars down below, what would you find?

A You would find the same order of magnitude of variation, instead of the tremendous variation you would have a variation much less than the order of magnitude indicated here.

Q Well, what, if anything, does it demonstrate in your opinion as to the existence or non-existence of any correlation between deliverability and recoverable gas in place which the statute says the operator is entitled to receive?

A Well, sir, in an area which lends itself better to the type of study that needs to be made than any other area of the field based on the availability of data, it proves conclusively that there is no general relationship between recoverable gas in place and the allowable which would result under the deliverability formula.

Q What if anything does it prove with reference to the drainage that is going to result from injection of that deliverability formula into the gas proration?

A Well, sir, when you study the results of these bar graph analysis in conjunction with the pressure history in this area and the net pay thickness in this area, you can conclude but one thing, no one could conclude anything else that there must of necessity be tremendous movement of gas across lease lines. You can't have variation of this order of magnitude without upsetting correlative rights tremendously.

Q Now, will you refer to your cross section C, C_1?

A Cross Section C, C_1 is patterned after the others and extends from the Gulf Jamda I No. 2 on the north to the Continental Lynn B-26 No. 4 on the south. Here we have a variation in recoverable gas in place of approximately 85%, and for the same wells we have a variation in allowable under the deliverability formula of approximately 360%. So the pattern here is easily the same as the pattern on the other two cross sections.

Q These wells likewise are offsetting wells that are going to be draining each other if one well gets a greater allowable in relation to its recoverable gas in place than its adjoining well, is it not?

A Yes, that is correct.

Q Is there anything further that you would like to state in

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connection with that exhibit?

A Well, there are two or three things that might be worth mentioning. We have called attention to a couple of wells here, first the Cackle King No. 1 which is the easternmost well in cross section B, B_1 which would have a monthly allowable of approximately twenty-one million under the existing formula, or under the acreage formula as compared to approximately one hundred three million under the deliverability formula.

Q You say the allowable of that well would increase from twenty-one million to a hundred three million?

A Approximately, yes, sir.

Q Under the new proration formula?

A Yes, sir. Approximately a five-fold increase.

Q And that is offsetting a well which is the Gulf Janda H that has a recoverable gas in place that compares how to that well?

A Well, they are practically identical, one I would say has a recoverable gas in place of approximately 32,000 as against 33,000 for the Cackle King No. 1.

Q So that with approximately equal recoverable amounts of recoverable gas in place, this Cackle well is going to get a five-fold increase in allowable as compared roughly, as compared to the Janda well?

A Yes, sir, roughly.

Q Those are adjoining wells, are they not?

A Yes, sir, they are.

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11-p

Q What's going to happen to the gas under the Gulf Janda well when that allowable hits?

A Well, I think it's apparent, --

MR. CAMPBELL: Is Gulf a party to this rehearing?

MR. MALONE: I don't know whether they are or not. I'm not representing them.

MR. CAMPBELL: If Gulf is not a party, it seems to me it is immaterial.

MR. MALONE: If the Commission please, we are making a study, we are presenting evidence of a study in the Jalmat Pool from information available in the Commission's files as to the wells. To suggest that we have to limit our study to the wells that belong to the people we represent is a new concept that so far as I know has never been injected in this Commission before, and I hope never will be. I might say we are referring to some Texas Pacific wells also, and I don't represent them either.

MR. PORTER: The Commission feels that it's immaterial as to the ownership of the wells in the area involved.

Q Will you proceed?

A That is the extent of my comment on this thing. I think it is apparent that a portion of the gas underlying the Gulf Janda H Lease will migrate to the Gackle King No. 1.

Q Is it your opinion as an engineer that that would occur?

A Yes, sir, it is.

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MR. PORTER: Mr. Malone, let's take a ten minute recess.

(Recess.)

T6-1R

MR. PORTER: The hearing will come to order. Mr. Malone, would you proceed with your witness?

Q Mr. Liebrock, before we leave Operator's Exhibit 3-R, will you refer again to that exhibit and point out any wells indicated thereon which have extreme ranges in deliverability in relation to the recoverable gas in place as related to offset wells?

A Yes, sir, referring first to cross-section C-C', I think it's worth pointing out that the Continental Lynn "B" 26 No. 4 has a deliverability allowable of approximately sixty MCF per month per acre, which is the lowest allowable in the cross-section of the several wells included in the cross-section, whereas the same well has the highest calculated recoverable gas in place of approximately 41,000 MCF per acre. By the same token, in cross-section A-A', the Amerada State LMT No. 2 has a deliverability allowable of approximately 65 MCF per month per acre, and it is the well with the lowest allowable in the several wells included in the cross-section, whereas it is the well with the highest indicated recoverable gas in place, approximately forty-six to forty-seven thousand MCF per acre.

Q I understand, then, that under the order of the Commission it would be permitted to produce less than any of those adjoining wells, whereas it has the largest recoverable gas in place?

A Yes, that is correct.

Q As to the first well that you testified to, that it has the

smallest allowable and the largest recoverable gas in place of any of the wells in that group?

A Yes, sir, that is correct.

Q Mr. Liebrock, did you prepare the bar graph comparing deliverability to recoverable gas in place on fifty-eight wells in the test area which was attached as an exhibit to the petition for rehearing of a number of the operators?

A Yes, sir I did.

Q Do you have a larger scale version of that exhibit available?

A Yes, sir, I do.

Q Will you refer to that exhibit, please? What is the title of the exhibit to which you are now referring?

A The title of this exhibit, or the purpose of this exhibit is to show the absence of correlation between the deliverability and recoverable gas in place within this area which we studied. On this exhibit we have plotted deliverability in order of increasing deliverabilities. In other words, we have gone through, beginning with the well having the lowest deliverability, which is around 470 MCF per day, to the well having the highest deliverability, which is approximately 19.4 million cubic feet per day.

Q Is there a point up there just above --

A (Interrupting) There's a point and it is covered up but it is there.

Q That is the deliverability of the last well shown to the right on the bar graph?

T6-3R

A Yes, sir. You recall that we mentioned previously that within this area we had approximately a forty-three fold variation in deliverability.

Q To be sure that I understand what this exhibit reflects, what does the green bar indicate as to each well?

A The green dot?

Q The green dot, rather.

A The green dot indicates the deliverability for each well in the fifty-eight well area.

Q What does the red bar indicate?

A The red bar indicates the recoverable gas in place for the same well.

Q For the same well?

A Yes, sir.

Q So that the relationship between the deliverability and the recoverable gas in place as to each well is shown by the green dot and the red bar respectively?

A Yes, sir.

Q Do you have available the information that you can identify each of the individual wells that is shown on here, if that should be of interest to anyone?

A Yes, sir, I do.

Q All right. Now what does that exhibit show with reference to the correlation, if any, between deliverability and recoverable gas in place in these wells?

T6-4R

A Well, it shows that there is no relationship, no correlation between recoverable gas in place and deliverability. For example, if there were any relationship, if there were any general relationship between recoverable gas in place and deliverability, the height of these red bars would coincide much more closely or approximate much more closely the deliverability increasing values as we have shown along here. As you can see, as we proceed from left to right, we don't get any indicated increase in height of the red bar which reflects recoverable gas in place. For example, here, the well which has the highest deliverability in the area has a reserve of approximately 30,000 MCF per acre. Well, there are any number of wells through here that have that much reserve or more with substantially less deliverability, so there is absolutely no correlation between recoverable gas in place and deliverability.

Q Now what is the range of deliverabilities that you found to exist in this group of wells?

A The deliverabilities in this area vary from 450 MCF per day to 19.4 million MCF per day, a forty-three fold variation, approximately.

Q A forty-three fold variation in deliverability?

A Yes, sir.

Q And if those deliverabilities are placed in the proration formula in accordance with the present order of the Commission, will effect be given to that forty-three fold variation without

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relation to the recoverable gas in place?

A Yes, sir, it will. For example, here, the second well in our cross section has a very low deliverability, has approximately 500 MCF per day deliverability, yet it has nearly 55 MMCF per acre recoverable gas in place. It will be penalized severely; whereas on the other end of the scale we have a deliverability of over nineteen million, this well has an indicated recoverable gas in place of somewhere around thirty, so it's obvious that it's recovery will be increased tremendously, even though its recoverable gas in place is no greater than any number of other wells in the area.

Q Now, if a correlation did exist between deliverability and recoverable gas in place, what would you find with reference to ailine drawn from the tops of each of those bars in relation to the line that's formed by those dots which go across showing deliverability?

A Well, sir, if a general relationship existed, you would find when you connected the top of the bar that they would increase gradually from left to right just as the green points representing deliverability increase.

Q Does there seem to be any such increase there?

A No, sir, I can detect none.

Q Now, if that situation exists and the wells, some of the wells shown in here are offsetting wells or offset each other, what, if anything, will be the result of the proposed deliverability

formula so far as migration is concerned?

A Well, sir, it's apparent, I believe, that it will tend to result in a substantial migration of gas across lease lines with the extent that correlative rights cannot possibly be protected. In some instances this migration will be very substantial.

Q Now, have you made a study in an effort to determine with respect to particular wells just how substantial that migration or how substantial that drainage or loss of reserves will be under the deliverability formula?

A Yes, sir, I have.

Q Will you refer to that study, please?

A Yes, sir.

Q You are referring now to an exhibit marked Operator's Exhibit R-7 and entitled Showing Leases Which Will Suffer Migration Loss Under Deliverability Formula, is that correct?

A Yes, sir, that is correct.

Q Will you tell us just what the study that you have made and the results that are shown on this Exhibit?

A Well, sir, you will recall from our previous exhibit showing the distribution of reservoir pressure throughout the area studied, that we had no tremendous variation in reservoir pressure, the order of magnitude being 100 pounds. The results of our analysis of this study indicates that there will be under the proposed deliverability formula appreciable migration of gas across lease lines over and above what it would be under the acreage formula. The results of our study for the area are shown on this exhibit. Beginning here I might just read off the tracts involved. For example, here we have --

Q (Interrupting) Just a minute, let me clarify one thing. You have not listed on this exhibit all of the wells in this area that you are studying, have you?

A No, sir, we have listed only those wells and tracts which we calculate will suffer migration loss if the deliverability formula is adopted.

Q That is under the formula as now authorized by the Commission?

A Yes, sir.

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2-p

Q You have listed the wells which are going to suffer drainage and tabulated the amount of drainage they'll suffer and the value of the gas?

A That is correct.

Q All right, will you proceed?

A Just for example, you can see the order of magnitude of variation. We have a maximum migration loss for one lease here of about 3.4 billion cubic feet ultimately. We have some leases which exhibit a very slight loss, for example down here the Texas Pacific Coal and Oil State A No. 30, a very slight loss. I might round down the line just a few. Texas Pacific State A-1 No. 22, Texas Pacific State A No. 21, State A-1 No. 31, State A-1 No. 33. The Continental Lynn B-26 No. 2 is a lease which will suffer a rather substantial migration loss, the Amerada State LM "T" NO. 5.

Here is another well that will suffer a migration loss, the Glenn E King which will have a loss of 2.075 cubic feet.

Q You say that that lease is going to suffer that loss. Do you mean that the operator and royalty owners will not receive that gas which they are entitled to receive under the present proration formula?

A Under the acreage formula, yes, sir.

Q Now, who will receive that gas if this deliverability formula goes into effect, who will produce it?

A Well, the gas will be produced by other tracts in the area

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3-p

which are presently shown in white.

Q You have colored some tracts in the area on the right-hand side of the exhibit, what do those colors indicate?

A Well, we have simply divided it into three groups and classifications, everything colored in green on the map will have an estimated loss of less than one billion ultimately. Tracts colored in brown will have a loss between one and two billion ultimately. Tracts colored in pink a loss of over two billion ultimately.

Q Now, when you say ultimately, what do you mean?

A I mean at the time of depletion of the area.

Q You mean between now and the time that the pool is completely depleted?

A Yes, sir.

Q Now, how did you go about computing the figures that are shown on this exhibit?

A Well, as I stated previously, we have an area that lends itself particularly well to a study of this type. In fact, I think that this particular area lends itself better to this particular type of study than any other area of the field. Not only because we have sufficient information, but because of the minimum variation in pressure throughout here. As I stated previously, any time in a reservoir of this type where you see very little pressure variation, then you immediately conclude that you have rather substantial movement of gas laterally in the reservoir. With that

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4-p

as a background, and using that type of information, we have distributed the total recoverable gas in place in this area according to the acreage formula, that is we have broken down the total recoverable gas in place the way we think it would be, the way we calculate it would be under the acreage formula and the way we calculate it would be under the deliverability formula. From those two sets of figures we have determined the values that we have indicated here.

Q So that that loss in ultimate recovery is a loss, as compared with the present proration formula, that has been in effect for the last four years as compared to the proposed deliverability formula authorized by Order 1092-A?

A Yes, that is correct.

Q What do you find in that regard in terms of revenue loss which would be sustained by some of the individual leases that are going to be drained under this formula?

A Well, we have made a very simple calculation by estimating that the gas price will be ten cents over the remaining life of the field.

Q Let me ask you whether you consider that to be a conservative estimate so far as gas price is concerned?

A I believe, sir, that it would be conservative.

Q Do you know prices in excess of that that are being paid in the Permian Basin?

A Yes, sir, I do substantially in excess.

Q Prices range up to sixteen cents at least, do they not?

A Yes, sir, they do.

Q All right. In your computation, based on ten cents per MCF, shows what?

A It shows utilizing the total estimated loss of 53 billion cubic feet for the tracts that converted in terms of revenue would be five million three hundred seventy-five thousand dollars for the tracts shown here.

Q So I understand then that the effect of the change being made in the formula will be to distribute to different operators and royalty owners in this studied area, five million three hundred seventy-five thousand five hundred dollars, which they under the present formula are entitled to receive?

A Yes, sir, that is correct.

Q Percentagewise how much of a redistribution of wealth does that accomplish by this Order R-1092 A?

A This represents a redistribution of approximately twenty percent of the estimated future recovery from the area studied.

Q So that the estimated future recovery in gas during the remainder of the life of this pool is how many dollars, approximately?

A Five point three million.

Q No, the estimated total.

A The total would be somewhere around twenty-five million.

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6-p

Q This represents approximately what percentage of the entire Jalmat Pool?

A This area?

Q The studied area.

A The studied area represents, oh, some fifteen, twenty percent of the total field. I can check that figure.

Q If that same redistribution of wealth occurs over the entire pool, how much in dollars would be redistributed among the operators and taken away from persons entitled to receive it under the present formula if the proposed formula continued in effect?

MR. CAMPBELL: I'm going to object to that question. There is no testimony here that that same situation exists in other areas of the field. There is not even an indication that it does by this witness.

MR. MALONE: I agree to that, and if you wish to object to the mathematical calculation, we'll withdraw the question.

Q Is there anything further in this exhibit that you would like to point out, Mr. Liebrock?

A No, sir, I believe not.

Q All right. Would you return to the witness chair, please? On the previous hearing there was testimony, I believe, both by you and on cross examination by witnesses from Texas Pacific Coal and Oil Company as to the fact that in the event deliverability goes into this formula, a fract race in Jalmat will inevitably occur, and there was testimony as to the average cost of fracting wells.

Have you made a study since that time in an effort to obtain a realistic figure as to the cost of fracting each well, the average cost of fracting wells in the Jalmat Pool?

A Yes, sir, I have.

Q What figure, in your opinion, is a fair average cost for the fract operation that would be required on each well?

A Well, sir, utilizing additional information, and further reviewing the data available since the last hearing, I feel that a value of $10,000 will be a representative average figure.

Q How many wells, if you know, in the pool are not shown to have been fracted heretofore by the records of the Oil Conservation Commission?

MR. CAMPBELL: If the Commission please, at this point, for the record, I would like to offer an objection to any testimony relating to the economic aspects, economic wastes aspects of this hearing. I take the position I don't want to renew this every time it comes up in the event the Commission overrules me, that is why I'm making it now, that the only basis that this Commission has in the statutes to consider cost economic loss is in relation to well spacing and in preventing the drilling of unnecessary wells. Our statutes does not define waste as economic waste. I believe that costs that are involved to individual operators are not material to this hearing in any respect for that reason and I object to any of the testimony as to that phase of the hearing.

MR. PORTER: Mr. Campbell, the Commission has decided to overrule your objection.

MR. CAMPBELL: Will the record show that my objection goes to all testimony relating to economic loss or economic waste in connection with this hearing.

MR. PORTER: Let the record so show.

Q I believe that the question, Mr. Liebrock, was whether or not you know the number of wells as shown by the Commission records in the Jalmat Pool which are not shown to have been fracked in their completion?

A Yes, sir, our review of the Commission records indicated that there are at least 283 wells which have not been fracked, at least where there is no record of them having been fracked.

Q Now, will you state whether or not in your opinion it will be necessary for the owners of wells which have not been fracked to do so in the event the deliverability formula is adopted?

A Yes, sir. I think it will be necessary for them to frack the wells to see what kind of an increase they can get, yes, sir.

Q What is the reason it would be necessary?

A In order to prevent the drainage of their gas across lease lines to wells which have higher deliverability and therefore higher allowables under the deliverability formula.

Q Now would you state briefly, Mr. Liebrock, how a frack job is accomplished on a well such as the Jalmat well?

A Well, there are various approaches that might be used. I

would suspect that where the company conducting the frack job feels that the condition of the well is such that they can inject large volumes of sand and oil, that they will conduct large volumes, high injection rate frack treatments by going down the casing.

Q Is that the normal way of carrying out a frack job?

A Yes, sir.

Q Is it carried out under high pressures?

A Yes, sir, relatively high pressures.

Q What pressures on the casing occur in the course of such a frack job?

A Well, sir, I think it's reasonable to expect that the type of frack jobs performed in this field would result in wellhead injection pressures of around two to three thousand pounds.

Q Per square inch?

A Yes, sir.

Q When was the first gas well in the Jalmat Pool drilled, if you know?

A I believe it was September of '29.

Q Are there in the Jalmat Pool a number, a large number of old wells that have had casing in them for a long time?

A Yes, sir, there are.

Q Taking that condition into account, will you state whether or not in your opinion the widespread fracking or attempts to frack wells in the Jalmat Pool would or would not result in underground waste?

T8-3R

A Yes, sir I think there is a definite possibility that it would.

Q How would that occur, in your opinion?

A Well, sir, I think that in old wells where the casing is old, the operator who decides to perform a high injection rate frack treatment runs the risk of rupturing his pipe and bursting it, and possibility of water coming in from above, or if the pipe is all right, I think in the great number of the open holes, the operator runs the risk of fracking down into water, with the result he would have the invasion of the well bore with water, and to a certain extent,the surrounding formation.

Q Would you elaborate a little, please, on what you mean by frecking down into water?

A Well, sir, I think it's commonly accepted fact that the directions taken by the fractures resulting from imposing high pressure on the formation,take off in various directions. I think it has been positively established that some of these fractures extend in a vertical direction, and if they do extend in a vertical direction then there is a possibility of them fracking downward into water.

Q Would that result in physical waste?

A Yes, sir, in those instances where water came in from the bottom portion of the formation and invaded the reservoir surrounding the well bore, the recovery of gas from that area would be less than it would have otherwise.

T8-4R

Q Now, you have referred in your testimony to the range of increases that would result in the allowables of individual wells if this new formula goes into effect. Can you give us some examples of the increase in allowables in particular wells that would occur under the new formula?

A Yes, sir, I can cite a few. We could take the proration schedule and cite a great many, but I have selected here a few that might be of interest. Beginning first with the Cities Service Clausen "C" No. 1, under the acreage it would be an allowable of 41.2 million a month, whereas under the proposed deliverability formula it would have an allowable of slightly over two hundred million a month.

Q That's an increase from 41 million to 200 million a month?

A Yes, sir. The Clausen, the Cities Service Clausen "C" No. 3, an increase of 41 million to 172 million a month. The Continental Stevens B-18 No. 1, an increase from 20.8 million to 82.5 million. The Gackle King No. 1 from 20.8 million to 108.6 million. Finally the Western Natural McDonald State No. 3 from 20.8 million to 111.8 million. They're varying degrees of variation throughout the field.

Q Now, have you made a study of the location of some of these wells as to which you have just testified with relation to water encroachment in this Pool?

A Yes, sir, I have.

Q Will you state whether or not in your opinion the increase

T8-5R

of allowable in any of those wells will result in physical waste if the allowable provided by the new formula is applied?

A Yes, sir, we have given particular attention to the Cities Service Clausen wells on the west side of the field.

Q Why did you give particular attention to those wells?

A Because our analysis of the reservoir performance over there demonstrates conclusively in our opinion that you do have some influxion of water and that you have sufficient volume of water in contact with the gas over there to provide some of the energy which is contributing to the expulsion of gas.

Q How in your opinion then would physical waste occur in the event this increase in allowable is taken from those wells?

A Well, sir, in the instance of these two wells where the allowable would be increased from approximately three to five fold I think that it could very easily result in premature invasion of the formation by water.

Q In other words, it would be a condition which would be conducive to early fingering of the water into these wells?

A I have discussed this matter with the engineers who are particularly familiar with these wells and that is also their opinion.

Q Now, you have heard testimony in this case, Mr. Liebrock, to the effect that the acreage formula which is now in existence or which is in existence till Order R-1092-A was issued, has been in existence since January 1st, 1954, or a period of some

T8-6R

four years?

A Yes, sir.

Q Assuming that during that four-year period there have been sales of properties from time to time, loans made to operators from time to time, and sales of royalty interests from time to time, will you state whether or not a change at this time in the proration formula would adversely affect the persons who entered into such transactions during that four-year period?

MR. CAMPBELL: If the Commission please, I would like the record to show that I object to that question upon the ground that it's immaterial inasmuch as no operator acquires a vested property right in allocation formula.

MR. PORTER: Mr. Campbell, the Commission will sustain your objection.

MR. MALONE: If it please the Commission, for the record I would like to make a tender of proof so that the proof which we propose to make by this witness would be in the record in the event of a review of the proceeding.

MR. PORTER: You may proceed, Mr. Malone.

MR. MALONE: Come now the Jalmat operators and make the following tender of proof upon the objection of Texas Pacific being sustained by the Commission. If permitted to do so, the operators would show by this witness that it is a common procedure to purchase properties and royalties, and for banks and financial institutions to make loans on the basis of the period of months required

to pay out the purchase price of the property or the amount of the loan, as the case might be; that such transactions are concluded on the basis of the existing proration formula, and that a change to the formula authorized in the Order 1092-A would adversely affect the parties who so entered into those transactions.

The operators would further show by this witness if permitted to do so that during that period operators have pooled their properties to form units under the acreage allocation formula, which units were advantageous to the parties under the acreage formula and would not be advantageous to the parties under the proposed formula, but that having contractually agreed to do so, they cannot now rescind the units which they made upon reliance on the Commission's prior order.

MR. PORTER: Mr. Malone, the Commission will deny the tender of proof.

Q Mr. Liebrock, based upon the study which you have made of the Jalmat Pool, will you state whether or not in your opinion there exists any correlation, general or otherwise, between the deliverabilities of wells in that pool and the recoverable gas in place under the tracts assigned to the well?

A No, sir. From my study there is no indication that such a correlation, general or otherwise, exists.

Q Will you state whether or not there exists in your opinion any correlation or constant relationship between reserves in the Jalmat Pool as computed by Texas Pacific Coal and Oil Company witnesses in this case and recoverable gas in place under the tracts assigned to the wells?

A No, sir, from my study there does not.

Q Will you state whether or not in your opinion there is any basis for assuming, or it can be assumed as a valid engineering concept, that a relationship exists between deliverabilities and recoverable gas in place if it be conceded that a relationship exists between deliverabilities and reserves computed by material balance calculation?

A No, sir, even if I understand your question correctly, even if there is some indication of a correlation between deliverability and reserves computed by the material balance calculation as

applied by Texas Pacific, even if there is some relationship of reserve there, there is no reason to believe that can be extended further to conclude that there would be a relationship between deliverability and recoverable gas in place.

Q Have you found anything to indicate such a relationship exists? A No, sir.

MR. HALDEN: If it please the Commission, I think I'm through with this witness, if the Commission is thinking of adjourning for lunch, unless something else occurs during the noon hour while I check my notes.

MR. BOREN: The Commission is thinking of recessing for lunch. Suppose we take a recess until one-fifteen.

(Recess.)

T10-1R AFTERNOON SESSION

MR. PORTER: The meeting will come to order, please. Mr. Malone.

MR. MALONE: If it please the Commission, as sometimes happens I thought of a couple more questions during the noon hour.

Q Mr. Leibrock, you testified this morning to an estimated $2,830,000 cost of the frack rates which you felt would result from injection of deliverability into the Jalmat gas proration formula. I did not ask you whether as a result of that expenditure the ultimate recovery of gas from the Jalmat Pool would be appreciably increased.

A No, sir, I do not think there will be an increase of any consequence.

Q Now, I would like to refer you again to Operator's Exhibit 7-R, which shows the migration which you anticipate will occur if the change in formula contemplated by the present order is made. You testified that the drainage which is reflected by this loss in ultimate recovery and revenue loss was a loss as compared to the production that would be expected under the present acreage formula, is that correct?

A Yes, that is correct.

Q Did you, in connection with making these computations, also compute the drainage loss that would occur under the acreage formula as compared to recoverable gas in place, or a perfect formula if one could be devised?

A Yes, sir, we did.

Q What was the extent of drainage loss that occurs under the present acreage formula as compared to perfection?

A It is approximately 25 billion cubic feet.

Q In dollars that would amount to what?

A To approximately 2.5 million.

Q Then if I understand you, under the present formula the deviation from perfection or a perfect formula that occurs under acreage results in drainage of about two and a half million as compared to a drainage of $5,375,000 under the proposed deliverability formula--

A Yes, that is correct.

Q -- is that correct? Did you also compute the deviation of the deliverability formula from perfection? That is to say, the drainage that would occur in this area as compared to the recovery if a perfect formula could be devised?

A Yes, sir, we did.

Q Approximately what did that amount to?

A Approximately fifty billion cubic feet.

Q Approximately fifty billion cubic feet, so that the deviation from perfection of the deliverability formula is approximately the same as the deviation from the present acreage formula, is that correct?

A Yes, that is correct.

Q That is the change that will occur if the formula as proposed goes into effect?

A Yes, sir, that is correct.

MR. MALONE: That's all.

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

MR. CAMPBELL: Yes, sir.

MR. PORTER: Mr. Campbell.

CROSS EXAMINATION

By MR. CAMPBELL:

Q Mr. Liebrock, since the last hearing before this Commission on this matter, what data have you studied that you did not have available at that time?

A We have made a more comprehensive study of the data that we had available at that time.

Q Have you had any additional data that was acquired or available to you since that time that was not available to you at the time of the last hearing?

A Well, sir, I believe we had the core analysis that you had available and admittedly I had it at the time of the hearing, but I hadn't had a chance to study it at the time.

Q Then your answer is that so far as new data is concerned available since the last hearing, you have had none, is that correct?

A I can't state definitely that I haven't had any new data at all. I would have to review my files, but that is substantially correct.

Q What might you have had?

A Some additional deliverability data on a few wells that I

didn't have at that time, but that is substantially correct, I don't have much additional information that I didn't have then.

Q Your study, your concentrated study of the Jalmat area at the time of the last hearing was confined to the fifty-eight well area, was it not?

A Yes, sir, except I would like to clarify just a little. We referred to it as a fifty-eight well area, it is an area that contains approximately 11,000 acres and sixty-seven wells. Of the sixty-seven wells we had data on fifty-eight, that is, deliverability data.

Q I believe you testified that that contained fifteen to twenty percent of the total acreage within the Jalmat Gas Pool?

A I said this morning, I mentioned a figure like that, but I would have to check it to be sure.

Q But the area that you have been referring to here today which you have studied, the 11,000 acre, sixty-seven well area if you please, is the same area you studied prior to the time of the original hearing, is it?

A Yes, sir, that is correct.

Q Have you had any additional data available to you within that area since the time of the last hearing?

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

Q For the purposes of the evidence that you have offered here today relative to that area, you had the same data available and made the same types of calculations, or used the same assumptions

T10-5R

for your calculations as you did at the prior hearing, is that correct?

A Well, sir, I don't know whether that's true or not. I don't know exactly what assumptions you have reference to.

Q You will recall, Mr. Liebrock, at the last hearing, that I questioned you as best I could about the basis for some of your conclusions with reference to your determination of recoverable gas in place within this area?

A Yes, sir.

Q You testified at some length there with regard to the five cores that you had studied?

A Yes, sir.

Q With regard to, I believe, the thirty-eight logs that you had studied?

A Yes, sir.

Q With regard to the assumptions that you made with reference to porosity and connate water, do you recall that testimony?

A Yes, sir, but I want to clarify one thing there. I don't quite agree with you on the use of the word "assumption". I don't believe I made any assumptions, in the sense that you are talking about.

Q Well, it may not, what I was referring to was,I believe your testimony that using the data you had available, you then -- "extrapolate" is probably not the word, but you used that as average within the area to the extent that you testified at the

last hearing, it's in the record.

A Yes, sir, I think I can answer that question a little better. As you recall, we had some porosity data on the south side of the field and on the west side and to the north, and we also had one core analysis within the field and have those core data based on the criterian we used for estimating net pay, we didn't come up with an appreciable variation in porosity so I think when you say assumption of porosity for the whole area, it implies that the quality of the data wasn't sufficient to justify using that value.

Q That is the point I want to make. I am not trying to change your testimony from the original hearing.

A Yes, sir.

Q What I want to ask you is this. Have you had any data available or have you made any different approaches insofar as the recoverable gas in place in this area is concerned, for the purposes of your testimony at this hearing, that you did not use at the last hearing?

A Are you questioning me simply from the calculation of the recoverable gas in place?

Q Yes.

A Yes, there hasn't been any change, we calculated it the same.

Q You had stated, Mr. Liebrock, the reason you did not extend your study outside of this 11,000 acre area since the last hearing is that data was not available and time was not available,

T10-7R

is that correct?

A Well, principally data, sir.

Q You testified that you had available deliverability data on only fifty percent of the wells outside of this 11,000 acre area?

A Approximately.

Q What effort did you make to obtain additional deliverability data beyond the fifty percent that you say was available?

A We had made what I consider to be a pretty exhaustive search of the files and records and the various sources at the time we made our first study, and I believe from my contacts with the various engineers that I worked with that they came up with all the deliverability data that was available. There may be data in the files of various companies that we did not have, but I thought that we made a reasonable and determined effort to get it in the first place, and so I didn't feel there was, that any further effort on my part would be very fruitful from the standpoint of turning up a tremendously large volume of additional information. I feel confident that is the case.

Q Did you investigate to determine whether the Oil Conservation Commission had in its files deliverability test data beyond the fifty percent to which you referred in your testimony? Did you check the files of the Commission?

A Not since the first time, no, sir.

Q Did you check the files of the Commission the first time?

A Yes, sir, in Hobbs.

Q Did you check the files of the Commission in Santa Fe?

A I would have to talk to a number of engineers that I worked with. I am not sure, I don't know whether we did or not.

Q How many actual deliverability, well deliverability tests did you have available to you within the 11,000 acre area by number?

A Fifty-eight.

Q Out of the sixty-seven?

A Yes, sir.

Q How many did you have available to you outside the 11,000 acre area?

A Well, sir, eliminating the marginal wells, somewhere around one hundred forty, fifty, something like that.

Q Do you believe if you had available to you deliverability test data on all or almost all of the wells within the 11,000 acre area, your study would have been more thorough?

A I'm sorry, I didn't quite get that.

Q Speaking now of the 11,000 acre area, if you had studied deliverability test data on more than the fifty-eight wells within the sixty-seven well area, would your study have been more complete?

A To the extent that sixty-seven is more complete than fifty-eight.

Q Would that same thing have been true if you had had more than fifty percent of the deliverability data on the wells outside

of that area available to you, could you have made a study of that other area?

A I don't know whether we could have or not. Deliverability data was one of the things that entered into the decision, however, I might add also that I don't feel that the quality of reservoir data in general, outside of the fifty-eight well area and the surrounding area, is as good as it is in the area that we studied, so that is one factor, but that is not the whole question.

Q Now, Mr. Liebrock, is there any gas proration formula that will prevent migration between properties so long as there are not impermeable barriers between properties?

A As a practical matter, I don't think it would be possible to devise a formula which would completely eliminate migration, an acre foot formula perhaps would be close to realizing that objective.

Q So that the best allocation formula would be the one that more closely minimized or minimized to the greatest degree the possible migration between properties, is that not correct?

A Yes, sir.

Q Have you made any effort to determine or analyze the drainage situation in this pool outside of the 11,000 acre area on the 100% acreage formula?

A No, sir. We haven't made any quantitative approach to the problem. Any engineer looking at the data would have some ideas qualitatively of what might be taking place.

Q Are you acquainted with the variations in pressure in this Jalmat Pool areawise? A Yes, sir.

Q Generally? A Yes, sir.

Q Are you acquainted with the fact that generally speaking the areas of lower pressure lie in the southern portion of the Jalmat Gas Pool? A Yes, sir.

Q Is it a correct engineering principle that migration of oil or gas is generally from the high pressure to the low pressure

areas?

A Well, sir, that's a question that you can't give, it doesn't lend itself to the type of answer that you are looking for. In other words, it doesn't lend itself to a simple answer. I would be glad to answer the question taking the time that I feel would be required to answer it. I think it is a good question, but you can't just say yes or no to that question because there is a yes answer depending on certain conditions and no answer depending on certain other conditions. I would be glad to take the blackboard and explain that.

Q No, I don't want you to do that. You say there is not an engineering principle, a general principle, that movement of oil or gas by way of migration is from high pressure to low pressure areas?

A Yes, sir, generally that's right, where you have a pressure differential and you are familiar with the reservoir conditions and you know that that pressure differential must of necessity reflect migration, that is true. But pressure differential quite frequently can reflect something else. It can reflect a combination of a great many things as to characteristics of these reservoirs. For example, an extremely sharp pressure gradient could indicate the presence of a permeability barrier. It could, due to precise pressure, indicate an impermeable barrier where no gas was moving across. There would be an apparent movement of gas, but actually it wouldn't be necessary.

Q Do you have any reason to believe that Jalmat contains any such impermeable barrier?

A I have good reason to believe that Jalmat has such a tremendous variation in permeability.

Q We are not talking about permeability. We are talking about pressure.

A Well, it's all related. You said barriers, didn't you, sir?

Q Yes.

A Well, permeability and barriers are associated normally where you have low permeabilities you have in effect the result of a barrier. In other words, you may have conditions in the Jalmat reservoir where gas is free to move to a limited extent but where the migration rate is extremely small, even though the pressure gradient may be extremely high. The point I'm trying to make is that pressure gradients are not indicative of volumes of migration movement. You see what I mean?

Q Of volumes, have I asked you about that? I asked if there was a relationship, that is where the migration in any reservoir is generally from the high pressure to the low pressure areas. As I understood you answered yes were these qualifications that there might be other factors affecting it?

A Yes, sir, and I didn't finish giving you all the qualifications.

Q You have also testified that there are considerable variations

in pressures throughout the Jalmat Gas Pool?

A Yes, sir.

Q Does it not follow that a reduction in allowable in the low pressure areas might tend to minimize that migration?

A Well, sir, that's getting right back to just exactly what I was talking about, whether or not it would tend to minimize the migration depends upon the freedom of movement of gas from the high pressure area to the low pressure area, so —

Q (Interrupting) Aren't you talking about the degree or the volume rather than the fact of movement, if there is movement, if this is one reservoir there is movement, is there not?

A Yes, sir. Yes, sir. But the volume of movement is important, if the volume of movement is small, then it is inconceivable that adoption of a different formula could have any significant effect on a distribution.

Q The only basis that you have for assuming either well, the area that you have studied, you have already conceded has a complete movement almost you have assumed 100% movement in some of your exhibits?

A Yes, sir.

Q Have you not?

A Yes, sir.

Q Mr. Liebrock, you stated in connection with your Exhibit 3-A, which was the approach to the relationships between porosity and —

A Yes, sir.

Q (Continuing) — and permeability, that the greatest

single factor in determination of gas in place is the porosity, is that your statement?

A Yes, sir. I said for a given interval of rock, yes, sir.

Q And previously and also at this hearing you have testified that pressure in this area you studied is relatively uniform?

A Yes, sir. That is correct.

Q Is the porosity in your opinion, or variation in porosity, the most important part of the variation in gas in place insofar as your study of the Jalmat Gas Pool is concerned?

A No, sir. In the area I studied?

Q Yes. A No, sir.

Q What is the most important factor?

A Well, sir, as we stated previously, we didn't observe appreciable variation in porosity in that area, so the only other factors that enter into the pore volume calculation is the pressure and the pay thickness.

Q What about the pressure and pay thickness, don't they have a bearing on the gas in place? A Yes, sir.

Q To what degree?

A We have a formula where we indicated the various factors that entered into the calculation.

Q Then your calculation on your Exhibit 3-R, and I may have misinterpreted your conclusion, I got the impression that you reached the conclusion that porosity and permeability were not closely

related, and that therefore the gas in place in deliverability were not closely related. Had you taken into consideration pay thickness and pressures as additional factors in gas in place it might alter that conclusion, might it not?

A Well, sir, we have taken those things into consideration in our calculation of recoverable gas in place. We varied the net pay thickness to the extent we have indicated on our map. We varied the pressure to the extent indicated on the map, and I think that I properly evaluated all the factors that should be considered in calculating recoverable gas.

Q Now, with regard to your testimony concerning the fracturing of these wells and the frack race that is going to result, in your opinion, if deliverability becomes a part of the allocation formula in this pool, I believe you testified in answer to a question by Mr. Malone after lunch that in your opinion these costs would be incurred without any appreciable or consequential increase in ultimate recovery. What do you mean by that?

A Well, sir, I mean simply that I don't feel that over the life of the field, the life of the reservoir, that the additional fracking work as it applies to the reservoir as a whole, will result in a substantial increase in the recovery of gas. In other words, I don't think that the productivities for the field as a whole will be increased enough to result in a substantially lower abandonment pressure. However, I did not assume in that statement that it

wouldn't change the recovery appreciably from individual wells, the wells where you are able to materially improve the productivity by fracking, you perhaps would, it's just going to result in a redistribution of recoverable gas in place that we have testified to previously.

Q Well, you apparently believe there will be some increase in ultimate recovery as a result of any fracturing that may take place?

A Well, on an individual well basis I think that is where you will see the big increase.

Q I am asking you about the pool. Have you testified that there will be no increase in ultimate recovery, or not very much?

A I don't think there is, will be of any consequence.

Q What do you mean by consequence, will there be some?

A Yes, sir.

Q With regard to the individual wells that you have used in your exhibits, your horrible examples, did you consider in connection with those wells that the completion data on the wells in relation to each other?

A No, sir, we considered only the data that appears on the exhibit.

Q Did you consider in the Continental wells, for example, whether or not those wells had tubing?

A No, sir, we did not.

Q Whether or not any of the wells were open hole completions?

A No, sir, except that of course we were aware that these conditions existed.

Q The circumstances with regard to comparisons between wells would be affected to some extent by those factors, would they not?

A Yes, sir, it would perhaps be affected to some extent, but that would be a minor consideration compared to the fracking changes that might result, or the changes that might result in productivity from fracking.

MR. CAMPBELL: That's all.

MR. PORTER: Does anyone else have a question of the witness?

MR. HOWELL: I have a few questions. Ben Howell, representing El Paso Natural Gas Company.

By MR. HOWELL:

Q Mr. Liebrock, the 11,000 acre area which you selected for your study is probably the best area in the entire Jalmat Gas Pool, is it not?

A You mean from the standpoint of deliverabilities or recoverable gas in place?

Q Well, let's take them one at a time, from the standpoint of recoverable gas in place, it is probably the best area, is it not?

A Well, of course, any answer that I might give would be highly qualified, because as I stated previously, we haven't had an opportunity to calculate; we don't have sufficient data to make a study of the reservoir.

Q Well, from the standpoint of deliverability and the actual production that is taking place today, the group of wells that you studied were among the best in the Jalmat Pool, are they not?

A Well, sir, I haven't compared them to the other wells in the field.

Q Are you unable to answer the question, or did you look at the wells that you studied in comparison with other wells in the field as to their capacity to produce?

A Yes, I have a list of deliverabilities on all the wells where we were able to obtain deliverability, and I know that the

highest deliverability well or one of the highest is in this area. Having found that we couldn't extend our gas in place study to the remainder of the field, then we didn't make the same comparison outside of the fifty-eight well area, or the 11,000 acre area that we made here, so it is difficult for me to make a comparison or answer your question without having to qualify it, because I just haven't looked at it.

Q The pressures in this area are better than the pressures in the major portion outside your study, are they not?

A Yes, sir.

Q The best pressures in the field are in this area?

A Generally speaking, I believe that's true, yes, sir.

Q Do you have any information as to the relative dates of development between this area and other portions of the field?

A No, sir, but I know that I could get it.

Q Did you give any consideration to that in making your study?

A Yes, sir, you'll recall from our Exhibit 2-R we commented at length on the effect of early development on the performance of that well and the effect of migration to and from that well and we certainly considered it.

Q Did you consider the volumes which had been produced in other portions of the field?

A In what respect did we consider?

Q In making your studies, did you give any consideration to the extent of completion in the other portions of the field?

A No, sir, only to the extent that you can make some qualitative conclusions simply from looking at the pressure, but I haven't related the pressures and recoveries in the field as a whole, no, sir.

Q Now then, referring to your Exhibit R-7 which is behind you, I note that you have colored certain leases or sections, let us say, tracts of land, to indicate that those sections will lose gas reserves in your opinion?

A Yes, sir.

Q To what point do you expect those reserves to go?

A Sir, would you rephrase the question?

Q No, perhaps you can tell me where the reserves are going from there?

A Oh, yes, sir. I think that they will be, from our study of this area I think it will result in a redistribution for the most part within the area.

Q Will the reserves from the flanks there under your estimate move to the center of the field?

A Well, sir, it is difficult for me to predict what will happen in the future because the pressure distribution will be upset to some degree by the allocation formula that you use in the future, and the fact that you might have a thousand pounds pressure here and nine hundred here, it doesn't necessarily follow that the same pattern will hold for the future. I can't qualitatively predict, or even on the edge leases here qualitatively tell what

might happen.

Q Do you assume that the loss of reserves will go from the lower pressure areas to the higher pressure areas?

A Generally, yes, sir, in a continuous reservoir.

Q And so you base your conclusion on the drainage going to the high pressure areas?

A No, sir.

Q I thought I just asked a question there, that question, and you stated that you did anticipate the movement of reserves from the low pressure areas in your plat there to the high pressure area?

A I am sorry, I misunderstood your question. Certainly I wouldn't antipipate that.

Q Where do you expect that to go?

A I think that the reserves, the recoverable gas in place that we have calculated for this area will be redistributed almost in direct propertion to the withdrawals that will result under the new allocation formula. I think the very fact that you have a minimum amount of pressure variation dictates that that will be the case.

Q Do you expect any of the reserves to migrate outside the area of your study?

A No, sir; I don't expect an appreciable volume,percentage-wise, I do not expect -- there of course will be some migration across our red boundary line, but the percent of migration that's taking place within this area as a whole will be much larger than any

migration that's occurring across the lease line.

Q As a matter of fact, there will be migration regardless of that formula? Whatever formula may be used, the actual production will result in migration, will it not?

A To some degree.

Q Yes.

MR. HOWELL: That's all.

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

By MR. UTZ:

Q Mr. Liebrock, I believe you stated earlier in answer to Mr. Malone's question, also Mr. Campbell's question, that you didn't feel there was enough deliverability information available to study the area outside this small area that you have studied?

A Yes, sir.

Q Are you familiar with our four-point method test that we run in Jalmat?

A Yes, sir.

Q Do you consider that deliverability information?

A Yes, sir, we utilized a great many of those in our study.

Q Do you know how many of those tests are in, how many wells have been tested by the four point method?

A As of right now?

Q Yes, sir.

A No, sir, I don't.

Q What percentage of wells reported would you think would be an ample amount of deliverability information to have studied the area outside of this area, small area?

A Well, sir, assuming for the moment that the quality of our other reservoir data is as good as we have in this area we have studied, then if we could get percentage-wise close to what we had in the 11,000 well area, then I think it would be sufficient.

Q What I'm asking you is not about the other reservoir area, but about the deliverability information which you said was one of the reasons for not studying the area?

A Yes, sir.

Q Would eighty-five percent of the wells being tested, would deliverability information be ample as far as deliverability is concerned?

A Yes, sir, I think so, other things being equal.

Q Would it surprise you to know that we have eighty-five percent of those wells tested?

A No, sir, at this moment it wouldn't.

Q At the time you made your last study, would it surprise you to know that you had probably over seventy-five percent of the wells tested and the information available?

A No, sir I wasn't aware of that.

Q If you had known that, would that have made any difference in your decision not to study the area outside of your picked area?

A Well, sir, it certainly would have been a factor.

Q For your information, it appears that you didn't know at the time you made the first study that there was that much information available, and as of now there is eighty-five percent of them available. Now your reserve studies kind of put me in a quandary. There are about four factors in the volumetric reserve calculation, is that right, that are reservoir factors that are important to the calculation?

A Yes, sir.

Q Could one of those be porosity?

A Yes.

Q Could one be connate water?

A Yes, sir.

Q Where did you get your connate water and porosity information to calculate the reserves that you show on your Exhibit 5-R, I believe it is?

A We use the average porosity figure that we indicated previously.

Q From the five cores that you indicated in the last hearing?

A Yes, sir.

Q Three of those cores were outside of this area, were they not?

A Yes, sir, I believe so.

Q Two of them inside the area?

A Maybe four out and one in.

Q You applied those average figures to each well that you

calculated the reserves on, or each tract?

A Yes, sir, that is correct.

Q Those two factors, if you use the same porosity and the same connate water for each well, you couldn't hope to show much variance in reserves, could you, if you used the same factor on each tract?

A We indicated that we didn't have any reason to believe that the porosity would vary.

Q What reason did you have to believe that that porosity that you used was applicable to each tract that you calculated reserves on?

A In my study of sand reservoirs all over this country, it has been my experience that the porosity of sandstones don't vary to the extent they do in limestone, and that over tremendous areas you can have rather appreciable variation in permeability, but the porosity may not vary over two percent. When I found five core analyses, I came up with the range of sixteen to seventeen percent porosity, roughly, I felt that with a great deal of confidence that I could use an average porosity figure. I feel in all sincerity and I know from my experience that I did not introduce appreciable error in these. I can cite field after field of sandstone fields from my own files to support my position on that matter. Now if my average porosity did not vary, and I have good reason to believe it doesn't, then I don't believe that the use of an average interstitial or connate water value introduced appreciable error in the calculation. That is based on my experience.

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not only in this field but every sandstone field that I have ever analyzed.

Q Does porosity vary vertically throughout the section?

A Yes, it does.

Q Is it very consistent?

A No, it isn't very consistent.

Q Do you think there may be a chance of it varying quite a bit among the tracts you calculated the reserves on?

A The average, no, sir, I very definitely do not.

Q Two of the other most important factors in calculating reserves by your method is pressure and net pay, is that right?

A Yes, sir.

Q How did you arrive at the net pay on these various tracts?

A From the logs that we had available primarily radioactivity logs.

Q And your pressures are determined by actual bottomhole pressures?

A Surface pressures corrected to bottom-hole conditions, yes, sir.

Q Pressures didn't vary a great deal in this area, did they?

A No, sir, as I indicated previously, the pressures varied approximately one hundred pounds, maybe a little more.

Q You think that a hundred pound variation in pressures is representative of the whole pool? A No, sir.

Q Do you know what the variation of pressures is throughout the Jalmat Pool?

A Yes, sir, roughly, yes, sir, I don't know the value on the lowest well or the value on the highest, but I have a pretty good

knowledge of the order of magnitude of variation.

Q Would there be a pressure, in your opinion, as high as 1,060 pounds?

A Yes, I'm sure there would be.

Q Do you know of any pressures as low as 350 pounds?

A Yes, sir.

Q That is quite a bit more than 100 pounds, isn't it?

A Yes, sir, it is, but if you don't mind I would like to point out that that is not the test of determining the applicability of a formula.

Q How does pressure affect reserves?

A Well, it enters into the pore volume calculation in direct proportion.

Q In other words, are you telling me that 333 pound pressure, everything else being consistent, would have the third of the reserves of a thousand pound pressure?

A Oh, roughly.

Q Is the pressure directly related?

A Yes, sir. That's what I just said.

Q That is quite a bit more in the variation of pressure than you get in your small area?

A Yes, sir, that is not the point.

Q All right. I would like to know the point.

A The point is simply this, that where you have, even though

you have only one hundred pound variation in pressure, and even though you only have a 3.5 fold variation in porosity, or excuse me, in net pay thickness, you have a forty-three fold variation in deliverability. Now, you have this variation in an area of the field where it's pretty obvious from the pressure map that migration is going to be the most severe. Where would you attempt to determine the order of magnitude of migration in this field other than this area, even assuming for the moment that the quality of all our reservoir information was equal throughout the field, any engineer approaching this problem would immediately recognize from the pressure distribution that this is the area where migration is going to be extremely severe and this is the area that you would center on. Areas where you have sharp pressure gradients are not indicative of tremendous volumes of gas movement, they are indicative of a tight reservoir rock.

That is my point, you can't find a better area in the field to investigate the applicability of this formula or any other formula than this area. The quality of your data is a lot better here, I might say all of it, your pressure data, I have a lot more confidence in the pressures that I read in this area than I do any other area in the field.

When you mentioned the pressure of 350 pounds, I don't know whether that is a good pressure or not. It may not be built up, it may be 450 pounds, but in this area I am confident that we have a

lot better quality pressure data and everything else than we do in any other portion of the field. So if the deliverability formula doesn't meet the test here where we have got good data, how can it possibly meet it any other place. That's my whole point.

Q What you are actually saying is that you don't know too much about the rest of the field but you do know quite a bit about this area?

A Yes, sir, it's very obvious that we know a lot more about this area than any other portion of the field, but I would like to point out further that I think all of us know more about this area because we have more data that we can rely on in this area. I don't think any of us know as much about the rest of the field as we do this area, if we make a general concerted effort to understand it and analyse it. I would like to add one other thing, if you don't mind.

Q Go ahead.

A In my study of oil fields and gas fields over the country where you have a tremendous aerial extent and where you have the pressure variations that you observe in this field, it isn't common practise to attempt a field-wide study. You generally study your reservoir by areas, you can learn a lot more about them and you can come up with conclusions and recommendations that are a lot better supported if you will study your reservoir by areas than if you attempt to lump the whole thing together and arrive at some broad

conclusion based on overall performance. Nothing could be more misleading than to throw the whole reservoir in one study and attempt to arrive at some conclusion and recommendations.

Q How would you prorate the pool?

A Sir?

Q Don't we prorate the pool on an entire pool basis?

A Yes, sir, and that's one of the difficulties.

Q Would you suggest breaking the pool down in smaller areas?

A For study I definitely would.

Q For proration, we are talking about proration formula.

A Well, I haven't gone into the field-wide study of proration, but for study, to get some idea of what you might do, I would certainly break the field down into areas, and I believe every reservoir engineer would break the field down into several areas to study, I feel confident that they would.

Q Would you have available the actual reservoir calculations for each of these tracts shown on Exhibit 5-R?

A Yes, sir, I believe we do. They were out at the noon hour. I believe they are back now.

Q Well, I don't mean to put them in now, but would you make those available to us? A Yes, sir.

Q I would like to go into Exhibit 1-R very briefly with you, you made a comparison, at least I understood that you did. Were you comparing a tank with so much pressure in it to Jalmat reservoir?

A No, sir, I'm comparing it in Case 2, I'm comparing it to a lease in the Jalmat reservoir. In Case 1, sir, I can't compare it to a lease because it is not analogous to the situation we have in the Jalmat reservoir.

Q That is the point I want to clarify in my mind.

A Yes.

Q There is no permeability barriers or anything in that tank, is there?

A No, sir.

Q It is completely homogenous?

A That's right.

Q You are not saying that Jalmat reservoir, is that homogenous then?

A No, sir, it is not a matter of homogenity, it is the matter of developing a case that is analogous to the reservoir.

Q Are you comparing a valve on a tank with the availability of gas to a well bore?

A I'm comparing it to the deliverability, yes, sir, of a well.

Q Well, would the availability of gas to the well bore affect the deliverability?

A The permeability of the reservoir, yes, sir, would affect the deliverability.

Q I mean if all the pay was open to the well bore as compared to half of the pay open to the well bore.

A Yes, sir, that would make a difference.

Q A difference in deliverability, wouldn't it?

A Yes, sir.

Q Let me ask this question, do you think that the vertical communication throughout Jalmat Pool is good?

A Well, sir, I don't know.

Q Would you suspect it to be shale lenses and so forth that would affect vertical deliverability?

A Yes, I suspect there would be.

Q Then in that case, if the well only had 50% of the net pay available to the well bore, the rest of the gas wouldn't be available for production, wouldn't be recoverable reserves?

A It wouldn't be available to that well, but it would be available to the offset well if he had it open.

Q I thought, that is what we are trying to get away. I thought you wanted to let the individual tract produce its own reserves.

A That's what we do want to do.

Q Then the answer to your question is simply if a well has only fifty peresnt of the gas available to the well bore, that he wouldn't get it somebody else will?

A If the vertical communication, I didn't say that the vertical communication wasn't good. I said that I suspected that there were instances where there would be shale breaks that would prevent good vertical communication.

Q But you don't really know whether it's good or not?

A No, sir.

Q One more thing, I hate to bear on this point too long, we have already had two questions regarding it, but your statement that fracking a well will not increase ultimate gas recovery is a little confusing to me. I wonder if you would explain why you don't think that by having the well in good condition and having a little higher deliverability will not increase the ultimate recovery of gas from that well.

A I didn't say it wouldn't increase the ultimate recovery, but I don't think it will result in appreciable increase in ultimate recovery because you would have to increase the average permeability of your entire reservoir rock rather substantially in order to get the abandonment pressure down to a lower value and to a sufficient lower value to substantially increase the ultimate recovery.

Q Are you familiar with the producing characteristics of a Jalmat well?

A Well, I know I'm familiar with the ability of the wells that deliver gas based on the deliverability data I have.

Q Do you know whether or not you have substantial liquid problems?

A In some wells, yes, sir, I know you do.

Q In a well that you have substantial liquid problems and have to lift liquids of either water or hydrocarbons, what causes

those liquids to come to the surface?

A The entrainment in the gas, if I understand your question.

Q Isn't it the velocity of gas in the flowing string?

A Yes, sir. That's a factor.

Q And when your velocity falls to a certain point, then the well fails to lift liquids, is that right?

A I can imagine conditions where that would exist. I don't know though that that is a problem, a big problem in the field as a whole. But for a hypothetical question, yes, sir.

Q Well, by fracking a well and maintaining a more velocity and flowing string, wouldn't you say that you would lift more of those liquids in a well at a lower pressure?

A Well, if we stay with your original problem now of a well that is making some liquids to begin with, some water, and we're having trouble getting it out because we don't have enough velocity as you say, and if this well is already making water, and I don't know where the sources may be, but I would be concerned about fracking that well in the first place. I sort of suspect that if it might be bottom water and went in and fracked it, you would have so much water that regardless of the deliverability you would never lift anything. I suspect that you might junk the well.

Q In other words, you would be afraid of fracking into a water zone?

A I would be afraid of fracking into water in a number of wells

in this pool. 111

Q Do you think that fracking will open up more gas to the well bore?

A No, sir.

Q You don't think fracking will penetrate the parts of the reservoir that would not be otherwise penetrated?

A Fracking alone, no, sir, I very definitely feel it would not. I am almost positive that it would not.

MR. UTZ: That's all I have.

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

MR. HUNKLL: Can I ask one more question here.

MR. PORTER: Yes.

By MR. HUNKLL:

Q Referring to your Exhibit R-5, Mr. Liebrock.

Q Is the length of your bars there placed accurately?

A Yes, sir, I think they are.

Q Well, excuse me a minute. Do you happen to have a slide rule, or is there a slide rule in the house? Would you measure this bar and tell me what the reserves are for this well?

A Well, approximately 28,000.

Q MCF. In other words, you measure this bar and tell me what the reserves are for this well?

A Approximately 29,000.

Q Well, inasmuch as it is the same well, how did you happen to assign a million feet per acre different reserves?

A You mean in the bar height here?

Q Yes.

A You mean this difference right here?

Q Yes.

A Well, sir, that is obviously a slight error, but I don't.

Q It amounts to more than a million feet per acre.

A Yes, but percentage-wise it is not important, I think you will agree it is not.

Q I just wondered as to the reliability of your charts and the calculations made, and you have answered my question.

REDIRECT EXAMINATION

By MR. MALONE:

Q Would you say that your draftsman had ended this bar one row too soon?

A Yes, sir. I watched my draftsman put that tape on, and he was sure in a hurry at the time.

MR. MALONE: I would like to ask about two more questions, if there are no others.

MR. PORTER: Go ahead, Mr. Malone.

Q With reference to the deliverability data that was available at the time the study was made in preparation for the December 9th hearing, there seems to be some confusion about the amount of data that was available in Santa Fe, as compared to the amount of data that you had available to use?

A Yes, sir.

Q While it has not been so testified, Mr. Utz' question indicated that there might be available data on seventy-five percent of the wells outside of the test area?

A Yes, sir.

Q Now where did you check the Commission's files for this data?

A Well, I know that we checked the Commission files in Hobbs.

Q You had a working party of some ten or twelve engineers working on this for a period of two or three weeks, did you not?

A Yes, sir, that is correct.

Q You do know that all of the data that was available in the Hobbs office of the Commission was utilized?

A Yes, sir.

Q And in addition were checks made of the files of all of the

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companies that were involved in this joint effort?

A Yes, sir, that definitely was my understanding.

Q So that in testifying that that was the extent of the deliverability data available to you, were you correct insofar as you then knew or now know?

A Yes, sir, I certainly was.

Q And if there was additional information available in Santa Fe, was that known to you at any time?

A No, sir, it wasn't.

Q Do you know what the practice as to the filing of this test data is with reference to whether it is available in Hobbs if available in Santa Fe?

A No, sir, except it was my understanding, and I didn't confirm it and I thought that any data that would be available anywhere would be in Hobbs.

Q The eight or ten engineers that were working with you work with the New Mexico Commission all the time?

A Yes, sir, a number of them do.

Q And you did have a detailed check made of every well file in the Hobbs office of the Oil Conservation Commission, did you not?

A Yes, sir.

Q Now, some implication existed in some of the questions with reference to the 11,000 acre test area which you studied and whether or not the conclusions which you reached there were necessarily applicable other places in the Pool. I would like to

ask you whether or not the purpose of your study of that area was to see how the deliverability formula would compare as to the wells in that area?

A Yes, sir.

Q Would the condition that may exist in other parts of the area affect how this formula is going to relate to the wells in this area?

A No, sir, it would affect in no way.

Q For that reason, was or was not the basis of your study perfectly adequate for the purpose that it was being conducted?

A Yes, not only was it perfectly adequate, but in my opinion it lent itself better to determining the applicability of any formula than any other area of the field, or for that matter, the field as a whole.

Q Mr. Liebrock, if the proposed formula will not work in this area, based on the study that you have made, and will result in this area in a redistribution of some five million dollars in ultimate recovery between operators, is there any reason to believe it will work any better in any other part of the field?

A No, sir, I have no reason to believe it will work any better in any other part of the field.

Q Does the fact that you did not study any other part of the field affect your conclusions as to what it will do in this part of the field?

A No, sir, not at all.

MR. MALONE: That's all.

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1-p

MR. PORTER: Does anyone else have a question of Mr. Liebrock?

MR. MALONE: I would like to offer the exhibits. I believe I failed to ask the witness if the exhibits were prepared by him or under your direction.

A Yes, sir, they were.

MR. MALONE: We offer in evidence Exhibits 1-R through 7-R.

MR. PORTER: Is there objection to the admission of the exhibits? They will be admitted. The witness will be excused.

(Witness excused.)

HENRY J. GRUY

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

DIRECT EXAMINATION

By MR. MALONE:

Q Will you state your name to the Commission?

A My name is Henry J. Gruy.

Q Where do you live, Mr. Gruy?

A I live in Dallas, Texas.

Q What is your profession?

A I'm a consulting petroleum engineer.

Q What is the name of your firm?

A H. J. Gruy and Associates.

Q And is its offices located in Dallas?

A Yes, sir.

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2-p

Q You have not testified before the New Mexico Commission on a prior occasion, have you?

A I have not.

Q Where did you receive your professional education, Mr. Gruy?

A I was graduated from Texas A. and M. College in 1937 with a B. S. degree in petroleum engineering.

Q Have you received any graduate degrees from that institution since then?

A Yes, sir, I was later awarded the professional degree of petroleum engineering which is a degree that can't be obtained by going to school alone, it's based on professional activities in the business.

Q How does it relate as compared to a Master's degree or Doctor's degree?

A It's lower than a Doctor's degree, but higher than a Master's degree.

Q What was your first employment as a petroleum engineer after your graduation from Texas A. and M.?

A I went to work for Standard Oil Company of Texas in Ward County, Texas as a field petroleum engineer.

Q For how long were you so employed?

A Until March of 1938.

Q By whom were you employed thereafter?

A By the Shell Oil Company as an exploitation engineer.

Q For how long did you continue in that position with Shell?

A I worked as an exploitation engineer with Shell in various districts and various capacities in South Louisiana, North Louisiana, Arkansas, Texas Gulf Coast area and East Texas until October of 1945.

Q Did you have occasion during that period to be dealing with gas reservoirs and gas reserves?

A Yes, sir, I certainly did. At the time that I left Shell I was district engineer in their East Texas District, and I was Shell's representative on the East Texas Field Engineering Committee and the Carthage Field Engineering Committee, and I was Chairman of the Engineering Committee for the Chapel Hill Paluxy Gas Cycling Unit, and I was a member of the Geological Committee for the Chapel Hill Paluxy Gas Cycling Unit.

Q Was the Chapel Hill Paluxy Gas Cycling Unit a gas unit of considerable size?

A Yes, it was a gas unit, it had approximately one hundred billion cubic feet of reserves, it wasn't a large one.

Q You referred to the Carthage Field in Texas, is that a large gas field?

A Yes, sir, that is a large gas field with about seven trillion cubic feet ultimate recoverable gas, it covers most of Penola County, Texas.

Q How many wells, if you know, in that pool?

A There are several hundred wells. I forget exactly how many

wells there are now.

Q After you left Shell in 1945 with what company were you associated?

A I was employed by De Golyer and Mac Naughton, a consulting petroleum engineering firm out of Dallas, Texas.

Q How long did you continue with the De-Golyer and Mac Naughton?

A I was with them for almost five years.

Q At the time that you left De Golyer and Mac Naughton, did you leave to establish your own consulting firm?

A I did.

Q What was your position with De Golyer and Mac Naughton at the time you left them?

A During my entire time with them I was in responsible charge of the reports that were made on the East Texas-Louisiana, Arkansas and Mississippi area, and I did most of the gas reserves and deliverability studies that were done by the company during that period.

Q At the time that you left De Golyer and Mac Naughton, had that firm been incorporated?

A Shortly before I left, yes, sir

Q What was the title of the person who held your post after the incorporation?

A Person that took my place and many of the men that worked with me, and some of the men that worked under me, were all made

Vice Presidents shortly after I left.

Q You have been active as a consulting petroleum engineer since 1950?

A Yes, sir.

Q Will you give us the names of a few of the typical clients of your firm?

A Well, I worked for a large number of major companies, independent operators, several branches of the Federal Government; some of the companies for whom we have worked are Atlantic Oil and Refining Company, British American, Warren Petroleum Company, Tidewater Oil Company, Seaboard Oil Company, Socony-Mobil Oil Company, H. L. Hunt, Clint Murchison, Rockefeller Brothers.

Q I think that's enough. During the period of time that you have been active as a petroleum engineer, and particularly in the gas field, in what states or areas have you had experience in making reservoir studies?

A Well, I think I have made reservoir studies in all major producing areas of the United States, in several areas in Canada, British Columbia, Alberta and Saskatchewan and Alaska and in all producing areas of Venezuela and some in Columbia.

Q Are you a member of any professional societies?

A Yes, sir, I am a member of the Association of Petroleum Engineers of the A.I.M.E. I am a member of the American Association of Petroleum Geologists.

Q What commissions have you had occasion to testify before

as an expert?

A I have testified before the Texas Railroad Commission and the Louisiana Conservation Commission and the Oklahoma Conservation Commission and the Montana Conservation Commission and the Federal Power Commission.

Q Have you had occasion to write any articles in the general field of petroleum engineering?

A Yes, sir, I have authorized several papers that have been published.

Q Have you written any papers on the particular subject of the methods used in the estimation of gas reserves in reservoirs?

A Yes, sir. I wrote a paper entitled Critical Review of Methods Used in the Estimation of Natural Gas Reserves that was delivered in 1947 before the Mid-Continent Section of A.I.M.E. in Tulsa, and before the Pacific Coast Section of A.I.M.E. at Los Angeles that same year.

Q That paper has been published?

A Yes, sir, it was published in the Transaction of A.I.M.E., 1948.

Q Is it still in distribution?

A We have had many requests for copies of that paper and we still get requests for copies of it. We had a request last month from Germany for copies of the paper.

Q Does that paper deal with the question which you understand

to be involved in this case as to the basis on which the reserves should be computed?

A Well, it deals with method of estimating reserves, yes, sir.

MR. MALONE: Are the qualifications of the witness acceptable?

MR. FOSTER: Yes, sir.

Q Tell us about when your first contact with this controversy was, Mr. Gray.

A I learned of this controversy on Monday, March 10th when Mr. Lichrook called me.

Q Have you ever collaborated with Mr. Lichrook prior to this time or been jointly engaged in any undertaking with him?

A No, sir.

Q You do know his reputation as a consulting geologist in the field?

A Yes, sir, I have known him for many years.

Q In preparation for your testimony in this case have you reviewed the transcript of the testimony which has gone into the case up until this time? A Yes, sir.

Q What further studies have you made?

A Well, our staff plotted all the pressure production history that was available on all the wells in this entire reservoir and we made projection of that to show that the gas that was going to be produced by these wells under continuation of the same situation.

Q Now, have you had occasion to deal with gas prorationing

during the period of time that you have been in the engineering field?

A Yes, sir. Any time that we make a gas reserve and deliverability study we have to consider the proration formula in effect in order to see how the reserves in the reservoir are going to be distributed to the various tracts and what the future expected producing rates, what the future producing rates can be expected to be from the wells.

Q Based on your contact with the history of gas prorationing and its operation, will you briefly recount the part that potential or deliverability has had in preration formulas to your knowledge?

A Well, I believe any discussion of proration and proration formulas would have to start with oil proration, is where proration began and proration really had its beginning with the Yates Field and the East Texas Field when oil was in excess supply and some method was needed to reduce producing rates since wells had been producing at their maximum capacities, and the most obvious immediate way to curtail that production was a percent of capacity, and that is a proration formula that was adopted for both Yates and East Texas, East Texas being allowed to produce only 3.2% of the wells hourly potential.

Q When you say percent of capacity, is that the same as percent of potential or percent of deliverability?

A Well, capacity potential and deliverability are all measures

of a well's ability to produce. Now, when you say potential of a gas well, one usually thinks of the calculated absolute open-flow potential on the falacious assumption that you can get zero pounds at the bottom of the hole which adjusts to make a common measurement of all wells not restricted or affected by the different sizes of the casing or the size of the deliverability.

Deliverability is usually thought of as deliverability against some fixed back pressure or according to some formula such as a percent of the shutin pressure.

Q As the history of prorationing has developed, has the use of potential and deliverability increased or decreased in proration formulas to your knowledge?

MR. CAMPBELL: We're talking about oil and gas now?

MR. MALONE: Either.

A Well, as these proration formulas got tried out in the Courts over the land, and as people become proration officials and everybody becomes more cognisant of the necessity of protecting correlative rights, the use of potential factors in proration formulas for both oil and gas has declined so that they're very rare in new proration formulas.

Q Is that same statement true of deliverability and in gas proration formulas?

A Yes, sir. Now the last in Texas, the last use I know of a potential factor in a proration formula, was in the Carthage Field

where it was discontinued for several reasons, among them being the inability to make the tests in a comparable manner on all the wells so that everybody was satisfied with the deliverability test was one of the reasons that it was dropped out of the proration formula at Carthage.

Q Do you know of any recent gas proration formulas in new pools in which deliverability has been used as a factor anywhere in the Western Hemisphere? A I do not.

MR. CAMPBELL: What is the question?

REPORTER: Reading: Do you know of any recent gas proration formulas in new pools in which deliverability has been used as a factor anywhere in the Western Hemisphere?

Q I will qualify that by saying within the last two or three years.

A That's what I thought you meant, when you say new pools in the last year or so. I wouldn't classify the San Juan Basin as a new pool. I guess the definition of new might vary a little bit.

Q Are you familiar with the New Mexico statute defining correlative rights? A I think so.

Q I would like to read that statute to you to be sure there is no misunderstanding as to what it provides. For purposes of the questions I will ask you, will you please bear in mind that the New Mexico State Section 65-3-29 H provides as follows:

"Correlative rights means the opportunity afforded so far as

it is practicable to do so to the owner of each property in a 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 practicably 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, will you bare in mind that definition of correlative rights in the further questions which I will direct to you? I would like to ask you, Mr. Gruy, whether or not it is possible to determine the recoverable gas in a tract or underlying a tract assigned to a well by use of the so-called material balance equation as applied to the pressure decline of that well?

A No, sir.

Q Can you show us why that isn't possible?

A Well, I'm not a very good artist, but I can maybe draw a picture. Now, I'm intending this to be a kind of a rectangle affair where this line would be comparable to the bottom of the pay and this surface here would be the top of the pay, and that this is just a segment cutout covering say a section of land, and that you have a well in each quarter section located here, here, here and there. We might assume then that these wells, although they have the same pay thickness and the same amount of gas in place under

their unit, assuming that each one of them is a fence line that goes along there.

MR. PORTER: You mean along the quarter section lines?

A That this is a quarter section and this is a quarter section, that is a quarter section. And that each one of them would have the same amount of fence, doesn't go on down there. If we would assume that this well has a deliverability of one, and this one two, this one three and this one four, and if we would then plot--

A If the man that has the slide rule wants to see if these are the same size, I am going to have to plead ignorance. If the production increases in that direction and pressure increases in that direction on the plot and that point there is the original pressure in that reservoir, we then start those four wells to producing according to their deliverability and the pressure is going to go down equally on all that, just like it has in Mr. Liebrock's 11,000 acre area, because there is good communication in there so that when the pressure reaches a certain point here; this well will have produced one -- make some lines on here, they are crooked lines but they are supposed to be straight. This one will have produced one down to this pressure, this one will have produced two, this would produce three, and that one would have produced four, and it's obvious then that even though the lines are straight and we don't have the kind of thing that he showed where you can see where this drainage situation changed in Exhibit No. 2-R, you can see where the drainage situation changed and where drainage happened in these two curves on the left.

Now on these (indicating), you can't see where the drainage has taken place, but if you extrapolate those down to zero pressure, you can see that your Well No. 4 is going to produce four times as much as Well No. 1, and the whole reservoir is depleted, so Well No. 4 has drained these other wells. So that by this method and this method alone you can't possibly tell what the recoverable gas in place is under a tract. You can tell how much it is going

to recover under particular conditions, but as I understand the Statutes as he read it to me, the proration is supposed to be in proportion as to what was down there in place, and it doesn't say when, but I imagine they meant initially, so that this certainly wouldn't do it.

Now I think I might be able to explain that a little more clearly to you and cover the thing in a little broader manner in another way.

Well, I want to draw some wells. I'll put these little things on them, that makes them gas wells. You can see I never was a draftsman. We'll assume that those are nine gas wells located out here in the Jalmat Field, and as I understand it, that they don't need to be in the center of the unit, so we'll say that this well's unit is there. Now the gas that is in place under that is what this man that owns this well is supposed to be entitled to produce in proportion, or to have a fair chance to recover. Now then, we'll put all these wells to producing at the same rate and we'll assume that the formation is uniform on there, and if they are producing at the same rate and the formation is uniform, this well will interfere with this well about half-way, and this well will interfere with this well about half-way between there, same here and same here (indicating), I can't measure half very close, and same here and same here and same here and same here, so as long as those wells are producing at the same rate this well's drainage area is right there (indicating), which is

not equivalent to the area that's under the unit.

Now while that's going on, let's look at the pressures over here (indicating), you have production increase in that way, pressure increasing that way, as long as those wells are producing at that same rate the pressure will go as a straight line if it started initially, it will be initially on a straight line slope like that as long as the wells are producing at that rate, if you extrapolate that curve to abandonment pressure it will tell you how much this well is going to produce or how much recoverable gas is in place under this area; not under the lease or the unit that's assigned to it, but under that area. Now then, assume that this well has a little bit higher deliverability than the other wells, and it increases its rate of production due to a change in the proration formula relative to the production of the other wells, we are going to keep them all the same. We are going to increase this one, as soon as we do that, the point of interference is going to be closer to that well, here closer to that well. How much closer, due to variations in the pay thickness and variation in the rate, if this one is greater it is going to move closer, since I haven't said how much greater. I don't have to measure, that's why I don't say. So the drainage area now is out here (indicating). As soon as that happens, that is reflected right up here in this little thing(indicating), so that this curve is flattened. Now at this time you estimate the reserve of this well and you assume this proration formula is going to stay in effect,after you estimate

it is going to do that, you estimate it is going to produce a whole lot more gas eventually than it does now.

If you are going to prorate it on the basis of reserves, it will get a lot more reserves, but we haven't changed the amount of gas under it originally, and they have never been consistent with what is reflected in that curve. Conversely, if you shut the well back to where it is producing slow, they will extend their drainage area toward it and you will get a reduced thing there, when you do, this becomes steeper. If it cuts back to the same place of course it will be the same slope it was, but if it cuts back inside the first, I have to make the last one steeper than the first one, or I haven't made a true correlation.

We have plotted up every well in this field and all the pressure production data that has been filed with the Commission, and we can see where those things happened with the relative producing rates and the relative takes of the well where those have been changed. Now Mr. Liebrock has picked out a couple of them here that are good examples of them, but the point that I wanted to make is that the reserves of a well which can be determined by a pressure production plot has no relationship to the recoverable gas in place under a unit assigned to it.

Q Now, Mr. Gruy, I would like to ask you whether or not in your opinion as an engineer there is any correlation, either general or otherwise, between the deliverability of a well and the recoverable gas in place in the tract assigned to that well?

A In my opinion there is no correlation between the deliverability of a well and the reserves in place under the tract assigned to that well, or the gas in place under the tract assigned to that well. Of course, you have got the fact that if you have got some deliverability there must be some gas in place under the well, but it doesn't hold at the other end of the scale because you can have no deliverability and still have a lot of gas in place under the tract, either through not locating your well at the right place or bad mechanical condition or tight spot or something of that sort.

Q Is there in your opinion any fixed or general correlation between the recoverable gas in place under the tract assigned to a well and the reserves which may be found by the extrapolation of a curve to be applicable to that well?

A The extrapolation of a curve like that, as I tried to demonstrate, reflects only the relative producing rate of that well with reference to its neighbors, and does not reflect the reserves in place. I don't want to say reserves, I want to say gas in place under its unit.

Q It is subject to being distorted by various conditions, is it not?

A That's right.

Q You have read the testimony in this case with reference to the extrapolation of the curves made by Texas and Pacific. Did you note anything in that condition that would have resulted in a distortion of the reserves as computed by them?

A Well, they computed their reserves in this manner, and assuming that the wells continued to produce in the same manner, I think the reserves are approximately correct.

Q But do they have any relation to the recoverable gas in place under the tract assigned to those wells?

A None whatsoever, and I don't think they said they did.

Q Have you read the Commission's order in this case?

A No, sir, I haven't read the Commission's order.

Q I would like to ask you, based upon your dealing with the gas proration formula, whether or not in your opinion stability in a gas proration formula, once it has been established, is desirable?

A I think it's highly desirable and I think stability in the oil and gas business, of course, maybe I'm prejudiced on this, but I would like to see stability in the oil and gas business. We know that proration brought stability to the oil and gas business to a greater extent than it had ever been known before.

Q Are transactions and engineering reports based upon proration formulas as they exist at the time they are made?

A Yes, sir.

Q Is there a marked effect on the transactions in those reports if there is a change such as the one proposed here, from an acreage to a deliverability formula?

A Well, the proposed change here would certainly redistribute the ownership of the gas in the Jalmat Pool, and it would certainly

affect any appraisals that were made, it would cause some that have been made in the past to be pretty far off.

Q Now, with reference to the testimony which you have heard in this case today by Mr. Liebrock and the exhibits which he has presented, you have heard the question directed to him with reference to the validity of the 11,000 acre area as a basis for the volumetric calculation study which he made and the conclusions which he drew from examining the deliverabilities of wells in that area. Do you have any comment as to the correctness and reliability or unreliability of what Mr. Leibrock has done?

A I think Mr. Leibrock has made a sound study and as sound a study as can be made under the conditions. I could find nothing technically wrong with it. Of course, we would always like to have more data.

Q In your opinion, if a study of the wells in that area indicated the complete lack of correlation which was indicated by these exhibits between deliverability and recoverable gas in place, you think there is any reason to assume that the condition will be materially better in the Pool as a whole?

A Well, even if it is, it is bad enough in this area to say that such a formula is not justified.

Q Is that your conclusion?

A Yes, sir.

Q Do you have any further recommendations that you would like to make to the Commission in connection with the question

here presented?

A I can't think of any that wouldn't be repetitious.

MR. MALONE: That's all.

MR. CAMPBELL: May I ask for a ten-minute recess?

MR. PORTER: You beat me to it. Ten minutes.

(Recess.)

MR. PORTER: The hearing will come to order. Mr. Malone, I believe you have another question.

MR. MALONE: Thank you, Mr. Commissioner.

Q Mr. Gruy, you have heard the testimony with reference to a possible frack race that might result from the injection of deliverability into this proration formula, would you state whether or not in your opinion it is likely that that would occur?

A Oh, I think it definitely will occur.

Q Would you state whether or not in your opinion the fracking of all or a majority of the wells in this pool which have not been fracked would increase the ultimate recovery of gas from the pool?

A Well, the fracking, if highly effective as I expect it to be, would increase the deliverability of most of the wells in the field and would enable the field to be operated so that at economic gas production rates to a lower pressure than would otherwise be possible initial wellhead pressures were in the order of 1200 pounds, and we are talking about abandonment at about 100 pounds which would leave about eight percent of the gas in the reservoir at abandonment.

Now, if by fracking you can lower that pressure to abandonment pressure to fifty pounds, well, you would recover about four percent additional gas in this reservoir if there weren't any other factors involved. Now, there is some possibility that on the west where these wells are underlain by water, that wells will frack into water and waterlog some part of the reservoir, there's a possibility that if

wells near the water contact are produced at too high rates, that they will hasten the coning and fingering of water into those wells so that there will be some gas trapped in these water logged areas and behind the water logged fronts so as to render it unrecoverable there might be enough of that to completely eliminate this four percent, or there might not, I couldn't say, but there would be something less I think than four percent increased recovery due to this fracking.

MR. MALONE: I won't ask you if that exhibit was prepared by you or under your direction. I want to offer Exhibit 8-R in evidence.

MR. PORTER: Is there objection to Exhibit 8-R. It will be admitted.

MR. MALONE: That's all.

MR. PORTER: Anyone have a question? Mr. Campbell.

CROSS EXAMINATION

By MR. CAMPBELL:

Q I want to say you are right about one thing, you are not much of an artist. A Thank you.

Q Mr. Gray, did I understand your testimony correctly that you had available for your study the same data that Mr. Liebrock had available?

A Well, I think we did, we got it all from him I believe.

Q You don't know whether you got all of it or not?

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wells near the water contact are produced at too high rates, that they will hasten the coning and fingering of water into these wells so that there will be some gas trapped in these water logged areas and behind the water logged fronts so as to render it unrecoverable there might be enough of that to completely eliminate this four percent, or there might not, I couldn't say, but there would be something less I think than four percent increased recovery due to this fracking.

MR. [redacted]: I won't ask you if that exhibit was prepared by you or under your direction. I want to offer Exhibit 8-R in evidence.

MR. [redacted]: Is there objection to Exhibit 8-R. It will be admitted.

A I don't know whether we got all of it, no, I sent one of my men out to his office to get the data. I was tied up somewhere else, he came back with a lot of stuff, but I couldn't say it was everything.

Q You studied that data for a period of fifteen days, as I understood you, since March 10th, is that correct?

A Yes. Along with my staff we studied it during that period of time, yes, sir.

Q Your conclusions with reference to the operation of this formula or the present formula in the Jalmat Gas Pool are based upon that study?

A That's correct, and my previous experience in the gas business, I think that the results would be practically the same almost anywhere.

Q You have never studied this particular pool for reserve purposes, have you?

A I have made estimates of reserves in this pool in the past. I have never studied the whole field until this time.

Q Do you consider that you have studied the whole field in this case?

A We plotted the pressure production history of all the wells in the field. We did not make a complete geologic study of the field. We did not make a complete geologic study of the field. We reviewed the holes that Mr. Liebrock had and reviewed his study of the 11,000

acre area, but I have not made what I would consider a comprehensive study of the entire field.

Q You stated that you had made a production history study of all the wells in the Jalmat Gas Pool, is that what you meant to say?

A All the wells in the Jalmat Gas Pool that have pressure production history reported in the records where we have plotted it up, some have one point and a large number of the operators' wells never had any pressures reported on them.

Q How many did you plot?

A I believe it was 307, I can check about that number.

Q What data did you use?

A We used the monthly production as reported to the Commission and the close wellhead pressures when they were reported.

Q Did you use any deliverability data?

Q We didn't use deliverability data in plotting the pressure of cumulative production curves, no, sir.

Q You stated in your testimony, Mr. Gruy, that to your knowledge there hadn't been any field's gas pools located recently, I think you said, in the Western Hemisphere with deliverability as a factor. Do you know how many of the prorated, what percentage of the prorated gas pools in the State of Texas are prorated on 100% acreage? A No, sir, I don't.

Q If I told you that that figure is less than 3% would it surprise you?

A Well, I wouldn't be surprised at any figure because I don't know how many are on straight acreage.

MR. CAMPBELL: That's all.

MR. PORTER: Does anyone else have a question of Mr. Gruy? Mr. Utz.

By MR. UTZ:

Q Mr. Gruy, do you think that all the wells in the Jalmat Gas Pool will produce gas down to the abandonment pressure of about 100 pounds without some remedial work?

A I imagine that some of those with the low deliverability will not produce at economic rates at 100 pounds. I think that possibly some of the high capacity wells will produce at economic rates at less than 100 pounds if compression or low pressure gathering lines are put in.

Q Then you are actually tying the ability of a well to produce to that abandonment pressure?

A In making precise estimates of reserves and projections for financing purposes and things, we don't use a blanket abandonment pressure in a field. We make not only a reserve estimate, but we calculate how much gas a well will produce each year in the future, and a high deliverability well we take to a lower pressure than we do the low deliverability well, because the high capacity well will produce at an economic rate of gas, a rate of gas daily sufficient enough to pay its operating costs and taxes to a lower pressure

than a low delivery well will. I haven't made enough of a study of this field to know what the variation in abandonment pressure would be, and since both parties in this suit had previously used 100 pounds abandonment pressure, why I used it too. I know that some of the wells will be abandoned at much higher and some of them will be produced at less than that.

Q In other words, you feel then that the better wells will produce down to a lower abandonment pressure?

A Yes, sir.

MR. UTZ: That's all.

MR. PORTER: Anyone else have a question?

MR. CAMPBELL: May I be permitted to ask a few more questions on the point I overlooked?

MR. PORTER: Yes, sir.

By MR. CAMPBELL:

Q Mr. Gruy, you answered my question with regard to the extent of your study that you had plotted production history on 307 wells in this pool. Do you have that data here?

A Yes, sir.

Q Would you produce it, please?

A I wish to correct my testimony. That is, the 379 instead of 307 that we plotted. Maybe some of the wells are not in Jalmat but the schedule we had said they were in Jalmat, and we didn't locate them all on there. This is it.

MR. CAMPBELL: We would like the opportunity to examine those records if it is agreeable.

MR. MALONE: Be glad for you to.

MR. CAMPBELL: That's all.

MR. PORTER: Mr. Malone.

REDIRECT EXAMINATION

BY MR. MALONE:

Q Are you familiar with the total reserves that were testified to by Texas Pacific's witness on the basis of that extrapolation of pressure curves in the Jalmat Pool and how they relate to the totals which you obtained from the extrapolation of those pressure decline curves?

A We haven't added up our total, except with respect to the 11,000 acre area.

Q That's the 11,000 acre area that was studied by Mr. Liebrock?

A Yes, sir.

Q How did the figures which you obtained in that area compare to the figures which were testified to by Mr. Keller in that area?

A I don't remember the exact numbers, but Mr. Keller's figures were about fifteen percent higher than Mr. Leibrock's gas in place at the same time, and my extrapolation showed about eleven percent

less than Mr. Leibrock's gas in place at that time.

Q Or a difference of twenty-six percent between the conclusion indicated by you and that reached by Mr. Keller on the extrapolation of the same information?

A Yes, sir.

MR. CAMPBELL: I didn't understand his answer that way. It may be correct but I would like to have it clear. Didn't you say there was a fifteen percent difference between Mr. Leibrock's and Mr. Keller's?

A Yes, sir, Mr. Keller's being fifteen percent higher than Mr. Leibrock's, mine being eleven percent lower than Mr. Leibrock's.

MR. CAMPBELL: Thank you.

MR. MALONE: That's all.

MR. PORTER: Does anyone else have a question of the witness? The witness may be excused.

(Witness excused.)

MR. PORTER: Is that all the witnesses you have at this time?

MR. MALONE: That concludes the witnesses for the Operators Group. Before our case is closed, I would like to make a motion to amend our petition for rehearing in one respect. At the time the information on which those petitions was prepared, or at the time they were prepared, we did not have the transcripts before us; on a subsequent examination of the transcript we find that we referred to the case out of which Order No. R-520 grew as being the case in

which deliverability was considered by the Commission. We found that it actually occurred in the case which preceded the case out of which Order R-520 occurred. We would like to make an appropriate amendment. It doesn't have to be done now. I would like to reserve the right to make that amendment and also to modify our knowledge that Texas Pacific supported deliverability in the case to allege that they participated in the case and that it was urged, and we found that we were wrong in our assumption that that company had supported it.

MR. CAMPBELL: We have no objection to that amendment, of course. I might point out that the record in Case No. 582 is a part of the record in Case 673, so it's actually all one case in any event, insofar as the record is concerned. We are going to request at some stage of the proceedings here that that record, or if the parties do not wish to have the entire record in, that we be permitted to put in the record part of the transcript of that case, in any event, but we have no objection to the proposed amendment and we would like to see you take that part out about us supporting deliverability originally.

MR. MALONE: That will be entirely agreeable with us. I would suggest that we just agree that either party can insert in this record whatever portion of the record from those combined cases they may desire and we won't have to take the Commission's time in reading it into the record.

MR. CAMPBELL: We'll have to put it in in some manner.

We can argue it, use the pages for the reference and then argue it.

MR. MALONE: That is what I had in mind.

MR. CAMPBELL: That's fine.

MR. PORTER: Mr. Malone, you didn't want any action on that at this time? You wanted the right to move later?

MR. MALONE: That is correct. I understand Mr. Campbell is agreeable, so we can stipulate to that.

MR. PORTER: Does anyone else among the applicants in this hearing have testimony to present?

MR. DUTTON: If it please the Commission, Sun's representatives are in the unenviable position of having to put on a case following the president of the American Bar Association and Rockefeller brothers engineers. I have been unable to do anything about that, so at this time I would like to introduce our evidence.

We have one witness.

(Witness sworn.)

MR. DUTTON: If it please the Commission, I would like to make the following preliminary remarks prior to introducing Sun's testimony. It is Sun's position that field rules should fulfill two requirements: first, they should act to prevent waste; second, but of equal importance, they should provide each mineral interest owner an opportunity to recover the hydrocarbons beneath his property. A near ideal statement of Sun's position on this matter is contained in paragraph A of Chapter 65, Article 3, Section 14, of the New Mexico Statutes, of which I now request the Commission

to take administrative notice. This paragraph reads as follows:

"The rules, regulations or orders of the commission shall, so far as it is practicable to do so, afford to the owner of each property in a pool the opportunity to produce 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 practicably obtained without waste, substantially in the proportion that the quantity of the recoverable oil or gas, or both, under such property bears to the total recoverable oil or gas or both in the pool, and for this purpose to use his just and equitable share of the reservoir energy."

It is significant that the equitable share which the Statute requires that each owner be afforded an opportunity to produce is defined to be in the proportion that the quantity of recoverable hydrocarbons under such property bears to the total in the pool. Such language would seem to preclude allocation upon a basis that ignores the volume of gas under the property assigned to the well.

Sun's case will be directed to a showing that the deliverability of the well has no relation to the volume of gas under the property assigned to such well.

WILTON C. STUBBIVANT, JR.

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

DIRECT EXAMINATION

By MR. DUTTON:

Q Would you state your name, please?

A Wilton C. Sturdivant, Jr.

Q By whom are you employed?

A Sun Oil Company.

Q In what location?

A Dallas, Texas.

Q Have you testified before the New Mexico Oil Conservation Commission before?

A No, I have not.

Q Would you give them a brief resume of your educational and professional background?

MR. CAMPBELL: We would be glad to agree he is qualified unless you prefer to have him do it.

MR. DUTTON: That's fine with us.

MR. CAMPBELL: We will accept his qualifications. He works for your company.

MR. DUTTON: If that is fine with the Commission, or would you prefer to hear his qualifications?

MR. PORTER: I think we should have a brief statement.

Q Would you proceed?

A I graduated from Texas A. and M. in 1939 with a degree of Bachelor of Engineering, Chemical Engineering. Shortly thereafter I was employed by Magnolia Petroleum Company as a junior engineer,

and with the exception of four and a half years spent in the last war have worked in the petroleum industry. There is another exception; I did work for a railroad for one year. During the approximately fourteen years I worked in the petroleum industry, I have worked in the capacity of field engineer, area engineer, district engineer, and in the classification of senior petroleum engineer. During approximately two years of that time I had as a duty the computation of gas reserves for the Sun Oil Company. During approximately eight years of that time I have as an incident to my other duties, have computed and monitered reserves.

Q Mr. Sturdivant, are you a registered professional engineer?

A Yes, I am.

Q In what State?

A Texas.

Q In what branch?

A Petroleum and Natural Gas Engineering.

Q Does the Jalmat Pool come under your general area of supervision as a senior petroleum engineer in the reservoir engineering section?

A It does.

MR. PORTER: The Commission will accept his qualifications.

Q Mr. Sturdivant, you have indicated that you have been associated with the gas department of Sun Oil Company. In your duties in the gas department, were you involved in computing gas reserves?

A Yes, I was.

Q Did you compute these gas reserves on both a tract basis and a reservoir basis?

A Yes, I did.

Q How did you arrive at the recoverable gas in place under the various tracts?

A Recoverable gas in place under a tract is computed as the production of the acreage, the net feet under the tract, or if available the net acre feet as determined by isopac, the porosity, the connate water content of that porosity, and the formation volume factor of the gas within that porosity.

Q Did you ever use an extrapolation of a cumulative production versus pressure curve to determine recoverable gas in place?

A Yes, we have used that method.

Q Under what circumstances?

A Well, we use that method as a monitering or check system to see if the well is recovering the gas that's under the tract assigned to it.

Q Would you use this extrapolation to determine the gas in place under the tract assigned a given well?

A No. No,

Q Why not?

A It doesn't apply. The pressure production extrapolation is an indication of the gas in place in the area being drained by the well, which does not necessarily coincide with the gas in place

under a tract assigned to a well.

Q Mr. Sturdivant, in your two years of computing gas reserves for Sun Oil Company, which I think we are using synonymously with recoverable gas in place, were you ever faced with calculating reserves in a field in which the data was sketchy or less than what you would prefer it to be?

A Frequently.

Q In this event would you resort to the use of an extrapolation of the cumulative production versus pressure in a particular well to determine the recoverable gas in place under the tract assigned to that well?

A No, I would not.

Q For what reason?

A The method just doesn't apply, as I said.

Q One other thing, Mr. Sturdivant. Are you familiar with who is substantially in control of Sun Oil Company?

A Yes, I am familiar with that.

Q Who is that?

A Mr. J. N. Pugh is chairman of the Board.

Q During the two years you were in the gas department and in the area under your supervision if Mr. Pugh wanted an estimate of what the reserves of gas were in that area, where did his request end up?

A Well, after going through several more important people, it ended up on my desk.

Q He used your estimates of reserves, is that correct?

A As far as I know, he used them.

Q Has Mr. Pugh much money?

A Far more than I have.

Q Perhaps, in your opinion, is he on the level with Mr. Rockefeller?

A Well, I'm not too familiar with that level.

MR. CAMPBELL: If this is going to be a contest of that kind, we give up, if the Commission please.

Q Mr. Sturdivant, what in your opinion should an allocation formula accomplish?

A An allocation formula should prevent waste and assure equity of correlative rights among property owners.

Q What do you mean by insure equity?

A To assure equity is to give each property owner the opportunity to recover that which is under his own property.

Q What goes into determining what is under his own property?

A The computation of what goes into determining the gas under a given property is the acreage of the property, the net feet of porous rock under the property, the average porosity within that net rock, the connate water content of that average porosity, and the formation volume factor of the gas within the porosity.

Q Does deliverability go into that calculation?

A No, it has no place in that calculation.

Q You mentioned formation volume factor. How do you define formation volume factor, or what do you mean by it?

A Formation volume factor, as I have been accustomed to use it, is the volume occupied by a standard cubic foot of gas at reservoir conditions.

Q What is it a function of primarily?

A Pressure, temperature and the specific gravity of the gas.

Q In the Jalmat Field, specifically, what is it primarily a function of?

A Well, it varies from place to place in the Jalmat Field primarily as does the pressure. The temperature and the specific gravity of the gas throughout the pool I believe can reasonably be thought of as being constant.

Q From a practical standpoint, would you say that other things being equal, the gas in place, or let's state it this way, is the gas in place under a given tract easily proportional to the pressure existing under that tract?

A Yes, that is approximately true.

Q Specifically referring to the Jalmat Field, in your opinion and for determining the proportional relationship between tracts, could pressure be substituted for the formation volume factor that you previously mentioned as entering into the volumetric calculation?

A Pressure could be substituted for this formation volume factor in computing the comparative amounts of gas under tracts which are side by side, presuming them to have equal acreage, porosity connate water and net thickness.

Q And comparative, is that in your opinion connate proportionately? A Yes.

Q As used in the statutes?

A Proportionately as between tracts.

Q Thank you. Of the five factors that you mentioned as entering into the determination of recoverable gas in place under a tract, and for which you now indicated that from a proportional

standpoint, you may substitute pressure for formation volume factor, which in your opinion, or could be made available and are capable of uniform interpretation in the Jalmat Field?

A Well, certainly acreage can be determined uniformly, bottom-hole pressure can likewise be determined uniformly, and possible acre feet or net thickness under each tract. I say possible because there would be a question of agreement of opinion among various people as to the net effective thickness under their own tracts.

Q Mr. Sturdivant, have you familiarized yourself with allocation as proposed in Order 1092-A?

A If that is the order number pertaining to this hearing, yes.

Q What does it involve?

A It involves acreage and deliverability.

Q Do you know how deliverability is proposed to be determined for the purposes of this order?

A Yes, the instructions on determining that deliverability are set out in a memorandum of the Commission, the number of which I don't remember at the moment.

Q Does the deliverability as so determined under this order for any given well have any relation to the gas in place under the tract assigned that well? A No, it does not.

Q Why not?

A Well, this deliverability is a somewhat arbitrary function

of the capacity of the well to produce. That capacity of the well to produce in turn is a function of the penetration of net pay, the amount of net pay exposed to the well bore, the permeability of the formation in the neighborhood of the well bore, the viscosity of the gas, and the pressure difference available to drive the gas into the well bore.

Q As proposed by this order, is there any arbitrariness in the manner in which the pressure differential that is suggested to be used in calculating this arbitrary?

A Yes, I believe it has been. Well, I know that it has been fixed at the pressure difference between the shutin pressure or bottom-hole pressure and 80% of that number. The 80% is arbitrary but it is applied equally to all wells.

Q What volume of gas does deliverability affect, if any?

A Well, deliverability, the deliverability of a well determines the drainage area of a well together with the rate of production of nearby wells, deliverability is related to the volume of gas in the drainage area of a well.

Q Is this volume subject to change according to the manner in which the various wells are being produced?

A Yes, the drainage area of a well will vary as the well and its neighbors are varied in their relative production rates.

Q Mr. Sturdivant, have you studied Sun's wells within the Jalmat Field?

A Yes.

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Q Are there any variations in deliverability among our holdings?

A Yes, there is.

Q What is the range of this variation?

A Well, sir, it is approximately two to one.

Q Mr. Sturdivant, to your knowledge --

A Correction.

Q Excuse me.

A As I review my notes, here it is closer to five to one.

Q Mr. Sturdivant, to your knowledge has Sun Oil Company lost any allowable on the latest reschedule from any of these wells?

A No, it hasn't.

Q They have lost no allowable from the one having the deliverability of a fifth of the maximum well, is that correct?

A That is correct.

Q Has Sun had any problem in keeping their wells on scheduling and on allowables?

A Well, there seems to have been an administrative problem, in that we found it necessary to have almost monthly correspondence to insure that our wells are produced at rates which will secure our allowable.

Q But to date, or at least to the date of the last balancing period, there has been no problem in the well having the lowest deliverability making its allowable, is that correct?

A No, the wells have been able to keep up with their allowables.

Q Mr. Sturdivant, were you in the hearing room when the questions relative to the effect of a pressure gradient existing across the field, particularly with reference to migration of fluids was brought out earlier today?

A Yes, I was here.

Q Mr. Sturdivant, in your opinion would an allocation formula based upon deliverability necessarily tend to eliminate that pressure differential? A No.

MR. BUTTON: That's all we have.

MR. PORTER: Does anyone have a question of the witness? Mr. Campbell.

CROSS EXAMINATION

By MR. CAMPBELL:

Q You stated, I believe, that after the summary of your attorney with reference to the proper consideration in an allocation formula, or he stated that any formula which ignores the amount of gas in place under a tract, I don't know if the word was "ignored" or "omits", or what it was, is not a proper allocation formula, is that your opinion?

A Well, it would be less desirable than other allocation formulas.

Q Do you think that a one hundred percent acreage formula gives any consideration to the recoverable gas in place under a tract?

A Yes, it does.

Q In what respect?

A The use of acreage is at least a partial attempt to relate allowables to the gas in place under a tract, whereas deliverability bears no relation to the gas under a tract.

Q Would a formula which gave consideration both to acreage and deliverability have a tendency to make that same sort of recognition?

A If both were included in a formula, the deliverability might offset the acreage or it might bring the total formula more nearly in line with what the gas in place under a tract would deserve. It would, however, be a matter of coincidence.

Q Mr. Sturdivant, you stated that in your experience in estimating the recoverable gas in place under a particular tract, that you used the volumetric method on a specific well. That method does not measure exactly the amount of gas in place under that tract, does it?

A Well, the method would measure it exactly if all the factors were exact.

Q Are the factors ever exact, as a practical matter?

A As a practical matter, it is never exact.

Q As a matter of fact, any time you depart from the size of the bore hole itself you are getting into the realm of uncertainty, are you not, in any type of calculation of reserves?

A We don't use the size of the bore hole in the calculation.

Q I am talking about the information you obtained as a result of the drilling of the hole.

A If I understand your question correctly, you are indicating that the core gathered from the bore hole is not necessarily a representative sample of the entire rock underneath a tract?

A Yes.

A That, of course, is true, because the sample is too small.

Q So that any measurement of recoverable gas in place is not an exact measurement?

A It cannot be --

Q (Interrupting) Unless you mine it and measure it in that manner?

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A That is true. To know it exactly you would have to dig it up, that is the tract, not the hole.

Q Mr. Sturdivant, I think you indicated that in the Jalmat Gas Pool, in addition to acreage which could be reasonably distributed in your opinion, and of course is on a straight acreage factor, that the pressure factor, that there was sufficient data that it might be spread on an equitable basis as a factor in determining the opportunity of a person to recover the recoverable gas in place under his tract, didn't you say that?

A Yes. Pressure can be determined fairly accurately, I should say reasonably accurately and with sufficient accuracy, though, that various parties can agree on it; further, it can be determined and redetermined as time goes on and adjustments made for the variation in pressure. Saying it another way, practically it can be handled.

Q Then if pressure were included, it would improve the formula in your opinion?

A It would.

Q Now you have stated following that that you see absolutely no relationship between recoverable gas in place and deliverability?

A I see no relationship between recoverable gas in place as determined by pressure production extrapolation, and that gas in place under a given tract.

Q Well, now, isn't pressure a factor in a deliverability determination?

A Of sorts, sir, it is.

Q To the extent that it is of sorts, isn't there some relationship, regardless of how small or great you believe it is?

A There is a relationship.

Q It isn't exactly correct to say there is no relationship between the two?

A Between which two?

Q Between deliverability and recoverable gas in place, inasmuch as pressure is a factor in determination and you say pressure can be determined?

A I said pressure can be determined and in speaking of that pressure, I speak of the static pressure, that static pressure is as laid out in the rules of the Commission to be taken on a well that is shut out by a certain method in calculations made to a static pressure. The pressure involved in deliverability is not that static pressure, but the difference in the squares between that pressure and a pressure equal to eighty percent of that pressure raised to a power, so you see we have two pressures involved. We're working on the difference in the squares.

Q You left me there. I will have to talk to my engineers.

A Well, I might simplify my remarks to say this, that although static pressure does enter into the calculation or estimation of reserves in place under a tract by the volumetric method, and under a drainage area by the pressure production method, or we have called it here the material balance method, the extent to

which the static pressure is related to the nth power of the difference of the squares between the static and the other pressures is so far-fetched that I cannot describe it.

Q It's too late to pursue that any further. How many wells does Sun have in the Jalmat Gas Pool?

A Three.

Q Have you made any study of recoverable gas in place under your own wells?

A Yes, we have.

Q Is there a difference between the wells?

A A difference in the gas in place under the tracts assigned to the wells?

Q Yes, under your method of calculation.

A There is a difference in the amount of gas under each of these tracts.

Q Yes, that's what I asked you.

A Yes.

Q You think a hundred percent acreage formula gives recognition to that as between those wells?

A Partial recognition, yes.

MR. CAMPBELL: I think that is all.

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

By MR. UTZ:

Q Mr. Sturdivant, I believe you stated that your range of

deliverabilities on Sun Oil tracts was the ratio of one to five?

A Approximately, yes.

Q What is your reserve ratio?

A The reserve ratio is approximately one to four.

Q Deliverability ratio and reserve ratio is pretty close, then?

A Well, if you can say one to five and one to four are about the same, yes.

Q Is one to five, one to four closer than one to one, straight acreage? Straight acreage formula, you have a one to four ratio and the allowable for each tract would be the same, would it not?

A We have a one to two relationship under acreage. A one to four relationship between maximum and minimum gas in place under the tract, and a one to five ratio between maximum and minimum deliverability of the wells. Do I make myself clear?

Q No, you didn't. I lost you on the one to two ratio.

A One of our wells has eighty and the other two have one hundred sixty acres assigned.

Q I am talking about per acre, not tract reserves.

A I have been talking about tract reserves.

Q I should have asked you the question in a little different manner, perhaps. Is per acre reserves among your tracts one to four?

A The per acre reserves under the tract of the extreme ratio of one to three, approximately, that is between the highest per

acre reserve and the lowest per acre reserve, with the other one in the middle, naturally.

Q On a straight acreage formula, you would receive the one to one ratio of allowable, would you not, instead of the one to three which your per acre reserves?

A On a per acre basis we would receive one to one.

Q Yes. So there's quite a difference between the one to one and comparing one to three than there is between the one to three and one to five, isn't there?

A That's right.

Q So with the straight acreage formula in your particular company's case be further from allowing you to recover the proper reserves under your tracts than deliverability?

A Yes.

Q In calculating your reserves for your company, how do you arrive at the connate water and porosity for your individual tracts?

A You are speaking of these Jalmat Field wells?

Q Yes, sir, the reserves we are talking about here.

A The connate water figure I used was derived from a publication of the Roswell Geological Society and is, I suppose, to the best of their knowledge representative of the average in the field. This, of course, is a very limited evidence, but it was the only evidence or data that I had. The average porosity under each tract was given to me by our staff geologist in Roswell. I do know that he had available to determine that logs on each well and a core

analysis on one of the three.

Q Micro-logs?

A I believe they are radioactive logs in two cases, and a micro-log in the third, if I remember correctly. I can't be sure.

Q Then you make reserves for your company on the basis, reserve estimates for your company on the basis of average water and sometimes average porosity figures?

A In this field, yes. In general, we make use of the best information that we have, and if we have sufficient information to use a different average porosity or connate water content under one tract as opposed to another, we do that. I might be able to answer your question by simply saying that we make what we think is the best use of all available data.

Q Has that method proved to be satisfactory as far as you are concerned?

A This is the only method available to compute gas in place under a tract.

Q As your average figures, then?

A Yes.

Q Have those figures proven to be accurate as far as your recoveries are concerned?

A The only way in which we can prove or disprove the estimates of recoverable gas as calculated by the volumetric method is on a field-wide basis and in comparison with either the total field experience after it's all over with or on a material balance basis

as applied to the entire pool.

Q Is it your opinion that the straight acreage formula in your particular case causes less drainage than the deliverability formula?

A Less drainage within the Jalmat Pool.

Q Less drainage from your tracts.

A Well, our tracts are separated and we would have to compare them with adjacent tracts owned by other folks to establish drainage from or to our tracts. We haven't the data to do that, and we haven't been able to do it.

MR. UTZ: That's all I have.

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

By MR. MALONE:

Q Did I understand you to say, Mr. Sturdivant, that you had experienced an administrative problem in making certain that your wells produced the allowable allotted to them?

A I said, or should have said that my company has experienced that problem.

Q And who determines whether or not those wells do produce the allowable in that regard?

A Well, I can only quote things said to me, but I understand that the amount of gas taken from a well is under an allowable set by the Commission, but whether or not the gas allowable of a well is taken from the well during the month in which it is assigned is

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at least in part under the control of the pipe line company.

Q And your problem then has been with the pipe line company?

A Both with the pipe line company and with the Commission, I believe.

MR. MALONE: That's all.

MR. PORTER: Does anyone else have a question of Mr. Sturdivant?

MR. DUTTON: I have a few on redirect.

MR. HOWELL: I have one other question here.

MR. PORTER: Mr. Howell.

By MR. HOWELL:

Q Do you have any copies of the correspondence that you had with your administrative problem?

A No, sir, I don't.

Q Did you write that correspondence yourself?

A I did not.

MR. HOWELL: I move that the testimony be stricken as hearsay.

MR. PORTER: The Commission orders that the testimony concerning this correspondence and other administrative problem be strickon from the record.

Does anyone else have a question now? Mr. Dutton?

RE-DIRECT EXAMINATION

By MR. DUTTON:

Q Mr. Sturdivant, some of the questions directed by Mr. Campbell went to the accuracy of the information obtained from a well bore in determining the hydrocarbon in place within a field. To your knowledge, and within your experience, is that matter that is commonly done in the industry that the well information is what is relied upon to establish the data from which volumetric calculations are made?

A It is customarily done in the industry, and it is done of necessity.

Q Is there any other information generally available except that information obtained through the well bore?

A No.

Q In your opinion as an expert engineer, is it both logical and practical to use the information from the well bore in the manner in which it is being used?

A Well, it is not only practical, it is inescapable, it is all you can do.

Q Mr. Sturdivant, with respect to the recoverable gas in

place being a function of either deliverability or the extrapolation of the cumulative production pressure curve, the question that was directed to you was in general. I would like to rephrase it and relate it to the recoverable gas in place under the tract assigned to the well and then ask you if either of the methods have any engineering reasoning behind them.

A The method of computing gas in place, which is what we are calling here the volumetric method, that is acres times thickness times porosity times minus one connate water times volume factor can be and is applicable to the computation of reserves in place under a given tract. The estimation of recoverable gas from a well which is gained by the extrapolation of the pressure production history of that well is applicable only as to an estimate of the amount of gas in place in the drainage area of that well. Since the drainage area of a well seldom coincides with the tract assigned to the well, the two methods can not calculate or estimate the same thing.

Q In your estimate as an engineer in the preservation of equity, should the gas in place under the tract assigned to a well be considered rather than the gas contained in the drainage area of the well? A Yes, it should.

MR. DUTTON: Thank you.

MR. PORTER: Any further questions? The witness may be excused.

(Witness excused.)

MR. PORTER: Does this conclude the testimony by the Applicants in this case?

MR. MALONE: It does so far as the Operators Group is concerned.

MR. PORTER: The Commission will recess the hearing until nine o'clock tomorrow morning.

IN THE SUPREME COURT OF THE STATE OF NEW MEXICO

1327

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. 6830

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

APPELLANTS' BRIEF-IN-CHIEF

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PAN AMERICAN PETROLEUM CORPORATION
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Statement of the Case

This is an appeal from the judgment of the District Court of Lea County in an appeal to that Court to review the orders of the New Mexico Oil Conservation Commission entered in Case No. 1327 on the docket of the Commission. The Appellants are Continental Oil Company, Amerada Petroleum Corporation, Shell Oil Company, The Atlantic Refining Company, Humble Oil & Refining Company, Standard Oil Company of Texas, and Pan American Petroleum Corporation. The Appellees are the Oil Conservation Commission of New Mexico and the individual members thereof, Texas Pacific Coal & Oil Company, El Paso Natural Gas Company, Permian Basin Pipeline Company, and Southern Union Gas Company. The Petitions for Review were filed in the District Court under the provisions of Section 65-3-22, et seq., New Mexico Statutes Annotated, 1953 Compilation, to review those certain orders entered by said Commission as its Order No. R-1092-A, entered on January 29, 1958, and Order No. R-1092-C, entered on rehearing on April 25, 1958. (I Ct. 1-40, 138-157, 166-184, 194-212, 222-241, 251-269, 279-296).* By these orders, the Commission changed the gas proration formula which had been in effect in the Jalmat Gas Pool in Lea County, New Mexico, since the inception of gas prorationing in 1954. (I Ct. 21 and 39).

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*Note: In Appellants' briefs references to the record before the Oil Conservation Commission will be stated: (1 OCC), etc., and references to the transcript prepared by the District Court will be stated: (I Ct.) and (II Ct.) representing Volumes I and II of the District Court transcript, respectively. Volume numbers on the Oil Conservation Commission record were placed thereon in longhand for convenience of the trial court.

In the trial court, the appeals were consolidated, including the appeal filed by Cities Service Oil Company, which is not an appellant before this Court. (I Ct. 53). At the conclusion of the hearing in the District Court, the Court entered its findings of fact and conclusions of law and judgment ordering that Appellants' Petitions for Review be dismissed and that the orders of the Commission be affirmed. (I Ct. 115-120).

From this judgment of the trial court, Appellants prosecute this appeal (I Ct. 121, 164, 192, 220, 249, 277, 304).

Following allowance of this appeal by the trial court, extension of time to August 16, 1960, in which to docket this cause in the Supreme Court was granted. (I Ct. 308).

The appeals, by order of the District Court, were consolidated for all purposes, and permission granted to submit them on a single transcript and record on appeal, with further permission to submit the original transcript only of the hearing before the Oil Conservation Commission of New Mexico, exhibits and attachments thereto, and originals only of exhibits received by the District Court at the trial of the consolidated causes (I Ct. 133-134). This order was affirmed by the Supreme Court upon docketing of the case here (Order entered August 16, 1960).

STATEMENT OF THE FACTS

Case No. 1327 on the Commission docket, in which the orders here under review were entered, was originated by the filing of an application by Appellee, Texas Pacific Coal & Oil Company, seeking to have the prorationing of gas in the Jalmat

Pool terminated. In the alternative, Texas Pacific prayed revision of the regulations governing allocation of allowables and that deliverability be included as a factor in the proration formula. (I Ct. 16). In the course of the hearing before the Commission, Appellee, Texas Pacific, proposed the formula which the Commission adopted and promulgated. (1 OCC 60). It provides for the allocation of allowable as between wells twenty-five percent (25%) on the basis of the acreage assigned to the well and seventy-five percent (75%) on the basis of the "calculated deliverability" of the well multiplied by the acreage assigned to it. (I Ct. 25).

The term deliverability as applied to a gas well is substantially equivalent to "potential" as applied to an oil well. It refers to the amount of gas the well would produce if permitted to produce without restriction against a specified back pressure. See Sullivan, Handbook of Oil and Gas Law 334.

The anticipated effect of such a change in formula upon operators in the pool, as envisaged by one expert witness, is indicated by operators' (Appellants') Exhibit 10 before the Commission (4 OCC 253) and the testimony in support of it. The exhibit indicates that Appellant, Continental Oil Company, would experience a loss of 150,000 MCF of gas per month, which at ten cents (10¢) per MCF amounts to a loss of $15,000.00 per month. (4 OCC 255). At the same time, it was testified that two other companies, Gulf and Cities Service, would experience a gain of approximately $25,000.00 each per month.

As of December 31, 1956, the Jalmat Gas Pool, containing 367 producing gas units (1 OCC 9), eighty-five percent (85%) of which were connected to the gas transmission lines of El Paso Natural Gas Company (II Ct. 6, 141) and fifteen percent (15%) to the Permian Basin Pipeline Company system.

The allocation of allowables in the area now encompassed in the Jalmat Gas Pool was begun on January 1, 1954 and continued under a succession of orders by the Commission, the last of which, prior to the orders which are the subject of this appeal, was Order R-520 issued in Case 673, on August 12, 1954 (I Ct. 15). All of these orders provided for allocation 100% on the basis of acreage assigned to each well.

The application of Appellee, Texas Pacific Coal & Oil Company, in Case No. 1327 came on for hearing at the regular monthly hearing of the Oil Conservation Commission in October 1957. The hearing was continued on November 14 and thereafter on December 9, 1957.

In the course of the hearing before the Commission, when it appeared that all operators in the Jalmat Pool other than Appellee, Texas Pacific Coal & Oil Company, and the pipeline companies, opposed the inclusion of deliverability in the proration formula, the Commission suggested that the opponents unify their effort under the direction of a single counsel to avoid duplication of cross examination. The companies did so (4 OCC 194) and the seven companies who are now Appellants were joined by five additional operators all of whom vigorously opposed the amendment in the proration formula proposed by Appellee, Texas Pacific. (4 OCC 195). Two additional operators joined in opposing deliverability independently, making a total

of fourteen operators who opposed, as against one who advocated, the change in formula which the Commission ultimately promulgated. (6 OCC 3, 138).

The expert engineering testimony offered by Appellee, Texas Pacific Coal & Oil Company, in support of its proposed formula was presented substantially entirely through a single witness--W. O. Keller of Fort Worth, Texas, a consulting petroleum engineer who testified four times before the Commission and once before the Trial Court.

Appellants presented their case principally through two consulting petroleum engineers, Robert M. Leibrock of Midland, Texas, and Henry J. Gruy of Dallas, Texas.

Early in the hearing the basic conflict developed which is at the core of this appeal. It resulted from the fact that Appellee, Texas Pacific, while it contended that the correlative rights of operators would be better protected under the proposed formula, did not present any evidence as to the volume or quantity of the recoverable gas in place under the tracts in the pool or the effect of the proposed formula on it. Neither did it present any testimony as to drainage between tracts which might be expected to occur under the proposed formula. Appellants contended before the Commission, (6 OCC 4, I Ct. 33, 34), before the trial court (II Ct. 19, et seq., 27 et seq.) and here contend that such testimony and findings based thereon are essential to the validity of the order under the New Mexico statute.

Texas Pacific, instead, presented extended testimony as to the "reserves" of the wells in the pool (II Ct. 34, et seq.) and as to gas migration other than between tracts in the pool (II Ct. 212-213). It predicated its recommendation of the

proposed deliverability formula on the correlation of well deliverabilities with the so-called "reserves" as projected by Mr. Keller based upon the past performance of the well (II Ct. 36). He contended that there was insufficient geological and engineering information available to make a meaningful study of the volume of recoverable gas in place under the tracts and the drainage between tracts (3 OCC 133). Appellants' two expert witnesses testified that the information available was adequate, that they had made such a volumetric study of a portion of the reservoir and testified both to the recoverable gas in place under the tracts as disclosed by the study and as to drainage between tracts which could be expected under the proposed formula (4 OCC 232, 237, 239-40, 270).

Texas Pacific's witness Keller tested the proposed deliverability formula against the well "reserves" found by him and found it to be more desirable than the existing acreage formula (II Ct. 35). Keller admitted that his basis for determining "reserves" assumed that the performance of the well in the future would continue just as in the past (II Ct. 36) and hence assumed that drainage either to or from the well which had occurred in the past, would continue unchanged in the future, regardless of changes in condition (II Ct. 45). Appellants pointed out, and Keller admitted, that this had the effect of including in the reserves of a well which had been draining adjoining leases before prorationing and the drilling of offset wells, the amount of gas which it had drained from adjoining owners, (II Ct. 42) even though in the future such drainage might not continue. Appellants asserted that well "reserves" as computed by Mr. Keller were

not the equivalent of recoverable gas in place, which the statute makes the measure of the correlative rights of operators; (II Ct. 44) hence that Texas Pacific proof did not meet the requirements of the statute and would not support a change of formula.

Texas Pacific did not attempt to correlate the deliverabilities of individual wells with the volume of recoverable gas in place. It did attempt to correlate the deliverability of individual wells with "reserves" which had been allocated to the acreage assigned to the wells (5 OCC 435-436). It was on the basis of this testimony that the Commission found 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 (recoverable) gas in place under the tracts dedicated to said wells". (I Ct. 23, 40). The Commission treated the "reserves" computed by Keller as the equivalent of recoverable gas in place. Keller had admitted that the two were not the same (3 OCC 128, 7 OCC 208).

Appellants' expert witnesses compared deliverabilities to recoverable gas in place under the tracts in the area of Appellants' study and found a total absence of any correlation of any character (4 OCC 253, I Ct. 36).

As to the drainage which would result from the proposed formula, Appellants' witnesses testified on the basis of a tract by tract study of drainage, giving effect to counter drainage, and found that a tremendous redistribution of ownership would result under the proposed formula (Operators' Exhibit 10, 4 OCC 253). Texas Pacific's witness testified only as to changes in magnitude of migration and did not make a study as

to drainage between tracts (II Ct. 213), contending that insufficient information was available for that purpose.

On January 29, 1958, the Commission entered its Order R-1092-A in Case 1327 adopting the formula which had been proposed by Texas Pacific and terminating allocation on an acreage basis in the Jalmat Gas Pool. (I Ct. 21). It denied the request of Texas Pacific that prorationing in the Jalmat Gas Pool be terminated and for other relief.

Order R-1092-A provided for the use of the "calculated deliverability" of each well, expressed in MCF per day, in computing its allowable. It provided that annual deliverability tests to determine a well's "calculated deliverability" should be taken (I Ct. 25-26), but did not specify the pressure to which such tests should be corrected or in any way define "deliverability" as it would be applied in the new proration formula.

Under date of January 30, 1958, a memorandum was issued by the Commission, which read in part:

> "A deliverability testing procedure will be furnished to all operators in the Jalmat Pool and other interested parties prior to March 1, 1958." (OCC Record certified to District Court)

Fourteen operators in the Jalmat Pool filed motions for rehearing within the twenty (20) days provided by the statute (I Ct. 28, 152, 234, etc.). Rehearing was granted by Order R-1092-B in Case 1327 dated February 19, 1958. The rehearing was held on March 25, 26, and 27, 1958. Extended testimony was heard by the Commission (OCC Vols. 6 and 7). Thereafter on April 25, 1958, the Commission issued its Order R-1092-C in Case 1327 (I Ct. 39), reaffirming its former decision. The order repeated the paragraph which appeared as finding (5)

of Order R-1092-C, making one material change in it. It inserted the word "recoverable" before the words "gas in place under the tracts dedicated to said wells". The paragraph then read as follows (insertions underlined):

> "(2) That after considering all the evidence presented at the original hearings and the rehearing in this case, the Commission re-affirms its finding that Texas Pacific Coal and 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 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." (Emphasis supplied).

In addition the order included the following finding:

> "(3) That the provisions of Order No. R-1092-A should remain in full force and effect." (I Ct. 40)

Petitions for Review were subsequently filed by Appellants in the District Court of Lea County to review the orders of the Commission R-1092-A and R-1092-C (I Ct. 1, 138, 166, 194, 222, 251, 279).

The deliverability testing procedure promised by the Commission's Memorandum of January 30, 1958, was supplied by another memorandum dated February 24, 1958. (II Ct. 130) Its contents were not the subject of notice and public hearing by the Commission.

The trial court conducted two pre-trial conferences, the first August 4, 1958 (I Ct. 50) and the second which resulted in an unsuccessful attempt to prohibit the District Court from hearing testimony as it had announced that it proposed to do. State ex rel Oil Conservation Commission v. Brand, 65 N.M. 384, 338 P.2d 113 (1959).

At the outset of the trial before the court, Appellants objected to the participation of the Oil Conservation Commission in the trial as an adversary party. The objection was based on the fact that it had been agreed that the case involved only the correlative rights of the operators and hence that the Commission had no place as an adversary party in the appeal seeking to uphold its own decisions. The court sustained the objection (I Ct. 5). The Oil Conservation Commission has taken a cross-appeal from the ruling (I Ct. 126).

At the trial of the consolidated appeals, the record of proceedings before the Oil Conservation Commission, with exhibits, was stipulated into evidence (I Ct. 12). Thereupon the parties, referring to the record, presented arguments pro and con on the question of whether or not the orders of the Commission were supported by substantial evidence. The court reserved his ruling (I Ct. 75) and thereafter both sides presented testimony to the court. Appellants offered two witnesses by whom it sought to show that application of the Commission's order had resulted in increased drainage across lease lines and had been destructive of correlative rights (II Ct. 80-89) and that the standard fixed by the Commission orders was so vague and indefinite in their definition and their application as to result in a denial of due process of law (II Ct. 93-119).

Appellees offered three witnesses in rebuttal (II Ct. 138-212).

The Court took the case under advisement and subsequently notified counsel of his decision upholding the orders of the Commission. (II Ct. 272). Requested findings of fact and conclusions of law were filed by the parties (I Ct. 89, 100), the trial court filed his decision (I Ct. 117), and a judgment was entered on February 16, 1960, sustaining and affirming the orders of the Oil Conservation Commission appealed from (I Ct. 120).

POINTS RELIED UPON FOR REVERSAL

I. The decision of the trial court is erroneous in that it confirms orders of the Oil Conservation Commission of New Mexico, which are unreasonable, and unlawful and which deprive Appellants of their property without due process of law in that:

A. The Commission did not make findings which are required by the Statutes of New Mexico for a valid exercise of the power to allocate allowable production between wells.

B. The finding of the Commission that there is a general correlation between the deliverabilities of gas wells in the Jalmat Pool and the recoverable gas in place under the tracts dedicated to said wells, and that the inclusion of a deliverability factor in the proration formula would therefore result in a more equitable allocation of the production in said pool, provides no basis authorized by the statutes of New Mexico for the change of a proration formula and fails to afford protection to the correlative rights of the operators in said pool, as defined by the New Mexico Legislature.

C. There is no substantial evidence to support the finding of the Commission 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.

D. There is no substantial evidence that the formula promulgated thereby will prevent drainage

between producing tracts in the pool, not equalized by counter-drainage, and afford to the owner of each property in the pool the opportunity to produce his just and equitable share of the gas in said pool, which, as defined by the Legislature of New Mexico, is "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 gas under such property bears to the total recoverable gas in the pool." Section 65-3-14, New Mexico Statutes Annotated, 1953 Compilation.

II. The orders of the Commission deprive Appellants of their property without due process of law, are confiscatory and impair vested rights of Appellants in that:

A. The orders are so incomplete, vague and indefinite as to deprive Appellants of their property without due process of law.

B. The deliverability test specified by the Commission deprives Appellants of their property without due process of law.

ARGUMENTS AND AUTHORITIES

POINT I-PARTS A AND B

I. The decision of the trial court is erroneous in that it conforms orders of the Oil Conservation Commission of New Mexico, which are unreasonable, and unlawful and which deprive Appellants of their property without due process of law in that:

A. The Commission did not make findings which are required by the Statutes of New Mexico for a valid exercise of the power to allocate allowable production between wells.

B. The finding of the Commission that there is a general correlation between the deliverabilities of gas wells in the Jalmat Pool and the recoverable gas in place under the tracts dedicated to said wells, and that the inclusion of a deliverability factor in the proration formula would therefore result in a more equitable allocation of the production in said pool, provides no basis authorized by the statutes of New Mexico for the change of a proration formula and fails to afford protection to the correlative rights of the operators in said pool, as defined by the New Mexico Legislature.

It is a significant fact that during the twenty-five years that the Oil Conservation Commission of New Mexico has had statutory authority to regulate and allocate the production of oil and gas in New Mexico, no appeal from a decision of the Commission has reached this Court. While this undoubtedly is

a tribute to the ability of the industry and the Commission to resolve their problems without litigation, it has resulted in a complete lack of case law which might guide the Commission in the performance of its duties, and particularly in the interpretation of the provisions of the Oil and Gas Conservation Act as it affects the functioning of the Commission.

It is also true that the statute under which this appeal was taken from the order of the Oil Conservation Commission has not been considered by the Supreme Court. Appellees sought to have this Court consider the statute, but were unsuccessful, in the prohibition proceeding brought wherein they sought to prohibit the District Court from proceeding herein in the manner announced by it during a pretrial conference. State ex rel Oil Conservation Commission v. Brand, 65 N.M. 384, 338 P.2d 113. The question posed, and undecided, in the prohibition proceeding was the authority of the trial court to consider evidence other than that heard by the Commission at the trial of this case; nonetheless, new testimony and exhibits were offered by both sides during the hearing in the trial court.

The appeal under consideration arises out of the performance by the Commission of one of its fundamental and most important functions-the allocation of allowable production between producers in a prorated pool. The aggrieved parties are eight of the major oil and gas producing companies operating in New Mexico. The Appellees, in addition to the Commission, consist of a single producer in the Jalmat Pool and the three major gas pipe line companies operating in New Mexico.

The issue is whether, on the record before the Commission, the Commission could legally change the formula for the allocation of gas production in the Jalmat Gas Pool from the acreage formula which had been in effect since the inception of gas prorationing (I Ct. 15) in such a manner as to reduce the income of one group of operators from the sale of gas by approximately $40,000.00 per month (4 OCC 255, et seq.) and at the same time to increase the revenue of other operators in the pool by an even greater amount (4 OCC 257). A study by one of Appellants' expert witnesses indicated that a redistribution of income totaling $5,375,000.00 would occur in 20% of the wells during the remainder of the life of the pool (6 OCC 60-61).

Appellants submit that there were no findings by the Commission in this proceeding which would support such an order and further that there was no substantial evidence before the Commission on which the findings essential to the validity of such an order could have been based.

From the original discovery of oil in the United States to the present time, the nature of the interest of the owner of the property in oil and gas beneath the surface of his land has occasioned difficulty. The fugacious character of oil and gas was recognized from the outset and had a marked effect upon the development of the law. The so-called "rule of capture" or "law of capture" which resulted has been the subject of consideration by courts and writers and has been both criticized and commended. (For an excellent discussion of the early development of the law as it resulted from the unusual problems incident to the migration of oil and gas see Hardwick, The Rule of Capture and Its Implications as Applied to Oil and Gas, 13 Texas L. Rev. 577 (1935), and

Summers, Legal Rights Against Drainage of Oil and Gas, 17 Texas L. Rev. 683 (1939).

Probably the greatest impact of this characteristic of oil and gas upon the law has been in three closely related areas: (1) Where the rights incident to ownership of such minerals are in question; (2) Where the validity of regulatory orders governing the drilling and spacing of wells to a common source of supply is involved; and, (3) Where the allocation of allowable production is being made as between the owners of wells producing from a common reservoir.

The New Mexico conservation statute enacted in 1935 largely ignored natural gas. It made no specific provision for proration of gas production. Almost all of its provisions were limited to oil alone. This undoubtedly resulted from the fact that gas at that time was of practically no value and its market was extremely limited. It was primarily as a result of the increase in value and demand for gas and the need for express authority to prorate the production of gas that the 1949 Legislature revised and re-enacted the entire Oil Conservation Act as Chapter 161, Laws of New Mexico, 1949.

The original act made no reference to correlative rights, as such. The grant of power to the Commission was predicated entirely upon the prevention of waste. Thus Section 9, Chap. 72, Laws of New Mexico, 1935, provided:

> "Section 9. The Commission is hereby empowered, and it is its duty, to prevent the waste prohibited by this act. To that end, the Commission is empowered to make and enforce rules, regulations and orders, and to do whatever may be reasonably necessary to carry out the purposes of this act, whether or not indicated or specified in any section hereof."

Nonetheless, the Legislature specifically required the Commission to protect the correlative rights of owners when it exercised its powers to limit and prorate the production of oil, even though it did not use the term "correlative rights". Section 12, Cap. 72, Laws of New Mexico 1935, provided:

> "Section 12. Whenever, to prevent waste, the total allowable production for any field or pool in the state is fixed by the Commission in an amount less than that which the field or pool could produce if no restriction were imposed, the Commission shall prorate or distribute the allowable production among the producers in the field or pool. Such proration or distribution shall be made on a reasonable basis. The rules, regulations or orders of the Commission shall, so far as it is practicable to do so, afford to the owner of each property in a pool the opportunity to produce his just and equitable share of the oil and gas in the pool, being an amount, so far as can be practically determined, and so far as such can be practically obtained without waste, substantially in the proportion that the quantity of the recoverable oil and gas under such property bears to the total recoverable oil and gas in the pool, and for this purpose to use his just and equitable share of the reservoir energy." (Emphasis supplied).

The underlined portion of Section 12 constituted an affirmative requirement that correlative rights be protected when the production from a pool is prorated. It was a mandatory requirement for valid action by the Commission.

It is significant that when the Legislature revised the Act in 1949 to provide for the proration of natural gas it also made express provision for the protection of correlative rights as such. Thus Section 9 quoted above, after the 1949 revision, provided as follows (underlining indicates amendment):

> "Section 9. The Commission is hereby empowered, and it is its duty, to prevent the waste prohibited by this Act and to protect correlative rights, as in this Act provided. To that end, the Commission is empowered to make and enforce rules, regulations and orders, and to do whatever may be reasonably necessary to carry out the purpose of this Act, whether or not indicated or specified in any section hereof."

The 1949 revision also added to the Act a definition of the term "correlative rights". For this definition, the Legislature used the exact wording of the portion of Section 12 of the Laws of 1935, supra, which described the protection to be afforded to owners by any order prorating oil production. Thus Section 26, paragraph (h) now provides:

> "(h) "Correlative rights" means the opportunity afforded so far as it is practicable to do so, to the owner of each property in a 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 practicably 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."

It also is significant that the 1949 Legislature added to Section 12 the requirement that, in addition to being upon a reasonable basis, an oil proration order also must be on a basis "recognizing correlative rights."

Section 12(c) of the 1949 Act (Section 65-3-13, NMSA, 1953) was a new provision applicable to gas. It likewise required the Commission, in the allocation of allowable production of gas to do so "upon a reasonable basis and recognizing correlative rights."

The underlined portion of Section 12 of the 1935 Act quoted above, which required the protection of correlative

rights without so designating them, was retained in the 1949 Act where it appeared as Section 13(a), again clearly stating the requirement for valid Commission action where correlative rights are involved.

The New Mexico statute was widely recognized from the outset as being advanced in many of its concepts. In 1935, only months after the statute was enacted, a recognized authority on oil and gas law said:

> "Where, however, in exercising control, there is a limit put upon the total production in the pool, as distinguished from prohibition against any production, the administrative body must then, as recognized in both New Mexico and Texas laws, distribute the allowable production on a reasonable basis. This necessarily requires recognition of property rights, so that, as commonly if not entirely accurately expressed, the property of one may not be avoidably given to another by the operation of the distribution order." Hardwick, The Rule of Capture and Its Implications as Applied to Oil and Gas, 13 Texas L. Rev. 391, 412 (1935).

The same author continued at page 416:

> "It seems clear that, whether the control of drilling and production be exercised under the public rights doctrine or the private rights doctrine or a combination of the two, whether to protect ownership in place or the right to secure (by virtue of title to land) a part of the common supply, there is an obligation to give each landowner an opportunity to produce or otherwise secure his fair and equitable share of the recoverable oil in the pool, subject, of course, to such modifications as may follow from the necessities in preventing waste. Curiously enough, the courts in the percolating water cases talk about "reasonable use" and "fair share" without giving any formula for determining what is a fair share."

Whether the omission in the water cases referred to may have influenced the Legislature of New Mexico in 1935 is unknown, but the Legislature carefully spelled out the formula so far as oil and gas in New Mexico is concerned by saying that an Owner's "just and equitable share of the oil or gas" in a pool is:

> "***an amount, so far as can be practically determined, and so far as such can be practicably obtained without waste, substantially in the proportion that the quantity of the recoverable oil and gas under such property bears to the total recoverable oil and gas in the pool, and for this purpose to use his just and equitable share of the reservoir energy." (Section 12, Chap. 72, Laws of New Mexico, 1935).

In the landmark case of Brown, et al. v. Humble Oil & Refining Company, 83 S.W.2d 935, 99 A.L.R. 1107, the Supreme Court of Texas considered for the first time the grant of power to the Texas Railroad Commission by the Legislature and the well spacing rules promulgated by the Commission under it. The impact of the decision on the industry in Texas undoubtedly was great. The original opinion of the Court, holding Rule 37 and the exception which it provided to be valid, included these two statements:

> "It is now, however, recognized that when an oil field has been fairly tested and developed, experts can determine approximately the amount of oil and gas in place in a common pool, and can also equitably determine the amount of oil and gas recoverable by the owner of each tract of land under certain operating conditions...
>
> "Conditions may arise where it would be proper, right, and just to grant exceptions to the rule so as to permit wells to be drilled on smaller tracts than prescribed therein. Also, conditions may arise where it would be proper, right, and just to permit tracts to be subdivided and such subdivisions drilled after the adoption of the rule; but in all such instances it is the duty of the commission to adjust the allowable, based upon the potential production, so as to give to the owner of such smaller tract only his just proportion of the oil and gas. By this method each person will be entitled to recover a quantity of oil and gas substantially equivalent in amount to the recoverable oil and gas under his land."

In its opinion on rehearing in the case, 87 S.W.2d 1069, 101 ALR 393, the Court referred to the above language and said that it had been construed by some to mean "that this court has undertaken to prescribe* * *rules and standards by which to determine property rights and as standards to control the Railroad Commission in promulgating conservation rules and orders relating to oil and gas."(Emphasis supplied). The court disclaimed any power or intention so to do, pointing out that the Legislature and the Commission, by delegation of power, had that authority.

The case is important here because the New Mexico Legislature, by the provisions of the 1935 Act actually did what the Texas Court here had been accused of doing. The difference is that the Legislature had the power to do so, the Court did not. Our Legislature actually defined the property right, or the so-called "correlative rights", of an owner in words almost identical with those used by the Texas Court in its opinion. In the words of the Texas Court it was the right to recover an amount of oil and gas "substantially equivalent in amount to the recoverable oil and gas under his land". In the words of the New Mexico Legislature, it was the right to recover "an amount * * *substantially in the proportion that the quantity of recoverable oil and gas under his land bears to the total recoverable oil or gas or both in the pool". (Sec. 12, Chap. 72, Laws of New Mexico, 1935).

In both cases, the extent and description of the property right is substantially the same. But in the case of New Mexico the provision actually became a rule "by which to determine property rights and * * *a standard to control the Railroad Commission (Oil Conservation Commission) in promulgating

conservation rules and orders relating to oil and gas", because it was the legislature which had promulgated the standard.

The 1949 Session of the New Mexico Legislature officially denominated the owner's property interest and the rights appurtenant to it as "correlative rights", but both before and after the 1949 amendment the protection of those rights constituted a standard by which all action of the Oil Conservation Commission affecting the production of oil or gas was to be judged.

The orders of the Commission under attack in this appeal changed the proration formula in the Jalmat Gas Pool from allocation one hundred percent on the basis of the acreage attributed to each well, to a formula in which the deliverability of the well became the principal factor with acreage a secondary factor. As has been stated, the new formula allocated allowable 25 percent on the basis of the number of acres attributable to the well, and 75 percent on the basis of acreage multiplied by deliverability of the well.

The existing formula under which allowable was allocated on the basis of acreage had been in effect in the Jalmat Gas Pool and all other Southeastern New Mexico Gas Pools since the beginning of gas prorationing in 1954 (I Ct. 15).

Jalmat is an old pool. It has been producing gas since 1929 (6 OCC 65). From its discovery until the commencement of gas prorationing in 1954, the production of its wells was unrestricted. Witnesses testified that at the time of the Commission hearing it was 40 percent depleted (4 OCC 253); thus the change in the basis of allocating allowable proposed

in this proceeding came relatively late in the life of the pool and long after most of its wells were completed.

Inasmuch as the new deliverability formula proposed by Appellee, Texas Pacific Coal and Oil Company constituted a radical change in the basis of allocating production, with inevitably a major impact upon the correlative rights of the operators in the pool, it would have been supposed that the proponent of the formula would have come to the Commission prepared to present testimony to meet the requirements of the New Mexico statute in the following respects:

(1) That the proposed formula would protect the correlative rights of the operators in the pool as required by Section 65-3-13(a), NMSA, 1953.

(2) That in so far as practicable it would "prevent drainage between producing tracts in (the) pool which is not equalized by counter drainage" as required by Section 65-3-13(c), NMSA, 1953.

(3) That as required by Section 65-3-14(a) and by the statutory definition of correlative rights, it would "afford to the owner of each property in a pool the opportunity to produce his just and equitable share of the***gas***in the pool, being an amount, so far as can be*** practically obtained without waste, substantially in the proportion that the quantity of the recoverable***gas***under (his) property bears to the total recoverable*** gas*** in the pool..."

It does not appear, however, that the proponents of deliverability met any of these requirements. Examination of the Commission's findings (I Ct. 21, 39) establishes that it did not find that the new formula would afford each owner the opportunity to produce his fair share of the gas in the pool as defined by the statute; it did not find that the correlative rights of the owners would be protected by the new formula, nor did it find the proposed formula would prevent drainage

between producing tracts not equalized by counter drainage. And there was no evidence in the record which would have supported such findings.

It is the position of Appellants that such findings and substantial evidence to support them were essential to a valid exercise of the Commission's power in this case; that absent such findings and evidence the Commission's order is invalid and the judgment of the trial court confirming it is erroneous and should be reversed.

The findings of the Commission on which Order R-1092-A and R-1092-C are based are set out in the orders and appear at I Ct. 21 and I Ct. 39. After making jurisdictional and other preliminary findings the Commission made the following findings on which its order is based, to the extent that it changes the proration formula:

> "(5) 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.
>
> (6) That 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 in the Jalmat Gas Pool to meet the market demand for gas from said pool."

Testing the foregoing findings by the statutory grant of power to the Commission, it is apparent immediately that finding No. (6) had no relation whatever to the purpose for which the Commission is authorized to limit and prorate the production of natural gas; i.e. to prevent waste. Sec. 65-3-13, N.M. Stats. 1953. In preventing waste the Commission is required to "afford

to the owner of each property the opportunity to produce his just and equitable share" of the gas in the pool as that is defined by the statute.

"Production of a greater percentage of the pool allowable" has no relationship to the prevention of waste or the protection of correlative rights. If the pool allowable is too high, so that it is not being produced by wells in the pool, it is the duty of the Commission to adjust the allowable downward. There is no grant of power to the Commission to fix the allowable of wells so as to produce a greater percentage of the pool allowable.

Neither did the legislature grant the Commission authority to limit production or allocate allowable for the purpose of helping the gas pipeline companies (gas purchasers) "to meet the market demand for gas from said pool." The fact that pipeline companies purchasing gas from a pool do not meet their market demand is not a basis on which the Commission is authorized to take action of any character whatever.

The Commission is authorized to curtail and allocate production to prevent waste and for no other purpose. When it acts to do so, it is affirmatively required by the statute to recognize and protect correlative rights. Sec. 65-3-13, NMSA, 1953. Finding No. 6 of Order R-1092-A has no relation to either objective.

The Commission's finding No.(5) likewise fails when tested by the statutory standard. Read as a whole, and indulging all of the presumptions which support findings of the Commission, the finding is that the applicant, Texas Pacific, has proved that there is a "general correlation" between the

deliverabilities of gas wells in the Jalmat Pool and the gas in place under the tracts dedicated to the wells, and that the proposed change in formula therefore would result in a "more equitable" allocation of allowable between wells. There is no finding that the correlative rights of the operators would be better protected, or would be protected at all. Neither does it find that the requested change will prevent drainage between producing tracts in the pool not equalized by counter drainage, or that such drainage would be reduced.

There is a total absence of the findings on which the Legislature predicated the Commission's power to act, and the findings which were made were of facts irrelevant to Commission action so far as the statutory grant of power is concerned.

The Legislature did not grant to the Commission the power to limit and prorate production in order to "equitably" allocate the production from the pool. The statute does not so provide, and such a grant of power would have been unconstitutional as a delegation of Legislative authority since there are no standards provided by the word "equitably". State ex rel Sofeico v. Heffernan, 41 N.M. 219, 67 P.2d 240. The Commission's opinion as to "equitable" could be at the opposite pole from that of the Legislature. Thus the Commission might well conclude that it is "equitable" to give more allowable to well "A" producing from a given source than to well "B", producing from the same source, because it cost more to drill well "A" as the result of a fishing job. Indeed such a basis of allocation might be "equitable", but it would have no conceivable relationship to the operators' just and equitable

share of the gas which is the requirement of Section 26(h) of the Laws of New Mexico, 1949.

What the statute <u>does</u> provide is that such allocation <u>must</u>:

(1) Be upon a reasonable basis, (Sec. 65-3-13(c), NMSA, 1953);

(2) Afford to the owner of each well the opportunity to produce an amount of gas substantially equal to the quantity of recoverable gas under the property as defined by the statute. (Sec. 65-3-14(a), NMSA, 1953).

(3) So far as practicable prevent drainage between producing tracts which is not equalized by counter drainage. (Sec. 65-3-13(c), NMSA, 1953.)

The Commission's finding No. (5) conceivably might meet the first requirement stated above, though that is doubtful. It does not meet requirements No. 2 and No. 3. The finding that there is a general "correlation" between the deliverabilities of wells and the gas in place under the tracts dedicated to said wells, so that a more "equitable allocation" of production will result, does not protect correlative right as defined by the statute. Nor is it a finding that an owner thereby will be afforded an opportunity to produce his share of the gas in the pool which the statute defines as:

> "***an amount, so far as can be practicably determined, and so far as can be practicably obtained without waste, substantially in the proportion that the quantity of the recoverable oil or gas, or both, under such property bears to the total recoverable oil or gas or both in the pool."

That is the standard, and the only standard, to be applied by the Commission, whether the Commission considers it to be "equitable" or not.

The most that can be said for the Commission's findings of a "more equitable allocation" is that applying standards of equity which the Commission feels are appropriate--but which are unknown to the record, to Appellants, and to this Court--the Commission feels that the proposed formula is more equitable than the existing formula. Whether by that the Commission means that the allowable assigned each well will more closely conform to the cost of the well, to the depth of the well, to the original flow of gas from the well or to the recoverable gas in place under the tract assigned to the well is left unanswered by the Commission.

The "general correlation" on which the Commission bases the finding of a "more equitable allocation" is equally vague and uncertain--and as far removed from the statutory requirement. It is not believed that the definition of "correlation" included in the Webster's New International Dictionary (Unabridged) will contribute much to an understanding of what the Commission had in mind, at least it did not for the authors of this brief. When the adjective "general" is added, the definition of which includes "not precise or definite; approximate," etc., the standard which has been applied by the Commission and the purport of its finding becomes even less definite or certain. Perhaps Texas Pacific's counsel correctly described it when he referred to "a relationship of sorts" (3 OCC 148).

It is the general rule that when the power to exercise authority granted by a statute is conditioned upon a requirement as to the existence of certain facts, a finding of those basic

facts is essential to the validity of the exercise of the power. The requirements of the New Mexico statute with reference to orders prorating gas production fall within that category and are not met by the findings of the Commission in the order here under attack.

The Court of Appeals of Louisiana recently considered a case involving remarkably similar questions. The case is Hunter v. Hussey, 90 So.2d 429, 6 Oil and Gas Reporter, 1172 (1956). The action challenged had been taken by the Commissioner of Conservation, who performs the function in Louisiana which is performed by the Oil Conservation Commission of New Mexico. In connection with approval of a waterflood project in an oil pool, the Commissioner issued an order transferring the allowable from certain down-dip wells into which water was to be injected , to up-dip wells, which as a result would be permitted to produce two allowables. The language and requirements of the Louisiana statute were remarkably similar to the New Mexico statute. It provided that the Commissioner should:

> "...prorate or distribute the allowable production among the 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 will have the opportunity to produce or receive his just and equitable share, subject to the reasonable necessities for the prevention of waste."

The Louisiana statute also defined the correlative right of the producer, which it refers to as the producers "just and equitable share" as New Mexico does, being an amount substantially in the 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 of the pool, insofar as these amounts can be practically ascertained."

The finding made by the Commissioner, on the basis of which he undertood to transfer the allowables, was that,

> "A more efficient operation of the pressure maintenance program* * * can be accomplished with less reservoir voidage and better conservation of reservoir energy by producing from the more efficient wells the amount of oil allowed and allotted to wells having high gas/oil ratios or producing excessive amounts of water, or which are otherwise less efficient."

The objective obviously was a commendable one, just as in the case at bar an "equitable allocation" is commendable, but general benefit is not the test of the validity of an order under these circumstances.

In holding the Commissioner's order void for want of the essential findings, the court said:

> "The order is bare of a finding that the reallocation of allowables would not cause the up-dip wells of the petitioners, who appeared to object to such reallocation on such account, drainage "not equalized by counter-drainage" or a loss of their just and equitable share of the production. These are the conditions which must be found to exist before the Commissioner's power to prorate allowables arises, as over the protest of parties who allege that such proration will occasion them net drainage or a loss of their just and equitable share of the production of the field. In the absence of this basic jurisdictional finding, the Commissioner's order is not valid."(Emphasis supplied).

The opinion of the court cites and quotes many cases in support of the doctrine it is applying. The following excerpts are particularly pertinent to the orders under review:

> "It is impossible to say that the statutory standards...were applied to the facts in the record. Hence..,the deficit is not merely one of the absence of a 'suitably complete statement' of the reasons for the decision; it is the 'lack of the basic or essential findings required to support the Commission's order.' " 315 U.S. 488-9, 62 S.Ct. 729. (Emphasis supplied).

In a statement which almost might be transposed verbatim to this case the Louisiana Court said at page 1183 of the O & G Report citation:

> "In the absence of a finding by the Commissioner, we are unable to determine whether in adopting limitations upon the transfer of allowables (to be made subsequently upon ex parte order, without notice and hearing), the Commissioner applied the standard provided by the legislature, which was: that in pro-rating allowable production, the Commissioner must not deprive any producer of his just and equitable share of production, nor cause net drainage to any developed tract. It is not within the province of the courts to review the specialized evidence and to make such finding in the failure of the administrator's order to include a finding of the basic facts conditioning the power of the administrator to issue the order." (Emphasis supplied)

It is recognized that the presumptions which support the decision of an agency or trial court, under some circumstances support an order even if necessary findings are absent. The rule provides no support for the validity of orders R-1092-A and R-1092-C, for a number of reasons.

First, it is applicable only when there is a total absence of findings on the issue. It has no application where affirmative findings establish that the agency has based its action on other conclusions. As said by the Supreme Court of Texas in Gulf Land Company v. Atlantic Refining Company, 134 Tex. 59, 131 S.W.2d 73, 84:

> "In the case at bar, if the Commission had merely made a general finding of fact, or if it had made no express finding of fact at all, we could and would presume all controverted fact issues as found in favor of the order entered. This we cannot do in the face of a specific finding in regard to the issue of confiscation, and no fact finding on the issue of waste.

> "It may be argued that the statement in this order that this well 'should be granted to prevent confiscation of property' is not a fact finding, but merely a conclusion of law. The best that can be said in favor of the validity of the order is that it is a mixed finding of both law and fact. To say the very least, it, in effect, states that the Commission granted this permit on both a law and a fact finding of confiscation. Under such a record we cannot indulge the presumption that the Commission also found that this well was necessary to prevent waste; neither can we say that the district court can make such finding in order to uphold this permit."

In an effort to escape this rule Appellees may attempt to rely upon Ferguson-Steere Motor Co. v. State Corporation Comm., 60 N.M. 114, 288 P.2d 440. It has no application here. In an appeal from the State Corporation Commission, which had adopted the Rules of Procedure of the District Courts of New Mexico, it was held that the party complaining about the absence of a specific finding must have directed the commission's attention to it by requesting a finding. While in the case at bar, the Oil Conservation Commission has not adopted the Rules of the District Court, Appellants substantially complied with this requirement by their Motion for Rehearing which preceded the issuance of Order R-1092-C (I Ct. 31-32). Paragraphs (d) and (e) of the Motion specifically directed the Commission's attention to the inadequacy of the findings and the absence of those required by statute. Appellants had no further responsibility under any circumstances.

It is further submitted that in this case the doctrine applied in Mosley v. Magnolia Petroleum Co., 45 N.M. 230, 114 P.2d 740 is applicable and is fatal to the orders under consideration. It was there held that when special findings of fact are silent on a material point, such findings will be deemed to have

been found against the party having the burden of proof. The doctrine was followed more recently by this court in Farrar v. Hood, 56 N.M. 724, 249 P.2d 759. Before the Commission, Appellee, Texas Pacific, had the burden of proof. It sought to change the existing proration formula for the Jalmat Pool. The Commission, having failed to make findings on the vital questions of whether or not drainage would result between tracts and whether correlative rights as defined by the statute would be protected, must be regarded as having found against the proponent of the new formula on these issues. This, of course, is fatal to the orders appealed from.

POINT I-PARTS C AND D

I. The Decision of the trial court is erroneous in that it confirms orders of the Oil Conservation Commission of New Mexico, which are unreasonable, and unlawful and which deprive Appellants of their property without due process of law in that:

C. There is no substantial evidence to support the finding of the Commission 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.

D. There is no substantial evidence that the formula promulgated thereby, will prevent drainage between producing tracts in the pool not equalized by counter-drainage and afford to the owner of each property in the pool the opportunity to produce his just and equitable share of the gas in said pool, which, as defined by the Legislature of New Mexico, is "an amount, so far as can be practically deter-

mined, and so far as can be practically obtained without waste, substantially in the proportion that the quantity of the recoverable gas under such property bears to the total recoverable gas in the pool." Section 65-3-14, New Mexico Statutes Annotated, 1953 Compilation.

Appellants have pointed out in the preceding portion of this brief the respects in which it is believed that the findings of the Commission on which Orders R-1092-A and R-1092-C are based are fatally defective. This portion of the brief will be devoted to the question of whether there is substantial evidence in the record before the Commission to support the finding actually made that "Texas Pacific Coal and 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 wells". As a companion proposition, the question will be considered whether there is substantial evidence that the deliverability formula adopted by the Commission will protect against drainage and afford operators in the pool the opportunity to produce the portion of the gas to which the New Mexico statute entitles them.

An order affecting established property rights of Appellants, which is not based on substantial evidence in the respects stated, and which deprives them of a portion of their property, fails to meet either the requirement of substantial evidence or of due process of law. Appellants submit that Orders R-1092-A and R-1092-C fall in that category.

The proposition that there is no substantial evidence to support the Commission's finding as to the relationship between the deliverability of wells and recoverable gas in place was

presented and argued to the lower court at length at the outset of the trial before it. The record before the Commission having been voluminous each side read to the trial court, or called to the court's attention, the portions of the record before the Commission which it felt supported its position. This portion of the record appears at II Ct. 14 to 75. There therefore occurred before the trial court, and there appears in the record, the summarizing and sifting of the evidence required by Rule 15, Par. 6 of the Rules of this Court, which provides:

> "A contention that a verdict, judgment or finding of fact is not supported by substantial evidence will not ordinarily be entertained, unless the party so contending shall have stated in his brief the substance of all evidence bearing upon the proposition, with proper references to the transcript. Such a statement will be taken as complete unless the opposite party shall call attention in like manner to other evidence bearing upon the proposition."

In attacking the findings of the Commission on the grounds that it is not supported by substantial evidence, Appellants normally would have the obligation of summarizing in detail the testimony of Texas Pacific as to "reserves" and their relationship to recoverable gas in place since the finding as to a correlation between deliverabilities and the latter is based thereon. However, there is no substantial disagreement between the parties as to the existence of the evidence relied on by Appellees as supporting the Commission's finding "that Texas Pacific Coal and 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 wells" (I Ct. 40), the disagreement is as to whether the evidence supports the conclusion which the Commission has drawn from it in this finding.

This disagreement which has been referred to earlier as the core of this controversy, results from the single fact that Texas Pacific presented no evidence whatever as to the amount of recoverable gas in place underlying the tracts in the Jalmat Pool. Its expert, Mr. Keller, testified that there was not sufficient data available to him to make a study which would disclose that information (5 OCC 437-8). On that basis, he made a study, not of the recoverable gas underlying the tracts in the pool, as required by the statute, but as to the individual wells and what they might be expected to produce in the future based upon a study of their past production and the pressure decline incident to it (5 OCC 462). On that basis, by assuming a continuation in the future of the pressure decline in the past he estimated the amount of gas the well could be expected to produce until its pressure is exhausted which would be the end of its production. This is referred to in the testimony as the extrapolation of past production pressure performance (II Ct. 37).

Mr. Keller then took that volume of gas as determined for each well, divided it among the acres assigned to each well and treated the total so assigned to each well as being the "quantity of recoverable gas in place" under each property. (7 OCC 206). He admitted that this process did not determine the volume of recoverable gas under each tract, however, because it gives effect to all drainage which has occurred during the life of the well and assumes that it will continue unchanged throughout the remainder of the life of the well. (II Ct. 43-44). He, at no time testified that the figures produced by his study were the recoverable gas in place under the tracts in the pool or bore any fixed relationship to recoverable gas in place. Instead he referred to them throughout as "reserves" (II Ct. 34, et seq.). Mr. Keller defined "reserves" as used by him as follows (II Ct. 36):

"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 anticipate the future on the basis of the past."

A further summary of the testimony presented by Texas Pacific on this issue would extend this brief unduly and be repetitious. In the light of the purpose of the rule and the following statements of counsel at the trial it is believed that the summary need not be further extended. At II Ct. 71, Mr. Malone, for Appellants, said:

"As I understand it, there is no question as between the parties but that all 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* * *."

Further, at page 74:

"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 is not disputed that all of the evidence presented by the applicant Texas and Pacific (was) with reference to reallocated 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."

Mr. Campbell, for Appellees, said at page 57:

"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."

And, at page 59:

> "Mr. Malone is quite correct that in no place in this transcript did Mr. Keller * * * state (d) that the deliverability and recoverable gas in place under each tract are in direct proportion."

The failure of Texas Pacific and its expert to present any testimony as to recoverable gas in place under the tracts in the Jalmat Pool is of far greater significance in this case than merely a disagreement between experts as to procedures to be followed in studying a gas pool for the following reasons:

> (1) The statute predicates the rights of producers in the pool upon the relationship between the recoverable gas in place under their tracts and the total recoverable gas in the pool--not on the relative amounts of gas which the wells have been able to drain from the surrounding tracts throughout their existence. Thus, by treating Keller's "reserves" as the equivalent of recoverable gas in place, the Commission has, in effect, amended the statute and the definition of Appellants' property right in the pool.
>
> (2) By using reallocated "reserves" as the basis of his testimony, Texas Pacific's witness has given effect to past drainage between tracts and has made it impossible to determine, from his testimony, whether the proposed formula prevents "drainage between producing tracts in (the) pool not equalized by counter-drainage". The existence and extent of drainage and compensating counter drainage can only be determined by comparing the gas which an owner will produce under a given formula with the recoverable gas in place which he is entitled to produce under the statute. When an attempt is made to compute recoverable gas in place on a basis which includes in the computation drainage equal to that which has occurred in the past, there results no standard to which production under a proposed formula can be compared to determine future drainage.
>
> (3) The use of reallocated well "reserves" as indicative of, or a measure of, recoverable gas in place, when that is to be compared to deliverability results in wholly illusory and absolutely unreliable conclusions. This is because it is always the well with high deliverability which drains the most gas from surrounding leases. Hence such a well will always show high "reserves" as computed by Keller because it gets the benefit of all the gas which has been drained from other tracts throughout the life of the well (5 OCC 467).
>
> (4) When the Commission finds that there is general correlation between well deliverabilities and recoverable gas in place, as determined by

> Keller's reallocated "reserves", it is stating a truism: the bigger the deliverability, the more the drainage and hence the bigger the reallocated "reserves" computed by Keller. That, however, is a truism which has no relationship of any character to the recoverable gas in place which the statute makes the standard on which drainage is to be prevented and correlative rights protected.

The conclusion to be drawn from the foregoing appears obvious. It is that the Commission's finding "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 wells, and that 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" is not supported by substantial evidence because it is based entirely on testimony as to reallocated well "reserves" and there is no evidence as to the recoverable gas in place under the tracts in said pool as required by the statute.

If the Commission's finding had correctly stated the conclusion it reached, it would have found "that there is a general correlation between the deliverabilities of the gas wells in the Jalmat Gas Pool and the 'reserves' of those wells as computed on the basis of past pressure-production data, and hence the inclusion of a deliverability factor in the proration formula for the Jalmat Gas Pool would result in a more 'equitable' allocation of the gas production in said pool."

That is what the Commission actually found in this case. It is the only finding on this subject for which there is any support in the evidence. Had that been the finding made by the Commission, Orders R-1092-A and R-1092-C would have been void on their face as it would have appeared from the order itself that it would result in uncompensated drainage and the destruction of the correlative rights of owners in the pool.

The only testimony presented to the Commission as to the recoverable gas in place under the tracts in the Jalmat Pool was presented by Appellants (4 OCC 202, 231, 237). It was the product of a conventional pore volume study of a portion of the reservoir which all experts agreed is the normal engineering means of determining recoverable gas in place under the tracts of various owners (4 OCC 201-3, 231). Keller contended the information available on the pool was insufficient to make such a study (5 OCC 437-8), in the face of the fact that there were 367 wells that had been drilled in the pool and it had been producing since 1929 (1 OCC 9). Appellants' expert witnesses, Leibrock and Gruy, the latter of whom was the author of published articles on the subject (6 OCC 115), testified that the available information was quite adequate for the study. (4 OCC 269-70, 6 OCC 127-8).

The study testified to by Mr. Leibrock embraced a 58-well area which he found to be typical. It was so limited because the time made available by the Commission was insufficient for a study of the entire pool (4 OCC 232-3). Mr. Leibrock testified that 1700 hours of petroleum engineers' time had gone into preparation of the testimony presented (4 OCC 200). At the trial in the District Court, he testified that the study had been completed for the entire Jalmat Pool after the Commission hearing (II Ct. 82).

Mr. Leibrock compared the deliverabilities of each of the 58 wells in the area studied with the recoverable gas in place under the tracts assigned to the pool as disclosed by the pore volume study. The result of the comparison was portrayed in an

exhibit (II Ct. 36) which was introduced by Appellants on rehearing before the Commission. This is the only evidence in the record comparing deliverabilities of gas wells to recoverable gas in place under the tracts assigned to the wells as defined by the statute. For that reason a copy of this exhibit is being inserted in this brief following this page. The conclusion to be drawn from it requires no comment. The testimony concerning the exhibit appears at 6 OCC 52, et seq.

Appellants will not here repeat all of the testimony of Keller which was quoted to the trial court in the argument as to the existence of substantial evidence (II Ct. 24-75). The following excerpts are believed to be typical:

At 2 OCC 69:

> "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'm talking about the reserves to be recovered from those wells."

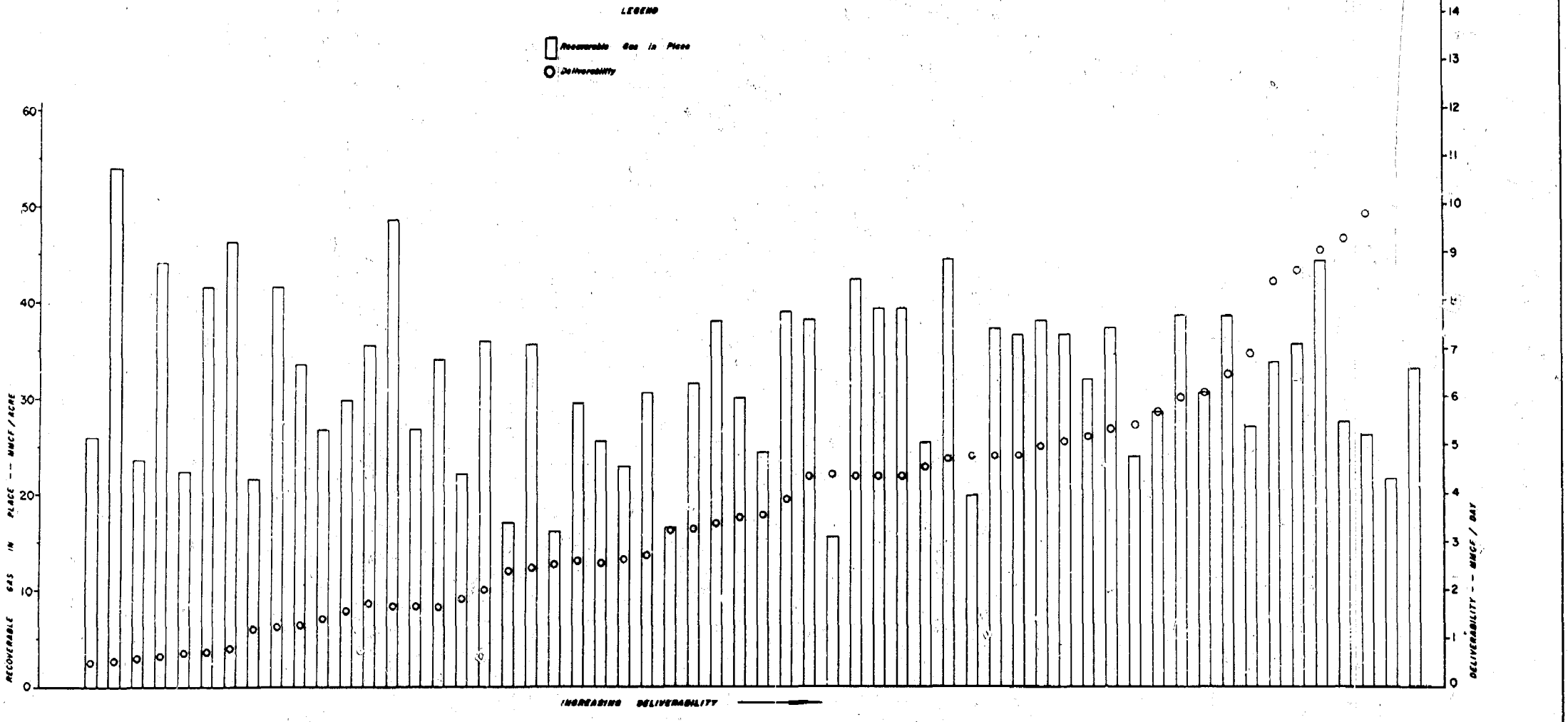
At 2 OCC 132, Keller admitted that he was using his "reserves" as a standard and not the statutory standard:

> "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 against the other. For that reason, it was necessary to adopt some standard in my thinking of what 'fair share' was.
>
> 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."(Emphasis supplied.)

EXHIBIT SHOWING ABSENCE OF CORRELATION BETWEEN DELIVERABILITY & RECOVERABLE GAS IN PLACE

FOR 58 WELL AREA

JALMAT FIELD, LEA COUNTY NEW MEXICO



At 5 OCC 456, Keller admitted he was testing the proposed formula against "reserves", not against recoverable gas in place:

> "Q. Do you conclude from that that the deliverability formula, despite 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."
>
> (Emphasis supplied.)

At 5 OCC 476:

> "Q. The estimate assumes 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." (Emphasis supplied).

Finally, at 7 OCC 222:

> "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." (Emphasis supplied.)

The foregoing summary of the evidence and excerpts from the testimony establish not only that there was no substantial evidence to support the "general correlation" which the Commission found between deliverabilities of wells and recoverable gas in place, but also that there is no evidence from which the Commission could have found that the requirements of the statute as to the prevention of uncompensated drainage and protection of correlative rights would be met by the proposed formula.

As pointed out in an earlier portion of this brief, the Commission made no such findings, yet they were vital. Perhaps now the reason for their absence is disclosed--there was no evidence presented by Texas Pacific on which they might have been made. All of the testimony of Appellants' experts was to the contrary. They testified that tremendous uncompensated drainage would result from the proposed formula (4 OCC 244-267). They likewise testified that a serious abuse of correlative rights would result (4 OCC 266-7). And their testimony was based upon the recoverable gas in place under the tracts in the pool as required by the statute.

In concluding the presentation of this proposition, it should be pointed out that the requirement of the New Mexico statute that the effect of a proration order on the prevention of waste and protection of correlative rights be measured against the property right defined by the statute is not novel or unusual. In thus requiring a study of the reservoir to determine the recoverable gas in place it was conforming to

established practice - even in 1935 when the statute was passed. In 1935 the Supreme Court of Texas said in Brown v. Humble Oil & Refining Co., 83 S.W.2d 935, 99 A.L.R. 1107, 1113:

> "It is now, however, recognized that when an oil field has been fairly tested and developed, experts can determine approximately the amount of oil and gas in place in a common pool, and can also equitably determine the amount of oil and gas recoverable by the owner of each tract of land under certain operating conditions."
>
> " * * The power of the Railroad Commission to act on this matter is limited to the authority granted by the Legislature. The fundamental standards prescribed in the statutes will control." (Emphasis supplied.)

See also Hardwick, The Rule of Capture and Its Implications as Applied to Oil and Gas, 13 Texas L. Rev. 391, at 394 and 405 (1935); Andrews, The Correlative Rights Doctrine in the Law of Oil and Gas, 13 So.Cal. L.Rev. 185, 197 (1940); 1 Summers, The Law of Oil and Gas, 189, et seq. The case of Anderson-Prichard Oil Corporation v. Corporation Commission, 207 Okla. 686, 252 P.2d 450 (1953) is pertinent also as the court there recognized the availability and value of the reservoir information used in a pore volume study, and approved its use by the Commission under a statute specifying potentials as a standard for allocation.

Where the statute requires the volume of recoverable gas in place to be determined and used as the measure of the property right of producers in a gas pool, the requirement cannot be nullified by the testimony of one expert witness who testifies that in his opinion the available information is not adequate to make the necessary study. Such testimony is no basis for substituting a new standard, i.e., well "reserves", for the standard specified by the statute. That is particularly true when two equally competent experts find the information available

to be adequate and demonstrate its adequacy by completing a study which produces the data required by the statute.

The action of the Commission in basing its orders on evidence which admittedly does not conform to the requirements of the statute, results in findings having no substantial evidence to support them. Accordingly, the orders should have been held invalid by the trial court. In failing to do so the trial court erred and its judgment should be reversed.

POINT II

THE ORDERS OF THE COMMISSION DEPRIVE APPELLANTS OF THEIR PROPERTY WITHOUT DUE PROCESS OF LAW, ARE CONFISCATORY AND IMPAIR VESTED RIGHTS OF APPELLANTS.

(A). Introduction

It is the contention of Appellants that the orders complained of deprive them of their property without due process of law, result in confiscation, and impair their vested rights. Under this point, Appellants assert (1) that the orders of the Commission are so vague and indefinite in their terms as to amount to a denial of due process of law; and, (2) assuming the orders of the Commission to be sufficiently definite and certain on their face, in their application to the wells in the Jalmat Gas Pool, under the Commission's ex parte memorandum, erratic, unpredictable, and inconsistent results have been obtained resulting in reallocation of the ownership of gas in place on an illegal, arbitrary and capricious basis amounting to a deprivation of property of Appellants without due process of law contrary to the State and Federal Constitutions.

These propositions were urged upon the Commission (I Ct. 34) and the trial court (I Ct. 106), both of which ruled contrary to the position of Appellants (I Ct. 115).

In order that the Court may appraise the effect of the orders upon the property rights of Appellants and to demonstrate the invalidity of the orders the following

summary of the pertinent testimony is included:

Appellants presented as their second witness V. T. Lyon, engineer employed by Continental Oil Company as District Engineer, Eunice, New Mexico (II Ct. 93). Mr. Lyon related his educational qualifications and experience in the field of petroleum engineering and stated the Jalmat Gas Pool is located in the Eunice Division (II Ct. 93-95); that he is familiar with well testing procedure in the Jalmat Gas Pool and was familiar with the provisions of Commission Orders No. R-1092-A and R-1092-C (II Ct. 95). The witness testified these orders are not specific as to the manner in which wells are to be tested, and one couldn't be assured two people reading the order would make the tests or calculate the deliverability in the same manner (II Ct. 95). He stated he was familiar with the Commission's directive of February 24, 1958, and outlined procedure for making well tests and calculating deliverability (II Ct. 96-98). He testified as to initial tests and retests made in 1959 on Continental Oil Company wells resulting in increases in deliverability calculations of 145.5 per cent (II Ct. 98-99), and that tests of all Continental wells in 1959 compared with tests made in 1958 showed an average percent change of 38.5 per cent under the same testing procedure (II Ct. 100) and that after the 1959 tests had been made, 21 wells were retested, showing an average change in results of 110 per cent (II Ct. 101). The witness then identified and discussed a series of exhibits showing the results on all individual wells of the various tests and retests made in 1958 and 1959, many of the retests having been taken within three months or less after the original tests (II Ct. 101-102), which exhibits were received in evidence

(II Ct. 104). Mr. Lyon then presented an exhibit (Petitioners' Exhibit No. 3) showing the results of 1958 and 1959 deliverability tests for all wells in the pool as shown by the Commission's records and the percentage change from one test to another for each well (II Ct. 105-106). The witness testified it was impossible to get an accurate deliverability test because of the substantial changes in results from one test to another (II Ct. 107), and that this situation prevails throughout the pool (II Ct. 107). He then presented another series of exhibits (Petitioners' Exhibits 4-A to 4-G inclusive) to show comparative results between 1958 and 1959 deliverability tests for all of the wells in the pool (II Ct. 108-114). He testified that by shutting in three wells on Continental Lynn B-26 lease and attributing all of the acreage in one full section to one well of high deliverability an increase of 88 percent in the allowable was achieved (II Ct. 110-111). Only six wells in the pool showed identical results for two successive deliverability tests and the average deviation from one test to the next for the entire pool was 40.32 percent (II Ct. 113). Two additional exhibits were presented comparing results for the pool as a whole (II Ct. 116-118). On the basis of this analysis Mr. Lyon concluded it is not possible to obtain accurate deliverability tests in the Jalmat Gas Pool, and there can be no general correlation between the results of these tests and recoverable gas in place under the tracts dedicated to the wells in the pool (II Ct. 118).

On the cross examination Mr. Lyon identified a deliverability testing procedure dated March 15, 1954, and a manual for back pressure testing dated February 1, 1956, and stated

Continental Oil Company had participated in committee work on the testing procedure (II Ct. 121-122). He said that liquid accumulation in a gas well affects its ability to provide a satisfactory deliverability test (II Ct. 124), that some wells operated by Continental do not have tubing, but that the absence of tubing does not necessarily result in liquid accumulation (II Ct. 124). He said Continental had installed tubing in four wells between the 1958 and 1959 tests (II Ct. 125) and that some of these wells showed an increase in deliverability, but one of these wells was water fraced and showed an increase without tubing (II Ct. 126-127). For about two years Continental has sought lower line pressures from El Paso Natural Gas Co., and line pressures too high for a particular well affect ability to test properly for deliverability (II Ct. 127), and some of the wells involved were transferred to a low pressure line (II Ct. 128). He said that a large number of factors can affect the results of deliverability tests (II Ct. 128-129). Respondents' Exhibit No. 1, a memorandum covering procedure for taking tests and calculating deliverability was discussed and introduced (II Ct. 131-133). On redirect examination the witness testified he knew of no order entered after notice and hearing pertaining to well testing procedure (II Ct. 134) and any test which in its application was subject to such wide variation does not give an accurate measure of deliverability (II Ct. 135).

Appellees presented F. Norman Woodruff, petroleum engineer for El Paso Natural Gas Co., who testified as to his educational qualifications and experience (II Ct. 139-140).

He testified El Paso purchases gas from 85 to 90 percent of the wells in the pool and is also an operator. (II Ct. 141). He testified El Paso makes gas well tests under provisions of their purchase contracts, after notice to the operators (II Ct. 142). The witness reviewed testing procedure (II Ct. 146) and stated it is the operators' obligation to get their wells in condition for the tests, and El Paso has no authority to do anything other than produce the wells through its metering facilities (II Ct. 146). Mr. Woodruff stated if wells were in proper condition the results of two successive tests would be approximately the same but that workovers, addition of tubing, and cleaning out jobs would lead to different results. He testified the procedure for taking tests as provided in the memorandum was clear and if an operator put his well in condition as called for by the directive, results would be more indicative of the well's deliverability (II Ct. 147-148), and proper maintenance of a well increases its deliverability (II Ct. 149). He stated where operators had complied with the Commission's directives there was very little, if any, change in successive tests (II Ct. 150). The witness stated he had made an analysis of deliverability test information shown on 63 wells on Petitioners' Exhibit 3, and then explained the conditions he found as possibly influencing results on these 63 wells (II Ct. 152-161) explaining tubing is normally needed to unload liquids in the well bore (II Ct. 156). He concluded that the operators can follow the directive as shown in Respondents' Exhibit No. 1 (II Ct. 161).

On cross examination Mr. Woodruff stated conditions affecting well tests would change recoverable gas in place under the tracts attributed to the wells (II Ct. 162-164) but said his answer was based upon whether the gas was recover-

able through a particular well and not as to whether it was recoverable at all (II Ct. 164). Mr. Woodruff testified that a change in deliverability of a well is not directly in proportion to a change in the recoverable gas in place under a tract dedicated to the well (II Ct. 165). He said the testing procedure is contained in a memorandum, and tests taken in accordance therewith would result in accurate figures (II Ct. 168, 170) but admitted El Paso could have achieved better results on its own wells, and there was a wide range in variations of deliverability tests on their wells although they attempted to comply with the memorandum (II Ct. 170-171). He stated a change in line pressures will affect deliverability tests because lower pressures enable a well to better unload liquids (II Ct. 171-173), and line pressures are solely under the control of El Paso Natural Gas Co. (II Ct. 174). Results similar to lowered line pressures can be achieved by use of blow-down lines (II Ct. 175). He testified his direct testimony as to factors influencing deliverabilities on the individual wells was not an expression of opinion as to the cause of the variation, but could have been the cause (II Ct. 176). He was unable to identify the form used by his company for reporting tests to the operators (II Ct. 177-178, Petitioners Exhibit No. 7 and 8), and El Paso was unable to make tests in accordance with the Commission's memorandum on two wells because of high line pressure (II Ct. 179-180).

Appellants do not contend the Commission has no right to prorate the production of gas in order to prevent waste of the natural resources of the state. That question was long ago settled. Champlin Refining Company v. Corporation Commission, 286 U. S. 210, 76 L.Ed. 1062, 52 S.Ct. 559,

86 A.L.R. 403 (1932). A comparable result was reached in New Mexico in the field of water appropriation and use when this Court held in Eccles v. Ditto, 23 N.M. 235, 167 Pac. 726, L.R.A. 1918 B 126, that the public at large has an interest in the preservation of the natural resources of the state sufficient to justify appropriate legislation to prevent waste of such resources.

The statutory authority of the Commission in this connection is found in Sec. 65-3-13(c), NMSA, 1953:

> "(c) Whenever, to prevent waste, the total allowable natural gas production from gas wells producing from any pool in this state is fixed by the commission in an amount less than that which the pool could produce if no restrictions were imposed, the commission shall allocate the allowable production among the gas wells in the pool delivering to a gas transportation facility upon a reasonable basis and recognizing correlative rights.* * *. In protecting correlative rights the commission may give equitable consideration to acreage, pressure, open flow, porosity, permeability, deliverability and quality of the gas and to such other pertinent factors as may from time to time exist, and in so far as is practicable, shall prevent drainage between producing tracts in a pool which is not equalized by counter-drainage."

Pursuant to this statute prorationing had been instituted in the Jalmat Gas Pool in 1954, but not until entry of orders appealed from was deliverability included as a factor in the proration and allocation of gas to the individual wells in the pool. While the power of the Commission to prorate gas under the statute would appear to be based solely upon waste prevention, in entering its orders, the Commission is required to make its allocation "upon a reasonable basis and recognizing correlative rights."

By statute an operator has the right to produce the oil and gas underlying the tract of land dedicated to his well, Sec. 65-3-29(h), NMSA, 1953, supra; and this right constitutes an interest in real property, Terry v. Humphreys, 27 N.M. 564, 203 Pac. 539; Duvall v. Stone, 54 N.M. 27, 213 P.2d 212.

Inasmuch as the correlative rights of a well owner constitute a property interest and hence are protected by the federal and state constitutions, Appellants cannot be deprived of these rights without due process of law.

The orders of the Commission are so vague and indefinite as to amount to a denial of due process of law. In their application to the wells in the Jalmat Gas Pool, inconsistent, erratic, unpredictable results have been obtained, resulting in a reallocation of the right to produce, and therefore the ownership of the gas in place in the Jalmat pool on an illegal, arbitrary and capricious basis, depriving Appellants of their property without due process of law.

(B). The Orders Are So Incomplete, Vague and Indefinite As to Deprive Appellants of Their Property Without Due Process of Law.

The order of the Commission, No. R-1092-A, as reaffirmed by Order No. R-1092-C, after providing that the allowable production of gas from the Jalmat Gas Pool should be allocated to the individual wells on the basis of twenty-five percent (25%) acreage plus seventy-five percent (75%) acreage times deliverability, further provides:

> "RULE 6(c) - 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. (I Ct. 26). (Emphasis supplied)

The term "deliverability" or "calculated deliverability" as used in the orders is not otherwise defined.

The order complained of thus shows on its face that something additional is needed in order to make its provisions definite and certain. This uncertainty was recognized by the Oil Conservation Commission when it transmitted with Order No. R-1092-A, dated January 29, 1958, a memorandum dated January 30, 1958, reading in part: "A deliverability testing procedure will be furnished to all operators in the Jalmat Gas Pool and other interested parties prior to March 1, 1958." This memorandum is a part of the record before the Commission certified to the District Court and brought before this Court as a part of the Bill of Exceptions (I Ct. 135-136).

This additional data needed to complete the order was supplied in the form of another memorandum dated February 24, 1958, which was not an order of the Commission, and did not result from any hearing after Notice (Respondents' Trial Exhibit No. 1).

Numerous tests of various types have been developed to ascertain the potential, or "deliverability" of gas wells, but the term "deliverability" in and of itself describes no measurement, no quantity and no testing procedure. Deliverability is expressed as a daily rate of production. It varies with the back pressure against which it is taken. As one authority on the subject has said:

> "Therefore deliverability has no significance unless the flowing back pressure conditions are specified." Sullivan, Handbook of Oil and Gas Law, 1955 Edition, p. 334, and note 99, p. 334.

The order is further shown to be vague and indefinite by the testimony of V. T. Lyon, witness for Appellants:

> "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."

(II Ct. 95-96)

While at the time Orders R-1092-A and R-1092-C were issued there was a testing procedure that had been in use in the Southeastern New Mexico gas pools under a manual issued by the Commission, there was no reference to this procedure or manual in the orders. (II Ct. 122).

Any order, rule, or regulation of a commission or administrative body must be sufficiently definite and certain as to advise those subject to it of their rights. The rule is stated in 73 C.J.S. 418, Public Administrative Bodies and Procedure, Sec. 100:

> "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 alike to all individuals similarly situated so that anyone interested may be able to determine his own rights or exemptions thereunder."

This requirement is in accord with the established rule in New Mexico, where it has been held that to be enforceable, an order must be definite and certain. Seward v. D. & R. G. R. Co., 17 N.M. 557, 131 Pac. 980.

Generally, the same rules of construction and interpretation which apply to statutes govern the construction and interpretation of rules and regulations of administrative agencies. California Drive-In Restaurant Asso. v. Clark, 22 Cal.2d 287, 140 P.2d 657.

Some courts hold an even higher degree of certainty is required in an administrative order, and any deficiency in the order cannot be supplied by interpretation. In Tobin v. Edward S. Wagner Co., 187 F.2d 977 (C.A. 2d), a wage-hour case where it was held the record did not show, and the face of the regulation would not indicate that certain activities came under the provisions, it was stated:

> "Were we interpreting a statute to ascertain what power it conferred on an administrative officer, much could be said for such an argument (that the regulation should not be construed too literally). Beginning at least with Aristotle, it has often been recognized that as a legislature cannot forsee 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 issue regulations, in order to fill in those gaps, then the regulations, precisely because they particularize, ought not be as generously interpreted as the statutes. 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."

In Miller v. Harmon Construction Co., 205 Okla. 280, 237 P.2d 439 (1951), there was no finding by a state industrial commission as to the degree of disability in a workmen's compensation case. Holding the order of the commission unenforceable, the court held:

> "We are not advised as to the method of calculation used by the commission in arriving at this conclusion. We fail to see how the commission could properly calculate the amount to be awarded against the fund without first finding the disability sustained by petitioner as the result of his combined injuries. The finding of the commission is too indefinite upon which to base a proper award against the fund."

See also, Railroad Yardmasters v. Indiana Harbor Belt R. Co., 166 F.2d 326 (CCA, Indiana).

In Lone Star Gas Co. v. Kelly, 140 Texas 15, 165 S.W.2d 446, a case involving a Texas Railroad Commission order requiring the addition of an odorant to gas that would give it a distinctive odor, the court, in overturning the order, held:

> "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.* * *
>
> 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."

The same standards of precision should apply with even greater force to the orders of an administrative agency functioning as it does under delegated powers. Tobin v. Edward S. Wagner Co., supra.

Since the Order R-1092-A provides that no allowable shall be assigned to a well until an "approved" deliverability test has been filed with the Commission, and it makes no provision for, nor gives any indication of what the operator must do in order to provide the Commission with a test that will be approved, leaving that to some future action to be taken by the Commission, an operator subject to the provisions of the order is not advised as to what he must do to comply (II Ct. 26). The order is vague, indefinite, and incomplete. The operator is left to conjecture as to the meaning of the order, and his rights thereunder. It is impossible for him to determine the effect of the order upon his correlative rights as a producer in the pool. He cannot tell whether his allowable will be increased or decreased because the order fails to include information essential to a determination of its effect.

The fact that the operator will be deprived of the right to produce his wells unless he files with the Commission an "approved" deliverability test subjects the operator to a penalty of a serious nature. Yet, as we have shown, within the framework of the order he cannot possibly determine what he must do in order to get an approved test, nor what steps he must take in order to be allowed to produce the gas that is rightfully his.

The Commission recognized this fact in its order when it provided that tests shall be taken "in a manner and at such times as the Commission may prescribe."

In order to supply this deficiency, the Commission issued its memorandum of February 24, 1958 (Respondents' Trial Exhibit No. 1). The memorandum does not purport to be an

order of the Commission, yet it is the instrument that gives force and effect to the Commission order (II Ct. 96). It does not show adoption by the Commission, and is nothing more than a memorandum.

Some formal approval and adoption by the Commission itself is essential before the memorandum can become a part and enforceable under, the provisions of its Order No. R-1092-A.

Section 65-3-20, NMSA, 1953, provides:

> "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. The Commission shall first give reasonable notice of such hearing in no case less than ten (10) days, except in an emergency and at any such hearing any person having an interest in the subject matter of the hearing shall be entitled to be heard.* * *"

The statutes further provide:

> "Two members of the commission shall constitute a quorum for all purposes. The commission shall adopt a seal and such seal affixed to any paper signed by the secretary of the commission shall be prima facie evidence of the due execution thereof." (Sec. 65-3-4 NMSA, 1953.)

There is no claim that the memorandum involved here was thus adopted. Production of gas is subject to control of the Commission only under a rule, regulation or order of the Commission issued after notice and hearing. Sec. 65-3-14, NMSA, 1953. In State v. Kelly, 27 N.M. 412, 202 Pac. 524, it was held (at page 434):

> "It is argued, and correctly, that where a duty is intrusted to a board composed of different individuals, that board can act officially only as such, in convened session, with the members, or a quorum thereof present."

The memorandum, and all proceedings designed to set up a procedure for testing wells was a result of the work of the Commission staff and committees of engineers (II Ct. 120, 121) yet these procedures are an essential part of calculating deliverability tests (II Ct. 122). No public hearing was held, no order, rule or regulation was adopted or issued by the Commission to give these procedures validity as provided in the statutes. Instead the Commission attempted to adopt prospectively in Order R-1092-A a procedure that was to be worked out at a later date by the Commission staff and a committee of engineers. This does not constitute due process of law. Hillman v. Northern Wasco County People's Utility District, 213 Ore. 264, 323 P.2d 664 (1957).

Where a statute reposing power in an administrative officer requires an order to be made on notice and opportunity to be heard, as does the New Mexico Oil Conservation Commission statute supra, the requirement is applicable to all essential parts of the order. This power cannot be delegated. 73 C.J.S., Public Administrative Bodies and Procedure, Sec. 57. No deficiency in the order can be supplied by Commission action of less formality. Absent notice and hearing in the supplying of the deficiency the order is void and may be set aside. Morgan v. United States, 298 U.S. 468, 80 L.Ed. 1288, 56 S.Ct. 906.

In the above cited case of Hillman v. Northern Wasco County People's Utility District, 213 Ore. 264, 323 P.2d 664 (1957), a comparable fact situation to that found here was under consideration by the court. After pointing out that

an electrical code under attack was the work of a committee composed of representatives of industrial, commercial, professional and governmental groups, the court stated:

> "But neither the Public Service Commission nor its successor, the Public Utility Commissioner, had the right to adopt prospectively without hearing or further consideration subsequent changes, modifications or alterations in such code (national electrical safety code) issued or adopted by the Bureau of Standard or such other national agency as might take over the work of providing electrical standards."
>
> * * *
>
> "The prohibition against delegation of power imposed on the legislature by the constitution applies with equal, if not greater force to an administrative agency created by the legislature."

Summarizing Appellants' position on this point:

1. The order in question makes "deliverability" the major factor in determining the allowable which will be allocated to producers in the Jalmat Pool.

2. The term "deliverability" in and of itself means nothing. Only as the testing procedure and back pressure conditions are specified can the effect on an operator of the inclusion of this factor in the formula be determined.

3. The order contains no standards or back pressure conditions which would give meaning to "deliverability". It merely provides that deliverability tests shall be taken "in a manner and at such time as the Commission may prescribe".

4. When the Commission later undertook to "prescribe" it did so by a memorandum issued without notice or public hearing. Yet it was providing an essential portion of the original order when it did so.

From the foregoing, it is submitted:

(a) That the original order R-1092-A was so vague, indefinite and uncertain in its impact on the correlative rights of operators that it took their property without due process of law.

(b) That if the deficiency in the original order might have been supplied by a later order it could only have been done on notice and hearing conforming to the requirements for the original order.

(c) The memorandum issued by the Commission on February 24, 1958 (Respondents' Trial Exhibit No. 1, II Ct. 130, 133) does not meet that requirement.

Orders R-1092-A and R-1092-C are therefore void and unenforceable through failure to meet the constitutional requirement of due process.

(C). <u>The Deliverability Test Specified By The Commission Deprives Appellants of Their Property Without Due Process of Law</u>.

If it be assumed, for purposes of argument, that the orders of the Commission could be properly implemented by the memorandum of February 24, 1958, (Respondents' Trial Exhibit No. 1), the orders in their application have produced such erratic, unpredictable, inconsistent results as to amount to a reallocation of the ownership of the gas in place on an illegal, arbitrary and capricious basis, depriving Appellants of their property without due process of law.

As shown by the testimony presented at the trial before the District Court, only inconsistent, unpredictable and erratic results have been obtained from deliverability tests made under the memorandum. Variations resulted averaging 40.32 percent between the 1958 tests and the 1959 tests of all of the wells in the pool, although the same testing procedure was applied in all tests. (II Ct. 117) Some 21 of Continental Oil Company's wells were re-tested in 1959 after the original test had been made. An average change in the calculated deliverability of 110 percent resulted (II Ct. 101). The wide variation in results of tests and re-tests on Continental Oil Company operated wells in the Jalmat Pool is shown by Petitioners' Trial Exhibits 2-A, 2-B and 2-C.

A list of all of the wells in the Jalmat Gas Pool showing the results of deliverability tests in 1958 and 1959 with the percentage of change, either up or down, taken from official records of the Oil Conservation Commission, was presented as Petitioners' Trial Exhibit No. 3 (II Ct. 105).

The results obtained as to all of the wells in the pool were graphically portrayed by Petitioners' Exhibits 4-A, 4-B, 4-C, 4-D, 4-E, 4-F, and 4-G (II Ct. 107-114). The percentage of change occurring between 1958 and 1959 deliverability tests ranged from no change for only six wells in the pool, up to a change of 2880 percent in one well.

Experience in testing Continental Oil Company wells, caused an expert witness of Appellants to conclude that no accurate deliverability tests could be achieved under the

procedures specified by the Commission. He testified as follows (II Ct. 106-107):

"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 percent.

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."

There were 379 wells shown on Petitioners' Trial Exhibit No. 3. All but six of the wells in the pool, on which consecutive deliverability tests were available, showed substantial variations. Sixty-three wells showed variations of 100 percent or more (II Ct. 152).

When it is considered that seventy-five percent of the gas production to be allocated to each well in the pool is based upon the results of these deliverability tests, the impact upon Appellants' property rights and the total lack of due process of law becomes apparent.

Appellees attempted to show in the trial court that these wide variations in deliverability as to 63 wells were due to such factors as accumulation of fluids (II Ct. 153-160), lack of tubing in the wells (II Ct. 156-157), changes in line pressures against which wells are tested (II Ct. 157-158), and anomalies in the reservoir (II Ct. 142). Even if these causes be admitted in those wells, which they are not, they demonstrate the unreliability of the tests and the arbitrary results flowing from them when used in an old, developed pool such as Jalmat. The standard of reasonableness required by the statute clearly requires a more uniform and reliable basis on which to test the property rights of operators.

It is submitted that any order, rule, regulation or directive of the Commission which is to affect seventy-five percent of the allowable production to be assigned to an individual well must be reasonably definite and certain both in its provisions and in the results achieved in order to assure each operator in the pool the opportunity to produce his just and equitable share of the gas in the pool. The results achieved under the orders complained of, and the directives issued to implement those orders, fall far short of that standard and of the provisions of Sec. 65-3-14, supra.

No cases, of course, are found in New Mexico on this particular question. The case of Anderson-Prichard Oil Corp. v. Corporation Commission, 207 Okla. 686, 252 P.2d 450 (1953), quoted earlier in this brief gives support to Appellants' position as to the unreliability of deliverability or well potentials

as a basis for allocation of production. The court there upheld the Commission in refusing to make this factor the basis of a proration order.

The unreliability of calculated well deliverability as a factor on which to base substantial property rights of operators is clearly demonstrated by the fluctuations in deliverability test results hereinabove referred to.

It is obvious that no such fluctuation in the recoverable gas in place under the tracts involved had occurred. In the words of one witness "it is inconceivable that a change of that magnitude could occur." (II Ct. 118). Yet under the formula here under attack, the right of an operator to take gas from the Jalmat Pool will fluctuate from year to year with the results of these tests, with no relationship whatever to the recoverable gas in place under his tract. The statute requires that such an order afford each operator the opportunity to produce his portion of the gas in the pool as defined by the statute--yet this major factor in the deliverability formula as applied through deliverability tests, has no relation to the recoverable gas under a tract.

As pointed out under the first point in this brief, even the Commission's findings do not find the required relationship. If the findings be accepted at face value, they find only "a general correlation"; but the evidence actually shows a fluctuation in practice which could not, by the wildest stretch of imagination, be correlated with recoverable gas in place under the tracts involved.

The point here presented may be summarized as follows:

1. If Orders R-1092-A and R-1092-C can be validly implemented by the ex parte memorandum of February 24, 1958, erratic, inconsistent, unpredictable deliverability test results are obtained in the Jalmat Gas Pool.

2. Although the same testing procedure was used, successive deliverability tests showed variations in deliverability ranging up to 2880 percent.

3. The average variation of tests conducted in 1959 as compared to those made in 1958 was in excess of 40 percent. Re-tests made after the 1959 tests had originally been made showed an even greater variation.

4. The discrepancy in results achieved on successive deliverability tests has no relation to recoverable gas in place under the tracts dedicated to the individual wells.

From these facts the conclusion is apparent that:

(a) Deliverability tests as conducted under the provisions of Order R-1092-A and the subsequently-issued memorandum of February 24, 1958, do not constitute a reasonable basis, as required by the statute, upon which to prorate gas production from the Jalmat Gas Pool.

(b) The variations in results between successive tests on individual wells has no relationship whatever to the amount of recoverable gas in place under the tracts dedicated to such wells.

(c) The orders of the Commission in their application are so vague, indefinite and uncertain as to amount to a confiscation of Appellants' property without due process of law.

(d) To allocate seventy-five percent of the production from the pool on the basis of tests resulting in such erratic, unpredictable and inconsistent calculated deliverabilities amounts to a reallocation of the ownership of the gas in place in the pool on an illegal, arbitrary and capricious basis, depriving Appellants of their property without due process of law.

CONCLUSION

Appellants submit that the orders of the Oil Conservation Commission which are the subject of this appeal are invalid and that the trial court erred when it dismissed Appellants' appeal and affirmed the orders.

The Commission wholly failed to make the findings required by the statute as a prerequisite for a valid order changing the basis of the allocation of production in a prorated gas field. In the face of findings which demonstrate that the Commission acted on the basis of different and inconsistent facts and standards, these essential findings cannot be presumed.

There is no substantial evidence in the record to support the findings on which the Commission did base its orders because the evidence presented by Appellee, Texas Pacific, dealt entirely with the effect of the proposed formula on reallocated well "reserves" and provides no support for a finding as to the effect of the formula on the recoverable gas in place under the tracts in the pool, which is the property right of the owners and the standard fixed by the statute. As a further result of reliance upon such evidence there is no evidence as to the drainage not equalized by counter drainage, which would result from the proposed proration formula; yet this is an affirmative requirement of the statute also. Absent such evidence and appropriate findings based thereon, the orders of the Commission are arbitrary, capricious and unlawful and giving effect to them results in a taking of the property of Appellants without due process of law in violation of the state and federal constitutions.

Furthermore, the orders attacked are so vague, indefinite and uncertain as a result of their failure to define the term "deliverability" that they fail to meet the constitutional requirement of due process. The deficiency so occurring could not be, and was not, remedied by the memorandum issued approximately one month later specifying the deliverability test to be applied.

Finally, regardless of the sufficiency of the orders themselves, the deliverability test prescribed by the Commission, on the basis of which a well's deliverability is determined for purposes of determining the production to be allocated to it, results in erratic, inconsistent and unpredictable results having no relationship to the recoverable gas in place under the tracts in the pool. Orders allocating allowable to Appellants' wells on the basis of the results of such tests are unreasonable, and arbitrary and deprive Appellants of their property without due process of law.

For the foregoing reasons, the judgment of the trial court should be reversed with direction to enter judgment annulling Orders R-1092-A and R-1092-C of the Oil Conservation Commission.

Respectfully submitted,

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IN THE SUPREME COURT OF THE STATE OF NEW MEXICO

Case 1327

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

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For Petitioners:	For Respondents:
Kellahin & Fox, Santa Fe, N.M.	William J. Cooley, Santa Fe, N.M.
Atwood & Malone, Roswell, N.M.	Oliver E. Payne, Santa Fe, N.M.
Hervey, Dow & Hinkle, Roswell, N.M.	Campbell & Russell, Roswell, N.M.
Harry G. Dippel, Ft. Worth, Tex.	Ray C. Cowan, Hobbs, N.M.
H. D. Bushnell, Tulsa, Okla.	Robert W. Ward, Lovington, N.M.
J. K. Smith, Ft. Worth, Tex.	Manuel A. Sanchez, Santa Fe, N.M.
James A. Lore, Midland, Tex.	Hardie, Grambling, Sims &
Reed A. Elliott, Houston, Tex.	Galatzan, El Paso, Tex.
Walter B. Morgan, Houston, 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

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No. 3	142	144	"
No. 4	186	189	"
No. 5	194	201	"

** *** **

BE IT REMEMBERED, That on the 13th day of May 1958, there was filed in the office of the Clerk of the District Court of the Fifth Judicial District of the State of New Mexico, within and for the County of Lea, in Cause No. 16,213 on the Civil Docket of said Court, wherein, IN THE MATTER OF THE PETITION OF CONTINENTAL OIL COMPANY FOR APPEAL AND REVIEW OF ORDERS NOS. R-1092-A AND R-1092-C ENTERED BY THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO IN CASE NO. 1327, CONTINENTAL OIL COMPANY, A Corporation, is Petitioner, and OIL CONSERVATION COMMISSION OF NEW MEXICO, Composed of Edwin L. Mechem, Member and Chairman, Murray E. Morgan, Member, and A. L. Porter, Member and Secretary; TEXAS PACIFIC COAL & OIL COMPANY, A Corporation; EL PASO NATURAL GAS COMPANY, a Corporation; SOUTHERN UNION GAS COMPANY, A Corporation; and PERMIAN BASIN PIPELINE COMPANY, A Corporation, are Respondents, in words and figures as follow, to-wit: a

PETITION FOR REVIEW OF ACTION OF
THE OIL CONSERVATION COMMISSION OF NEW MEXICO

Comes now Continental Oil Company, hereinafter called petitioner, and petitions the Court for review of the action of the Oil Conservation Commission of the State of New Mexico in Case No. 1327 on the Commission's docket, and Orders No. R-1092-A and No. R-1092-C entered therein, and states:

I

1. Petitioner is a corporation organized under the laws of the State of Delaware duly admitted to do business in the State of New Mexico, and is the owner and operator of natural gas wells situate within the exterior boundaries of the Jalmat Gas Pool, located in Lea County, New Mexico; respondent Oil Conservation Commission of New Mexico is a statutory body created and existing under the provisions of the laws of the State of New Mexico, composed of the members named in the caption hereof, and vested with jurisdiction over all matters relating to the conservation of oil and gas in the State of New Mexico, the prevention of waste, and the enforcement of the Conservation Act of the State of New Mexico, being Chapter 65, Article 3, New Mexico Statutes Annotated, 1953 Compilation, as amended; respondent Texas Pacific Coal & Oil Company is a foreign corporation admitted to do business in the State of New Mexico; respondent El Paso Natural Gas Company is a foreign corporation admitted to do business in the State of New Mexico; respondent Southern Union Gas Company is a foreign corporation admitted to do business in the State of New Mexico; and respondent Permian Basin Pipeline Company is a foreign corporation admitted to do business in the State of New Mexico.

2. On the 29th day of January, 1958, the Oil Conservation Commission of New Mexico entered its Order No. R-1092-A in Case No. 1327 on the docket of said Commission, changing the existing gas proration formula applicable to wells in the Jalmat Gas

Pool, which existing formula had been promulgated by Order No. R-520 of the Oil Conservation Commission, entered in Case No. 673 on August 12, 1954.

3. Petitioner was a party to Case No. 1327 and was affected by Order No. R-1092-A entered therein. Petitioner duly filed an application for rehearing directed to said Order No. R-1092-A, and after rehearing the Oil Conservation Commission, on the 25th day of April, 1958, entered its order No. R-1092-C, re-affirming and refusing to modify the provisions of Order No. R-1092-A. Petitioner was affected by and dissatisfied with the disposition of its application for rehearing and with the provisions of Order No. R-1092-C, and by this proceeding seeks review as provided by law of Case No. 1327 and Orders Nos. R-1092-A and R-1092-C entered therein.

4. The nature of the proceeding before the Oil Conservation Commission of New Mexico is briefly as follows:

(a) The Jalmat Gas Pool is a pool defined and delineated by the Oil Conservation Commission, and is located in Lea County, New Mexico. The Commission, on August 12, 1954, after extended hearings, entered its Order No. R-520, which order instituted gas prorationing in the Jalmat Gas Pool, said Order No. R-520 having been entered in Case No. 673 on the Commission's docket. Said order provided for allocation of the allowable gas production among the various wells in the pool on the basis of 100 per cent of the acreage dedicated to each individual well. All owners and

operators and persons interested were afforded an opportunity to be heard in Case 673. No appeal was taken from Order No. R-520, which order became effective January 1, 1955, and remained in full force and effect until the action of the Commission complained of herein. A copy of said Order No. R-520, marked as Exhibist A, is filed with the Clerk of the District Court of Lea County Simultaneously with the filing of this petition for review and by reference is incorporated herein. Copies of said order are in the possession of, or available to, all parties to this proceeding.

(b) In the year 1957 Texas Pacific Coal & Oil Company filed its application with the Commission seeking an order immediately terminating gas prorationing in the Jalmat Gas Pool, or in the alternative, for an order cancelling all accumulated underproduction with redistribution of allowables, and establishing a new proration formula containing deliverability as a factor in said proration formula. A copy of said application is attached hereto, marked Exhibit B, and made a part hereof.

(c) The application of Texas Pacific Coal and Oil Company was heard as Commission Case No. 1327. After hearings were held, the Commission on January 29, 1958, entered its Order No. R-1092-A, a copy of which is attached hereto, marked Exhibit C, and made a part hereof. By terms of said Order No. R-1092-A, the Commission denied the application of Texas Pacific Coal & Oil Company insofar as it sought the termination of prorationing in the Jalmat Gas Pool, and Cancellation and redistribution of allowables

in said pool, but it did change the proration formula in said Pool from the formula set forth in Order No. R-520 to a formula based upon 25 per cent acreage and 75 per cent acreage times deliverability.

(d) On February 17, 1958, and within the time allowed by law, petitioner filed its application for rehearing on Order No. R-1092-A, a copy of which application is attached hereto, marked Exhibit D, and made a part hereof. The Commission granted rehearing in accordance with its Order No. R-1092-B, copy of which is attached hereto, marked Exhibit E, and made a part hereof. After notice and hearing, the Commission on April 25, 1958, entered its Order No. R-1092-C, denying the relief sought in Petitioners application for rehearing, and reaffirming the provisions of Order No. R-1092-A. A copy of said Order No. R-1092-C is attached hereto, marked Exhibit F, and made a part hereof.

5. Parties adverse to petitioner in the proceedings before the Oil Conservation Commission of New Mexico in Case No. 1327 were Texas Pacific Coal & Oil Company, El Paso Natural Gas Company, Permian Basin Pipe Line Company, and Southern Union Gas Company, each of which parties are named as respondents herein.

6. Petitioner alleges that Orders No. R-1092-A and No. R-1092-C are unreasonable, unlawful, arbitrary and capricious, and are therefore invalid and void on the following grounds, which grounds were raised in petitioner's application for rehearing before the Oil Conservation Commission of New Mexico:

(a) The application of Texas Pacific Coal & Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. R-520 entered in Case No. 673 before the Commission, and therefore should not have been entertained by the Commission, and could not be the basis of a valid order in Case No. 1327 insofar as changing of the basis of allocation of allowable production from the Jalmat Gas Pool from 100 per cent acreage to include a deliverability factor in the proration formula is concerned.

(b) Order No. R-520, entered in Case No. 673 on the Commission's docket constituted a final determination that the allocation of the allowable production from the Jalmat Gas Pool should be made on a 100 per cent acreage basis. No appeal was taken from the final decision of the Commission in Case No. 673, and the application in Case No. 1327 did not allege, and the record in said case does not show any change of conditions in the Jalmat Gas Pool, or that any waste would result from retention of the 100 per cent acreage allocation formula. On the basis of the application and the record, the Commission was without authority or jurisdiction to modify or change the proration formula ordered in Case No. 673 by its Order No. R-520.

(c) Texas Pacific Coal & Oil Company, the applicant in Case No. 1327, was a participant in Case No. 673, and did not appeal from the final decision of the Commission entered in

Order No. R-520, and said company was estopped to request a change in the proration formula for the Jalmat Gas Pool in the absence of evidence showing a change in conditions in the pool from the time of entry of Order No. R-520 or evidence showing that waste would result from the retention of the 100 per cent acreage formula. No such allegations were made and no such evidence was introduced, and therefore the Commission was without authority to revise, modify or change Order No. R-520 to provide that the proration formula for the Jalmat Gas Pool should contain a deliverability factor.

(d) The Oil Conservation Commission in its Finding No. 5 in Order No. R-1092-A, Exhibit C attached hereto, and in its Order No. R-1092-C, Exhibit F attached hereto, found 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 wells. Such findings by the Commission are contrary to the evidence in Case No. 1327 before the Commission, and are without support in the evidence introduced before the Commission, and are invalid and void.

(e) Commission's Orders No. R-1092-A and No. R-1092-C are invlaid in that eventhough it be assumed that it was 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 gas in place under the tracts dedicated to said wells," as found by the Commission, such a finding provides

no basis authorized by the statutes of New Mexico for modification of the pre-existing acreage formula for allocation of allowable production of gas from the Jalmat Gas Pool.

(f) The Commission used as a basis for its decision in Case No. 1327 to include deliverability in the proration formula of the Jalmat Gas Pool, factors which are not contemplated or permitted by the statutes of New Mexico in the determination of a proration formula for a gas pool. Finding No. 6 of the Commission's order No. R-1092-A found, (1) that the inclusion of a deliverability factor in the Jalmat proration formula would result in the production of a greater percentage of the pool allowable, and (2) that it would more nearly enable various gas purchasers in the Jalmat Gas Pool to meet the market demand for gas from said pool. Neither of said considerations provides any legal basis upon which the Commission could allocate production from the Jalmat Gas Pool under the statutes of New Mexico. The consideration of such factors rendered the decision of the Commission based thereon invalid and void.

(g) The uncontradicted evidence before the Commission showed that inclusion of a deliverability factor in the proration formula would result in economic waste in that it would require the expenditure of large sums of money by this petitioner and other operators in the Jalmat Gas Pool in efforts to increase the deliverability of gas wells in the pool in order to protect their correlative rights, although the ultimate recovery from the

various tracts would not be appreciably increased thereby, and although efforts to increase the deliverability of wells in the Jalmat Gas Pool could not prevent the violation of correlative rights which would result from the inclusion of a deliverability factor in the proration formula, and Orders No. R-1092-A and No. R-1092-C are therefore in violation of and contrary to the Commission's statutory duty to prevent waste and protect correlative rights, and are therefore invalid and void.

(h) The uncontradicted evidence before the Commission showed that the inclusion of a deliverability factor in the Jalmat Gas Pool proration formula would result in underground waste in that many of the wells in the Jalmat Gas Pool have been completed for ten to twenty years, and that their condition is such that the action required of a prudent operator under a proration formula containing a deliverability factor would necessarily result in the underground waste of natural gas, since efforts to increase the deliverability of older wells would result in the loss of some wells, and Orders No. R-1092-A and No. R-1092-C are in violation of the Commission's statutory duty to prevent waste and protect correlative rights, and are therefore invalid and void.

(i) The uncontradicted evidence before the Oil Conservation Commission showed that there would be greater drainage across adjoining lease lines if the proration formula were amended to include a deliverability factor than there would be

under the straight acreage formula. Evidence introduced by the applicant was directed only to drainage from area to area in the pool, and did not contradict the evidence offered by the petitioner and other companies that there would be greater drainage across lease lines if the proration formula should be changed to include a deliverability factor.

(j) The evidence shows that the inclusion of a deliverability factor in the proration formula as ordered by Order No. R-1092-A would result in irreparable injury to the correlative rights of petitioner and would deprive petitioner of its property without due process of law in that it would permit the production by offset operators of natural gas underlying lands owned by, or operated by, petitioner, or both, without affording compensating counterdrainage from other adjoining tracts, and would prevent petitioner from producing the recoverable gas in place in the Jalmat Gas Pool underlying the tracts upon which the wells of this petitioner are located.

(k) Orders No. R-1092-A and No. R-1092-C are unreasonable, arbitrary and discriminatory and the effect of said orders is to confiscate and deprive petitioner of its property without due process of law contrary to and in violation of the Fourteenth Amendment to the Constitution of the United States of America, and of Article II, Section 18 of the Constitution of the State of New Mexico, in that in reliance upon the provisions of Order No. R-520 this petitioner has acquired vested property rights in

the Jalmat Gas Pool, which rights will be impaired by said orders No. R-1092-A and R-1092-C.

(l) Order No. R-1092-A and as it was reaffirmed by Order No. R-1092-C, insofar as it purports to revise and change the existing allocation formula for the Jalmat Gas Pool is so vague, indefinite and uncertain as to leave this petitioner without knowledge or information as to the meaning thereof, and renders said Order No. R-1092-A invalid and void, particularly as to paragraph (3) of said order insofar as it purports to revise, effective July 1, 1958, Rule 6 of the Special Rules and Regulations for the Jalmat Gas Pool.

(m) The orders of the Commission, review of which is here sought, are unlawful, unreasonable, arbitrary and capricious and, therefore, are invalid and void for the further reason that the Commission refused to permit this petitioner and other petitioners opposing the application in Case No. 1327 to present testimony with reference to property rights acquired by them during the existence of Order No. R-520 hereinabove referred to. In particular the Commission refused to permit this and other operators to present evidence as to purchases of producing properties and royalties and loans made upon producing properties and royalties based upon the proration formula existing under Order No. R-520, and likewise refused the opportunity to present proof of communitization of properties which had occurred under the acreage

allocation formula with reference to which this petitioner and other parties in comparable positions sustain irreparable injury as the result of the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool.

7. This petitioner is the owner of oil and gas leases and gas wells, and is the operator of gas leases and gas wells producing within the limits of the Jalmat Gas Pool in Lea County, New Mexico, and is affected by the orders of the Commission review of which are here sought, and is dissatisfied with the disposition of the application for rehearing, and this Court has jurisdiction of this petition for review.

8. The formula for prorationing of allowable production set forth in Order No. R-1092-A which introduces a deliverability factor in the proration formula is not a reasonable basis upon which to prorate and allocate the allowable gas production from the Jalmat Gas Pool in that it fails to recognize or protect correlative rights, and will result in waste, and is therefore unlawful. The 100 per cent acreage factor heretofore in effect in said pool better protects the correlative rights of the owners in the pool and the prevention of waste. The inclusion of a deliverability factor in the proration formula will result in economic waste, underground waste, and will violate correlative rights of operators, including those of petitioner. Petitioner stands ready to introduce evidence in support of these allegations upon the trial of this cause, as provided by law.

WHEREFORE, Petitioner respectfully prays the Court as authorized by Section 19(b) Chapter 168 of the laws of the State of New Mexico, 1949, Section 65-3-22, New Mexico Statutes Annotated, 1953 compilation, that:

1. Notice of this Petition for Review be served in the manner provided for the service of summons in civil proceedings upon the Oil Conservation Commission of New Mexico by service upon the members thereof, upon Texas Pacific Coal & Oil Company, and upon the parties who entered appearances in Case No. 1327 in support of the application of Texas Pacific Coal & Oil Company, being El Paso Natural Gas Company, Permian Basin Pipe Line Company and Southern Union Gas Company.

2. This Petition be set for trial in the manner provided by law, and that this Court review the action of the Oil Conservation Commission herein complained of.

3. This Court try this action denovo, as provided by law, and determine the issues of fact and law presented herein.

4. This Court enter its order vacating and setting aside Orders No. R-1092-A and No. R-1092-C of the Commission hereinabove referred to, and enter in lieu thereof its order affirming and making permanent Commission's Order No. R-520 of the Oil Conservation Commission.

5. This Court enter such other or further order or orders modifying or in lieu of Orders Nos. R-1092-A and R-1092-C as

the Court may determine to be proper.

6. That petitioner have such other and further relief as may be proper.

Respectfully submitted,

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By /s/ Jason W. Kellahin
Jason W. Kellahin

Attorneys for Petitioner, Continental Oil Company.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 673
ORDER NO. R-520

THE APPLICATION OF THE OIL CONSERVATION COMMISSION UPON ITS OWN MOTION FOR AN ORDER AMENDING, REVISING OR ABROGATING EXISTING RULES AND REGULATIONS OF THE OIL CONSERVATION COMMISSION, AND/OR PROMULGATING RULES AND REGULATIONS, RELATING TO GAS POOL DELINEATION, GAS PRORATION, AND OTHER RELATED MATTERS, AFFECTING OR CONCERNING THE JALCO, LANGMAT, EUMONT, AND ARROW GAS POOLS, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m., on March 17, 1954, April 15, 1954, May 10, 1954, and May 11, 1954, at Santa Fe, New Mexico, before the Oil Conservation Commission, hereinafter referred to as the "Commission".

NOW, on this 12th day of August, 1954, the Commission, a quorum being present, having considered the records and testimony adduced and being fully advised in the premises,

FINDS:

(1) That due notice of the time and place of hearing and the purpose thereof having been given as required by law, the Commission has jurisdiction of this case and the subject matter thereof.

(2) That under date of February 17, 1953, the Commission issued its Order No. R-264 creating the Jalco, Langmat, Arrow, and Eumont Gas Pools. That Order R-264 defined the vertical and horizontal limits of the Langmat, Jalco, Eumont and Arrow gas pools and that by subsequent orders the Commission extended the horizontal limits of the Jalco and Eumont Gas Pools and extended the vertical limits of the Eumont Gas Pool.

(3) That under date of September 28, 1953, the Commission issued its Orders Nos. R-368, R-369, R-370 and R-371 and under date of November 10, 1953, the Commission issued its Orders Nos. R-368-A, R-369-A, R-370-A and R-371-A, providing rules, definitions and procedures to be followed in prorating gas in the Jalco, Langmat, Eumont and Arrow gas pools; and by subsequent orders issued after due notice and hearing, the Commission allocated production of gas in said pools commencing January 1, 1954.

(4) That the Eumont and Arrow Gas Pools are separate gas reservoirs and should be defined vertically and horizontally as set forth in this order; that the Jalco and Langmat Gas Pools are in fact one common gas reservoir, and said reservoir should be designated the "Jalmat Gas Pool" and delineated as set forth in this order.

(5) That the produqing capacity of the gas wells in the Jalmat, Eumont and Arrow Gas Pools is greater than the market demand for gas from each of such pools.

(6) That for the prevention of waste it is necessary to allocate and prorate the gas production among the gas wells in the Jalmat, Eumont and Arrow Gas Pools in accordance with provisions of this order.

(7) That the protection and proper recognition of correlative rights as such rights are defined by Section 26 (h) Chapter 168, New Mexico Session Laws of 1949, require that the gas production from the Jalmat, Eumont and Arrow gas pools be prorated in accordance with the terms and provisions of this order.

(8) That the Rules and Regulations hereinafter set forth in this order are in all respects in the interests of conservation and provide for the allocation of the allowable production among the gas wells in the Jalmat, Eumont and Arrow gas pools upon a reasonable basis and give appropriate recognition to correlative rights.

(9) That one gas well in the Jalmat, Eumont and Arrow Gas Pools can efficiently drain 640 acres.

(10) That for the prevention of waste, a limiting gas-oil ratio of 10,000-to-1 should be assigned to the units in the following pools, namely: Cooper-Jal Oil Pool, Langlie-Mattix Oil Pool, South Eunice Oil Pool, Penrose-Skelly Oil Pool, Leonard Oil Pool, South Leonard Oil Pool, Hardy Oil Pool, Rhodes Oil Pool, Jalmat Gas Pool, Arrow Gas Pool and Eumont Gas Pool.

(11) To prevent waste, the vertical limits of the following oil pools namely: Eunice-Monument Oil Pool, Arrowhead Oil Pool, South Eunice Oil Pool, Langlie-Mattix Oil Pool, Cooper-Jal Oil Pool, Rhodes Oil Pool, Eaves Oil Pool, Hardy Oil Pool, Penrose-Skelly Oil Pool, Leonard Oil Pool, South Leonard Oil Pool, should be redefined as provided hereinafter in this order so that the vertical limits of the said oil pools will not conflict with the vertical limits of overlying gas pools.

(12) That the horizontal limits of the oil pools named in Finding No. 11 should be defined as hereinafter set forth in this order.

(13) That the Falby-Yates Oil Pool should be abolished.

(14) That in the interests of conservation, the special rules hereinafter set forth governing the production of oil from wells completed within the vertical and horizontal limits of the Jalmat, Eumont and Arrow gas pools should be adopted.

(15) That for the prevention of waste and the protection of correlative rights, the special rules contained in this order should be adopted to govern the production of oil from wells completed or recompleted in such a manner that the bore hole of the well is open in both the upper gas pools and the underlying oil pools.

(16) That for the prevention of waste a "no-flare" rule should be adopted to prohibit the flaring, venting, or wasting of casinghead gas or any other type of gas in any of the gas or oil pools referred to and affected by this order.

IT IS THEREFORE ORDERED:

(1) That the Jalmat Gas Pool be and the same hereby is created. The vertical limits of the Jalmat Gas Pool shall extend from the top of the Tansill formation to a point 100

feet above the base of the Seven Rivers formation, thereby including all of the Yates formation. The horizontal limits of the Jalmat Gas Pool shall be the area as described in Exhibit "A" attached hereto and made a part hereof.

(2) That the vertical limits of the Eumont Gas Pool, heretofore created, shall extend from the top of the Yates formation to the base of the Queen formation, thereby including all of the Yates, Seven Rivers and Queen formations. The horizontal limits of the Eumont Gas Pool shall be the area as described in Exhibit "B" attached hereto and made a part hereof.

(3) That the vertical limits of the Arrow Gas Pool, heretofore created, shall extend from the top of the Yates formation to the base of the Queen formation, thereby including all of the Yates, Seven Rivers and Queen formations. The horizontal limits of the Arrow Gas Pool shall be the area as described in Exhibit "C" attached hereto and made a part hereof.

(4) That the vertical limits of the Eunice-Monument Oil Pool, heretofore created, shall include all of the Grayburg and San Andres formations. The horizontal limits of the Eunice-Monument Oil Pool shall be the area as described in Exhibit "D" attached hereto and made a part hereof.

(5) That the vertical limits of the Arrowhead Oil Pool shall include all of the Grayburg formation.

(6) That the vertical limits of the following oil pools, heretofore created, defined and described shall extend from a point 100 feet above the base of the Seven Rivers formation to the base of the Queen formation.

Cooper-Jal Oil Pool
South Eunice Oil Pool
Langlie-Mattix Oil Pool

(7) That the horizontal limits of the Cooper-Jal Oil Pool shall be the area as described in Exhibit "E" attached hereto and made a part hereof.

(8) That the horizontal limits of the Langlie-Mattix Oil Pool shall be the area as described in Exhibit "F" attached hereto and made a part hereof.

(9) That the horizontal limits of the South Eunice Oil Pool shall be the area as described in Exhibit "G" attached hereto and made a part hereof.

(10) That no gas, either dry gas or casinghead gas, shall be flared or vented in the following pools unless specifically authorized by order of the Commission after notice and hearing:

Eunice-Monument Oil Pool
South Eunice Oil Pool
Hardy Oil Pool
Penrose-Skelly Oil Pool
Cooper-Jal Oil Pool
Arrowhead Oil Pool
Langlie-Mattix Oil Pool
Rhodes Oil Pool
Leonard Oil Pool
South Leonard Oil Pool

Eaves Oil Pool
Arrow Gas Pool
Eumont Gas Pool
Jalmat Gas Pool

This rule shall become effective November 1,1954. Any operator desiring to obtain exception from the provisions of this rule shall apply for hearing prior to September 15, 1954. All operators shall file Form C-110, in duplicate, designating thereon the disposition of all dry gas or casinghead gas from each well in each pool listed above. Within 15 days after completion of any oil or gas well within the boundaries of the above listed pools, the operator shall file Form C-110 designating the disposition of gas from the well.

Failure to comply with the provisions of this rule within the prescribed time limits will result in the suspension of any further allowable. Extraction plants processing any gas from any of the above designated pools shall comply with the "no-flare" provisions of this rule, provided however, that the restriction may be lifted when mechanical difficulties arise or when the gas flared is of no commercial value.

(11) That oil wells producing from the following named pools shall be allowed to produce a volume of gas each day not exceeding the daily normal unit oil allowable multiplied by 10,000; provided however, that such well shall not be allowed to produce oil in excess of the normal unit allowable as ordered by the Commission under the provisions of Rule 505; Cooper-Jal Oil Pool, Langlie-Mattix Oil Pool, South Eunice Oil Pool, Penrose-Skelly Oil Pool, Leonard Oil Pool, South Leonard Oil Pool, Hardy Oil Pool and Rhodes Oil Pool.

(12) That the Falby-Yates Oil Pool as heretofore created, defined and described shall be abolished and all oil wells presently producing from the Falby-Yates Oil Pool shall be governed by the applicable rules of the Jalmat Gas Pool.

(13) That that portion of the Rhodes Storage Area lying within the defined limits of the Jalmat Gas Pool shall be exempted from the applicable provisions of the Jalmat Gas Pool Rules. The Rhodes Storage Area shall include the following described area:

TOWNSHIP 26 South, RANGE 37 East, NMPM
Sec. 4: W/2 NW/4, SE/4 SE/4, W/2 SE/4, S½/4;
Sec. 5: All
Sec. 6: NE/4 NW/4, NE/4, SE/4 SE/4, N/2 SE/4
Sec. 7: NE/4 NE/4
Sec. 8: N/2, N/2 S/2, SE/4 SW/4, S/2 SE/4
Sec. 9: All
Sec. 10: W/2 NW/4, SE/4 NW/4, S/2
Secs. 15 & 16: All
Sec. 17: E/2 NW/4, E/2
Sec. 20: E/2
Secs. 21 & 22: All
Sec. 23: SW/4 NW/4, SW/4
Secs. 26, 27, & 28: All
Sec. 29: E/2 NE/4

That special pool rules applicable to the Jalmat Gas Pool be, and the same hereby are promulgated as follows:

SPECIAL RULES AND REGULATIONS FOR
THE JALMAT GAS POOL

Well Spacing and Acreage Requirements for Drilling Tracts.

RULE 1. Any well drilled a distance of one mile or more outside the boundary of the Jalmat Gas Pool shall be classified as a wildcat well. Any well drilled less than one mile outside the boundary of the Jalmat Gas Pool shall be spaced, drilled, operated and prorated in accordance with the regulations in effect in the Jalmat Gas Pool.

RULE 2. Each well drilled or recompleted within the Jalmat Gas Pool on a standard proration unit after the effective date of this rule shall be drilled not closer than 1980 feet to any boundary line of the tract nor closer than 330 feet to a quarter-quarter section line or subdivision inner boundary line. Any well drilled to and producing from the Jalmat Gas Pool prior to the effective date of this order at a location conforming to the spacing requirements effective at the time said well was drilled shall be considered to be located in conformance with this rule.

RULE 3. The Secretary of the Commission shall have authority to grant exception to the requirements of Rule 2 without notice and hearing where application has been filed in due form and the necessity for the unorthodox location is based on topographical conditions or is occasioned by the recompletion of a well previously drilled to another horizon.

Applicants shall furnish all operators within a 1980-foot radius of the subject well a copy of the application to the Commission, and applicant shall include with his application a list of names and addresses of all operators within such radius, together with a stipulation that proper notice has been given said operators at the addresses given. The Secretary of the Commission shall wait at least 20 days before approving any such unorthodox location, and shall approve such unorthodox location only in the absence of objection of any offset operators. In the event an operator objects to the unorthodox location the Commission shall consider the matter only after proper notice and hearing.

RULE 4. The provisions of Statewide Rule 104, Paragraph (k), shall not apply to the Jalmat Gas Pool located in Lea County, New Mexico.

GAS PRORATION

RULE 5. (a) The acreage allocated to a gas well for proration purposes shall be known as the gas proration unit for that well. For the purpose of gas allocation in the Jalmat Gas Pool, a standard proration unit shall consist of between 632 and 648 contiguous surface acres substantially in the form of a square which shall be a legal subdivision (section) of the U. S. Public Land Surveys with a well located at least 1980 feet from the nearest property lines; provided, however, that a non-standard gas proration unit may be formed after notice and hearing by the Commission, or under the provision of Paragraph (b) of this Rule.

The allowable production from any non-standard gas proration unit as compared with the allowable production therefrom if such tract were a standard unit shall be in the ratio of the area of such non-standard proration unit expressed in acres to 640 acres. Any gas proration unit containing between 632 and 648 acres shall be considered to contain 640 acres for the purpose of computing allowables.

In establishing a non-standard gas proration unit the location of the well with respect to the two nearest boundary lines thereof shall govern the maximum amount of acreage that may be assigned to the well for the purposes of gas proration; provided, however, that any well drilled to and producing from the Jalmat Gas Pool, as defined herein, prior to the effective date of this order at a location conforming with the spacing requirements effective at the time said well was drilled shall be granted a tolerance not exceeding 330 feet with respect to the required distances from the boundary lines. The maximum acreage which shall be assigned with respect to the well's location shall be as follows:

Location	Maximum Acreage
660' - 660'	160 acres
660' - 1980'	320 acres

(b) The Secretary of the Commission shall have authority to grant an exception to Rule 5 (a) without Notice and Hearing where application has been filed in due form and where the following facts exist and the following provisions are complied with;

1. The non-standard gas proration unit consists of contiguous quarter-quarter sections and/or lots.

2. The non-standard gas proration unit lies wholly within a single governmental section.

3. The entire non-standard gas proration unit may reasonably be presumed to be productive of gas.

4. The length or width of the non-standard gas proration unit does not exceed 5280 feet.

5. The applicant presents written consent in the form of waivers from (a) all operators owning interests in the quarter sections in which any part of the non-standard gas proration unit is situated and which acreage is not included in said non-standard gas proration unit, and (b) all operators owning interests within 1500 feet of the well to which such gas proration unit is proposed to be allocated.

6. In lieu of paragraph 5 of this rule, the applicant may furnish proof of the fact that said offset operators were notified by registered mail of his intent to form such non-standard gas proration unit. The Secretary of the Commission may approve the application if, after a period of 30 days following the mailing of said notice, no operator has made objection to formation of such non-standard gas proration unit.

RULE 6. (a) The Commission after notice and hearing, shall consider the nominations of gas purchasers from the Jalmat Gas Pool and other relevant data and shall fix the allowable production of the Jalmat Gas Pool.

(b) The allowable assigned to any well capable of producing its normal gas allowable in the Jalmat Gas Pool shall be the same proportion of the total remaining allowable allocated to said pool after deducting allowables of marginal wells that the number of acres contained in the gas proration unit for that well bears to the acreage contained in all gas proration units assigned to non-marginal wells in the Jalmat Gas Pool.

RULE 7. At least 30 days prior to the beginning of each gas proration period the Commission shall hold a hearing after due notice has been given. The Commission shall cause to be submitted by each gas purchaser its "Preliminary Nominations" of the amount of gas which each in good faith actually desires to purchase within the ensuing proration period, by months, from the Jalmat Gas Pool. The Commission shall consider the "Prelimin-

ary Nominations" of purchasers, actual production, and such other factors as may be deemed applicable in determining the amount of gas that may be produced without waste within the ensuing proration period. "Preliminary Nominations" shall be submitted on a form prescribed by the Commission.

RULE 8. In the event a gas purchaser's market shall have increased or decreased, he may file with the Commission prior to the 10th day of the month a "supplemental" nomination, showing the amount of gas he actually in good faith desires to purchase during the ensuing proration month from the Jalmat Gas Pool. The Commission shall hold a public hearing between the 15th and 20th days of each month to determine the reasonable market demand for gas for the ensuing proration month, and shall issue a proration schedule setting out the amount of gas which each well may produce during the ensuing proration month.

Included in the monthly proration schedule shall be (a) a summary of the total pool allocation for that month showing nominations, and adjustments made for underage or overage applied from a previous month, (b) a tabulation of the net allowable, and production for the second preceding month together with a cumulative overage or underage computation, (c) a tabulation of the current and net allowables for the preceding month, (d) a tabulation of current monthly allowables for the ensuing proration month, and (e) a tabulation of the acreage assigned each well together with a tabulation of the acreage factor assigned each well. For the purpose of allocation a proration unit of 640 acres shall be assigned an acreage factor of 4.00; a proration unit of 160 acres a factor of 1.00, etc.

"Supplemental Nominations" shall be submitted on a form prescribed by the Commission.

The Commission shall include in the proration schedule the gas wells in the Jalmat Gas Pool delivering to a gas transportation facility, or lease gathering system, and shall include in the proration schedule of the Jalmat Gas Pool any well which it finds is being unreasonably discriminated against through denial of access to a gas transportation facility, which is reasonably capable of handling the type of gas produced by such well. The total allowable to be allocated to the pool each month shall be equal to the sum of the preliminary or supplemental nominations (whichever is applicable), together with any adjustment which the Commission deems advisable.

If during a proration month the acreage assigned a well is increased the operator shall notify the Proration Manager in writing (Box 2045, Hobbs, New Mexico) of such increase. The increased allowable assigned the gas proration unit for the well shall be effective on the first day of the month following receipt of the notification by the Proration Manager.

BALANCING OF PRODUCTION

RULE 9. Underproduction: The dates 7:00 a.m., January 1, and 7:00 a.m., July 1, shall be known as balancing dates and the periods of time bounded by these dates shall be known as gas proration periods. The amount of current gas allowable remaining unproduced at the end of each proration period shall be carried forward to and may be produced during the next succeeding proration period in addition to the normal gas allowable for such succeeding period; but whatever amount thereof is not made up within the first succeeding proration period shall be cancelled.

If it appears that such continued underproduction has resulted from inability of the well to produce its allowable, it may be classified as a marginal well and its allowable reduced to the well's ability to produce.

If at the end of a proration period a marginal well has produced more than the total allowable assigned a non-marginal unit of corresponding size, the marginal well shall be reclassified as a non-marginal well and its allowable adjusted accordingly.

If during a proration period a marginal well is reworked or recompleted in such a manner that its productive capacity is increased to the extent that it should be reclassified as a non-marginal well, the reclassification shall be effective on the first day of the proration month following the date of recompletion.

The Proration Manager may reclassify a well at any time if production data or deliverability tests reflect the need for such a reclassification.

RULE 10. Overproductions A well which has produced a greater amount of gas than was allowed during a given proration period shall have its allowable for the first succeeding proration period reduced by the amount of such overproduction and such overproduction shall be made up within the first succeeding proration period. If, at the end of the first succeeding proration period, the well is still overproduced, and has not been in balance since the end of the preceding proration period, then it shall be shut in and its current monthly allowable charged against said overproduction until the well is in balance. If, at any time, a well is overproduced an amount equaling six times its current monthly allowable, it shall be shut in until it is in balance.

The Commission may allow overproduction to be made up at a lesser rate than would be the case if the well were completely shut in upon a showing at public hearing after due notice that complete shut in of the well would result in material damage to the well.

GRANTING OF ALLOWABLES

RULE 11. No gas well shall be given an allowable until Form C-104 and Form C-110 have been filed together with a plat showing acreage attributed to said well and the locations of all wells on the lease.

RULE 12. Allowables to newly completed gas wells shall commence on the date of connection to a gas transportation facility, as determined from an affidavit furnished to the Commission (Box 2045, Hobbs, New Mexico) by the purchaser, or the date of filing of Form C-104 and Form C-110 and the plat described above, whichever date is the later.

REPORTING OF PRODUCTION

RULE 13. The monthly gas production from each well shall be metered separately and the gas production therefrom shall be reported to the Commission on Form C-115 so as to reach the Commission on or before the 20th day of the month next succeeding the month in which the gas was produced. The operator shall show on such report what disposition has been made of the gas produced.

Each purchaser or taker of gas in the Jalmat Gas Pool shall submit a report to the Commission so as to reach the Commission on or before the 20th day of the month next succeeding the month in which the gas was purchased or taken.

Such report shall be filed on either Form C-111 or Form C-114 (whichever is applicable) with the wells being listed in approximately the same order as they are listed on the proration schedule.

Forms C-111 and C-114 referred to herein shall be submitted in duplicate, the original being sent to the Commission at Box 871, Santa Fe, New Mexico, the other copy being

sent to Box 2045, Hobbs, New Mexico.

Form C-115 shall be submitted in accordance with Rule 1114 of the Commission's Rules and Regulations.

The full production of gas from each well shall be charged against the well's allowable regardless of what disposition has been made of the gas; provided, however, that gas used on the lease for consumption in lease houses, treaters, compressors, combustion engin and other similar lease equipment shall not be charged against the well's allowable.

DEFINITIONS

RULE 14. A gas well shall mean a well producing with a gas-oil ratio in excess of 100,000 cubic feet of gas per barrel of oil.

RULE 15. A well producing from the Jalmat Gas Pool and not classified as a gas well as defined in Rule 14 shall be classified as an oil well.

RULE 16. The term "gas purchaser" as used in these rules, shall mean any "taker" of gas either at the wellhead or at any point on the lease where connection is made for gas transportation or utilization. It shall be the responsibility of said "taker" to submit a nomination.

RULE 17. No gas, either dry gas or casinghead gas, produced from the Jalmat Gas Pool shall be flared or vented unless specifically authorized by order of the Commission after notice and hearing.

RULE 18. Oil wells producing from the Jalmat Gas Pool shall be allowed to produce a volume of gas each day not exceeding the daily normal unit oil allowable multiplied by 10,000; provided, however, that such well shall not be allowed to produce oil in excess of the normal unit allowable as ordered by the Commission under the provisions of Rule 505.

PROVIDED FURTHER, After the effective date of this order no well shall be completed or recompleted in such a manner that the producing zone of the overlying gas pool and the producing zone of the underlying oil pool are both open in the same well bore unless specifically authorized by order of the Commission after notice and hearing. Dual completions may be effected in accordance with the provisions of Rule 112-A of the Commission's Rules and Regulations.

Any well presently completed in such a manner that the well bore is open to both the overlying gas pool and the underlying oil pool shall be assigned to either the gas pool or the oil pool by the Commission staff. Any operator of any well completed in such a manner shall submit to the Commission office at Hobbs, New Mexico, all pertinent well completion data on Form C-105, together with electric logs, sample logs, drill stem test records, etc. All data shall be submitted in duplicate on or before September 15, 1954. Failure of any operator to submit the required data will result in cancellation of Form C-110 and subsequent cancellation of allowables.

If the operator is not satisfied with the well's assignment he may apply for a hearing on the matter in accordance with Commission Rule 1203.

PROVIDED FURTHER, Gas-Oil Ratio Tests shall be taken in accordance with the provisions of Rule 301 of the Commission's Rules and Regulations.

Gas-Oil Ratio Tests shall be taken in all oil or gas pools in accordance with the attached schedule, (Exhibit H). This schedule supersedes the annual Gas-Oil Ratio test schedule previously issued only where applicable.

The operator of any oil or gas well who has submitted Form C-116 to the Commission during 1954 in compliance with the 1954 Annual Gas-Oil Ratio test schedule previously adopted is exempted from the requirement of taking another Gas-Oil Ratio test during 1954. If the test previously submitted is not complete the Proration Manager shall so advise the operator and the operator shall submit the required test in conformance with the Gas-Oil Ratio test schedule as outlined in Exhibit "H" attached hereto and made a part hereof.

PROVIDED FURTHER, That for gas allocation purposes and assignment of allowables the combination of the Jalco and Langmat gas pools to the Jalmat Gas Pool shall be effective September 1, 1954.

It is recognized that a great many wells will be reclassified and reassigned as a result of the provisions of this order and that the time involved in the reclassification may cause certain inequities; therefore, the Proration Manager is hereby directed to take such action as he deems advisable to prevent inequitable withdrawals.

PROVIDED FURTHER, That in filing Form C-101 "Notice of Intention to Drill or Re-complete" all operators shall strictly comply with the provisions of Rule 104, paragraph (c).

PROVIDED FURTHER, That failure to comply with the provisions of this order or the rules contained herein shall result in the cancellation of allowable assigned to the affected well. No further allowable shall be assigned to the affected well until all rules and regulations are complied with. The Proration Manager shall notify the operator of the well and the purchaser in writing of the date of allowable cancellation and the reason therefor.

PROVIDED FURTHER, That special pool rules applicable to the Eumont Gas Pool be, and the same hereby are promulgated as follows:

SPECIAL RULES AND REGULATIONS FOR THE EUMONT GAS POOL

Well Spacing and Acreage Requirements for Drilling Tracts.

RULE 1. Any well drilled a distance of one mile or more outside the boundary of the Eumont Gas Pool shall be classified as a wildcat well. Any well drilled less than one mile outside the boundary of the Eumont Gas Pool shall be spaced, drilled, operated and prorated in accordance with the regulations in effect in the Eumont Gas Pool.

RULE 2. Each well drilled or recompleted within the Eumont Gas Pool on a standard proration unit after the effective date of this rule shall be drilled not closer than 1980 feet to any boundary line of the tract nor closer than 330 feet to a quarter-quarter section line or subdivision inner boundary line. Any well drilled to and producing from the Eumont Gas Pool prior to the effective date of this order at a location conforming to the spacing requirements effective at the time said well was drilled shall be considered to be located in conformance with this rule.

RULE 3. The Secretary of the Commission shall have authority to grant exception to the requirements of Rule 2 without notice and hearing where application has been filed in due form and the necessity for the unorthodox location is based on topographical con-

ditions or is occasioned by the recompletion of a well previously drilled to another horizon.

Applicants shall furnish all operators within a 1980 foot radius of the subject well a copy of the application to the Commission, and applicant shall include with his application a list of names and addresses of all operators within such radius, together with a stipulation that proper notice has been given said operators at the addresses given. The Secretary of the Commission shall wait at least 20 days before approving any such unorthodox location, and shall approve such unorthodox location only in the absence of objection of any offset operators. In the event an operator objects to the unorthodox location the Commission shall consider the matter only after proper notice and hearing.

RULE 4. The provision of Statewide Rule 104, Paragraph (k), shall not apply to the Eumont Gas Pool located in Lea County, New Mexico.

GAS PRORATION

RULE 5. (a) The acreage allocated to a gas well for proration purposes shall be known as the gas proration unit for that well. For the purpose of gas allocation in the Eumont Gas Pool, a standard proration unit shall consist of between 632 and 648 contiguous surface acres substantially in the form of a square which shall be a legal subdivision (section) of the U. S. Public Land Surveys with a well located at least 1980 feet from the nearest property lines; provided, however, that a non-standard gas proration unit may be formed after notice and hearing by the Commission, or under the provisions of Paragraph (b) of this Rule.

The allowable production from any non-standard gas proration unit as compared with the allowable production therefrom if such tract were a standard unit shall be in the ratio of the area of such non-standard proration unit expressed in acres to 640 acres. Any gas proration unit containing between 632 and 648 acres shall be considered to contain 640 acres for the purpose of computing allowables.

In establishing a non-standard gas proration unit the location of the well with respect to the two nearest boundary lines thereof shall govern the maximum amount of acreage that may be assigned to the well for the purposes of gas proration; provided, however, that any well drilled to and producing from the Eumont Gas Pool, as defined herein, prior to the effective date of this order at a location conforming with the spacing requirements effective at the time said well was drilled shall be granted a tolerance not exceeding 330 feet with respect to the required distances from the boundary lines. The maximum acreage which shall be assigned with respect to the well's location shall be as follows:

Location	Maximum Acreage
660' - 660'	160 acres
660' - 1980'	320 acres

(b) The Secretary of the Commission shall have authority to grant an exception to Rule 5 (a) without Notice and Hearing where application has been filed in due form and where the following facts exist and the following provisions are complied with;

1. The non-standard gas proration unit consists of contiguous quarter-quarter sections and/or lots.

2. The non-standard gas proration unit lies wholly within a single governmental section.

3. The entire non-standard gas proration unit may reasonably be presumed to be productive of gas.

4. The length or width of the non-standard gas proration unit does not exceed 5280 feet.

5. The applicant presents written consent in the form of waivers from (a) all operators owning interests in the quarter sections in which any part of the non-standard gas proration unit is situated and which acreage is not included in said non-standard gas proration unit, and (b) all operators owning interests within 1500 feet of the well to which such gas proration unit is proposed to be allocated.

6. In lieu of paragraph 5 of this rule, the applicant may furnish proof of the fact that said offset operators were notified by registered mail of his intent to form such non-standard gas proration unit. The Secretary of the Commission may approve the application if, after a period of 30 days following the mailing of said notice, no operator has made objection to formation of such non-standard gas proration unit.

RULE 6. (a) The Commission after notice and hearing, shall consider the nominations of gas purchasers from the Eumont Gas Pool and other relevant data and shall fix the allowable production of the Eumont Gas Pool.

(b) The allowable assigned to any well capable of producing its normal gas allowable in the Eumont Gas Pool shall be the same proportion of the total remaining allowable allocated to said pool after deducting allowables of marginal wells that the number of acres contained in the gas proration unit for that well bears to the acreage contained in all gas proration units assigned to non-marginal wells in the Eumont Gas Pool.

RULE 7. At least 30 days prior to the beginning of each gas proration period the Commission shall hold a hearing after due notice has been given. The Commission shall cause to be submitted by each gas purchaser its "Preliminary Nominations" of the amount of gas which each in good faith actually desires to purchase within the ensuing proration period, by months from the Eumont Gas Pool. The Commission shall consider the "Preliminary Nominations" of purchasers, actual production, and such other factors as may be deemed applicable in determining the amount of gas that may be produced without waste within the ensuing proration period. "Preliminary Nominations" shall be submitted on a form prescribed by the Commission.

RULE 8. In the event a gas purchaser's market shall have increased or decreased, he may file with the Commission prior to the 10th day of the month a "supplemental" nomination, showing the amount of gas he actually in good faith desires to purchase during the ensuing proration month from the Eumont Gas Pool. The Commission shall hold a public hearing between the 15th and 20th days of each month to determine the reasonable market demand for gas for the ensuing proration month, and shall issue a proration schedule setting out the amount of gas which each well may produce during the ensuing proration month.

Included in the monthly proration schedule shall be (a) a summary of the total pool allocation for that month showing nominations, and adjustments made for underage or overage applied from a previous month (b) a tabulation of the net allowable, and production for the second preceding month together with a cumulative overage or underage computation, (c) a tabulation of the current and net allowables for the preceding month, (d) a tabulation of current monthly allowables for the ensuing proration month, and (e) a tabulation of the acreage assigned each well together with a tabulation of the acreage factor assigned each well. For the purpose of allocation a proration unit of 640 acres shall be assigned an acreage factor of 4.00; a proration unit of 160 acres a factor of 1.00, etc.

"Supplemental Nominations" shall be submitted on a form prescribed by the Commission.

The Commission shall include in the proration schedule the gas wells in the Eumont Gas Pool delivering to a gas transportation facility, or lease gathering system, and shall include in the proration schedule of the Eumont Gas Pool any well which it finds is being unreasonably discriminated against through denial of access to a gas transportation facility, which is reasonably capable of handling the type of gas produced by such well. The total allowable to be allocated to the pool each month shall be equal to the sum of the preliminary or supplemental nominations (whichever is applicable) together with any adjustment which the Commission deems advisable.

If during a proration month the acreage assigned a well is increased the operator shall notify the Proration Manager in writing (Box 2045, Hobbs, New Mexico) of such increase. The increased allowable assigned the gas proration unit for the well shall be effective on the first day of the month following receipt of the notification by the Proration Manager.

BALANCING OF PRODUCTION

RULE 9. Underproduction: The dates 7:00 a.m. , January 1, and 7:00 a.m., July 1, shall be known as balancing dates and the periods of time bounded by these dates shall be known as gas proration periods. The amount of current gas allowable remaining unproduced at the end of each proration period shall be carried forward to and may be produced during the next succeeding proration period in addition to the normal gas allowable for such succeeding period; but whatever amount thereof is not made up within the first succeeding proration period shall be cancelled.

If it appears that such continued underproduction has resulted from inability of the well to produce its allowable, it may be classified as a marginal well and its allowable reduced to the well's ability to produce.

If at the end of a proration period a marginal well has produced more than the total allowable assigned a non-marginal unit of corresponcing size, the marginal well shall be reclassified as a non-marginal well and its allowable adjusted accordingly.

If during a proration period a marginal well is reworked or recompleted in such a manner that its productive capacity is increased to the extent that is should be reclassified as a non-marginal well, the reclassification shall be effective on the first day of the proration month following the date of recompletion.

The Proration Manager may reclassify a well at any time if production data or deliverability tests reflect the need for such a reclassification.

RULE 10. Overproduction: A well which has produced a greater amount of gas than was allowed during a given proration period shall have its allowable for the first succeeding proration period reduced by the amount of such overproduction, and such overproduction shall be made up within the first succeeding proration period. If, at the end of the first succeeding proration period, the well is still overproduced, and has not been in balance since the end of the preceding proration period, then it shall be shut in and its current monthly allowable charged against said overproduction until the well is in balance. If, at any time, a well is overproduced an amount equaling six times its current monthly allowable, it shall be shut in until it is in balance.

The Commission may allow overproduction to be made up at a lesser rate than would be the case if the well were completely shut in upon a showing at public hearing after

due notice that complete shut in of the well would result in material damage to the well.

GRANTING OF ALLOWABLES.

RULE 11. No gas well shall be given an allowable until Form C-104 and Form C-110 have been filed together with a plat showing acreage attributed to said well and the locations of all wells on the lease.

RULE 12. Allowables to newly completed gas wells shall commence on the date of connection to a gas transportation facility, as determined from an affidavit furnished to the Commission (Box 2045, Hobbs, New Mexico) by the purchaser, or the date of filing of Form C-104, and Form C-110 and the plat described above, whichever date is the later.

REPORTING OF PRODUCTION

RULE 13. The monthly gas production from each gas well shall be metered separately and the gas production therefrom shall be reported to the Commission on Form C-115 so as to reach the Commission on or before the 20th day of the month next succeeding the month in which the gas was produced. The operator shall show on such report what disposition has been made of the gas produced.

Each purchaser or taker of gas in the Eumont Gas Pool shall submit a report to the Commission so as to reach the Commission on or before the 20th day of the month next succeeding the month in which the gas was purchased or taken.

Such report shall be filed on either Form C-111 or Form C-114 (whichever is applicable) with the wells being listed in approximately the same order as they are listed on the proration schedule.

Forms C-111 and C-114 referred to herein shall be submitted in duplicate, the original being sent to the Commission at Box 871, Santa Fe, New Mexico, the other copy being sent to Box 2045, Hobbs, New Mexico.

Form C-115 shall be submitted in accordance with Rule 1114 of the Commission's Rules and Regulations.

The full production of gas from each well shall be charged against the well's allowable regardless of what disposition has been made of the gas; provided, however, that gas used on the lease for consumption in lease houses, treaters, compressors, combustion engines and other similar lease equipment shall not be charged against the well's allowable.

DEFINITIONS

RULE 14. A gas well shall mean a well producing with a gas-oil ratio in excess of 100,000 cubic feet of gas per barrel of oil.

RULE 15. A well producing from the Eumont Gas Pool and not classified as a gas well as defined in Rule 14 shall be classified as an oil well.

RULE 16. The term "gas purchaser" as used in these rules, shall mean any "taker" of gas either at the wellhead or at any point on the lease where connection is made for gas transportation or utilization. It shall be the responsibility of said "taker" to submit a nomination.

RULE 17. No gas, either dry gas or casinghead gas, produced from the Eumont Gas Pool shall be flared or vented unless specifically authorized by order of the Commission after notice and hearing.

RULE 18. Oil wells producing from the Eumont Gas Pool shall be allowed to produce a volume of gas each day not exceeding the daily normal unit oil allowable multiplied by 10,000; provided, however, that such well shall not be allowed to produce oil in excess of the normal unit allowable as ordered by the Commission under the provisions of Rule 505.

PROVIDED FURTHER, That special pool rules applicable to the Arrow Gas Pool be, and the same hereby are promulgated as follows:

SPECIAL RULES AND REGULATIONS FOR THE ARROW GAS POOL

Well Spacing and Acreage Requirements for Drilling Tracts.

RULE 1. Any well drilled a distance of one mile or more outside the boundary of the Arrow Gas Pool shall be classified as a wildcat well. Any well drilled less than one mile outside the boundary of the Arrow Gas Pool shall be spaced, drilled, operated and prorated in accordance with the regulations in effect in the Arrow Gas Pool.

RULE 2. Each well drilled or recompleted within the Arrow Gas Pool on a standard proration unit after the effective date of this rule shall be drilled not closer than 1980 feet to any boundary line of the tract nor closer than 330 feet to a quarter-quarter section line or subdivision inner boundary line. Any well drilled to and producing from the Arrow Gas Pool prior to the effective date of this order at a location conforming to the spacing requirements effective at the time said well was drilled shall be considered to be located in conformance with this rule.

RULE 3. The Secretary of the Commission shall have authority to grant exception to the requirements of Rule 2 without notice and hearing where application has been filed in due form and the necessity for the unorthodox location is based on topographical conditions or is occasioned by the recompletion of a well previously drilled to another horizon.

Applicants shall furnish all operators within a 1980 foot radius of the subject well a copy of the application to the Commission, and applicant shall include with his application a list of names and addresses of all operators within such radius, together with a stipulation that proper notice has been given said operators at the addresses given. The Secretary of the Commission shall wait at least 20 days before approving any such unorthodox location, and shall approve such unorthodox location only in the absence of objection of any offset operators. In the event an operator objects to the unorthodox location the Commission shall consider the matter only after proper notice and hearing.

RULE 4. The provisions of Statewide Rule 104, Paragraph (k), shall not apply to the Arrow Gas Pool located in Lea County, New Mexico.

GAS ALLOCATION

RULE 5. (a) The acreage allocated to a gas well for proration purposes shall be known as the gas proration unit for that well. For the purpose of gas allocation in the Arrow Gas Pool, a standard proration unit shall consist of between 632 and 648 contiguous surface acres substantially in the form of a square which shall be a legal subdivision (section) of the U. S. Public Land Surveys with a well located at least 1980 feet from the nearest property lines; provided, however, that a non-standard proration unit may be

formed after notice and hearing by the Commission, or under the provisions of Paragraph (b) of this Rule.

The allowable production from any non-standard gas proration unit as compared with the allowable production therefrom if such tract were a standard unit shall be in the ratio of the area of such non-standard proration unit expressed in acres to 640 acres. Any gas proration unit containing between 632 and 648 acres shall be considered to contain 640 acres for the purpose of computing allowables.

In establishing a non-standard gas proration unit the location of the well with respect to the two nearest boundary lines thereof shall govern the maximum amount of acreage that may be assigned to the well for the purposes of gas proration; provided, however, that any well drilled to and producing from the Arrow Gas Pool, as defined herein, prior to the effective date of this order at a location conforming with the spacing requirements effective at the time said well was drilled shall be granted a tolerance not exceeding 330 feet with respect to the required distances from the boundary lines. The maximum acreage which shall be assigned with respect to the well's location shall be as follows:

Location	Maximum Acreage
660' - 660'	160 acres
660' - 1980'	320 acres

(b) The Secretary of the Commission shall have authority to grant an exception to Rule 5 (a) without notice and hearing where application has been filed in due form and where the following facts exist and the following provisions are complied with;

1. The non-standard gas proration unit consists of contigueous quarter-quarter sections and/or lots.

2. The non-standard gas proration unit lies wholly within a single governmental section.

3. The entire non-standard gas proration unit may reasonably be presumed to be productive of gas.

4. The length or width of the non-standard gas proration unit does not exceed 5280 feet.

5. The applicant presents written consent in the form of waivers from (a) all operators owning interests in the quarter sections in which any part of the non-standard gas proration unit is situated and which acreage is not included in said non-standard gas proration unit, and (b) all operators owning interests within 1500 feet of the well to which such gas proration unit is proposed to be allocated.

6. In lieu of paragraph 5 of this rule, the applicant may furnish proof of the fact that said offset operators were notified by registered mail of his intent to form such non-standard gas proration unit. The Secretary of the Commission may approve the application if, after a period of 30 days following the mailing of said notice, no operator has made objection to formation of such non-standard gas proration unit.

RULE 6. (a) The Commission after notice and hearing, shall consider the nominations of gas purchasers from the Arrow Gas Pool and other relevant data and shall fix the allowable production of the Arrow Gas Pool.

(b) The allowable assigned to any well capable of producing its normal gas allowable in the Arrow Gas Pool shall be the same proportion of the total remaining allowable allocated to said pool after deducting allowables of marginal wells that the number of acres contained in the gas proration unit for that well bears to the acreage contained in all gas proration units assigned to non-marginal wells in the Arrow Gas Pool.

RULE 7. At least 30 days prior to the beginning of each gas proration period the Commission shall hold a hearing after due notice has been given. The Commission shall cause to be submitted by each gas purchaser its "Preliminary Nominations" of the amount of gas which each in good faith actually desires to purchase within the ensuing proration period, by months from the Arrow Gas Pool. The Commission shall consider the "Preliminary Nominations" of purchasers, actual production, and such other factors as may be deemed applicable in determining the amount of gas that may be produced without waste within the ensuing proration period. "Preliminary Nominations" shall be submitted on a form prescribed by the Commission.

RULE 8. In the event a gas purchaser's market shall have increased or decreased, he may file with the Commission prior to the 10th day of the month a "supplemental" nomination, showing the amount of gas he actually in good faith desires to purchase during the ensuing proration month from the Arrow Gas Pool. The Commission shall hold a public hearing between the 15th and 20th days of each month to determine the reasonable market demand for gas for the ensuing proration month, and shall issue a proration schedule setting out the amount of gas which each well may produce during the ensuing proration month.

Included in the monthly proration schedule shall be (a) a summary of the total pool allocation for that month showing nominations, and adjustments made for underage or overage applied from a previous month, (b) a tabulation of the net allowable, and production for the second preceding month together with a cumulative overage or underage computation, (c) a tabulation of the current and net allowables for the preceding month, (d) a tabulation of current monthly allowables for the ensuing proration month, and (e) a tabulation of the acreage assigned each well together with a tabulation of the acreage factor assigned each well. For the purpose of allocation a proration unit of 640 acres shall be assigned an acreage factor of 4.00; a proration unit of 160 acres a factor of 1.00, etc.

"Supplemental Nominations" shall be submitted on a form prescribed by the Commission.

The Commission shall include in the proration schedule the gas wells in the Arrow Gas Pool delivering to a gas transportation facility, or lease gathering system, and shall include in the proration schedule of the Arrow Gas Pool any well which it finds it being unreasonably discriminated against through denial of access to a gas transportation facility, which is reasonably capable of handling the type of gas produced by such well. The total allowable to be allocated to the pool each month shall be equal to the sum of the preliminary or supplemental nominations (whichever is applicable) together with any adjustment which the Commission deems advisable.

If during a proration month the acreage assigned a well is increased the operator shall notify the Proration Manager in writing (Box 2045, Hobbs, New Mexico) of such increase. The increased allowable assigned the gas proration unit for the well shall be effective on the first day of the month following receipt of the notification by the Proration Manager.

BALANCING OF PRODUCTION

RULE 9. Underproduction: The dates 7:00 a.m., January 1, and 7:00 a.m., July 1, shall be known as balancing dates and the periods of time bounded by these dates shall be

known as gas proration periods. The amount of current gas allowable remaining unproduced at the end of each proration period shall be carried forward to and may be produced during the next succeeding proration period in addition to the normal gas allowable for such succeeding period; but whatever amount thereof is not made up within the first succeeding proration period shall be cancelled.

If it appears that such continued underproduction has resulted from inability if the well to produce its allowable, it may be classified as a marginal well and its allowable reduced to the well's ability to produce.

If at the end of a proration period a marginal well has produced more than the total allowable assigned a non-marginal unit of corresponding size, the marginal well shall be reclassified as a non-marginal well and its allowable adjusted accordingly.

If during a proration period a marginal well is reworked or recompleted in such a manner that its productive capacity is increased to the extent that it should be reclassified as a non-marginal well, the reclassification shall be effective on the first day of the proration month following the date of recompletion.

The Proration Manager may reclassify a well at any time if production data or deliverability tests reflect the need for such a reclassification.

RULE 10. Overproduction: A well which has produced a greater amount of gas than was allowed during a given proration period shall have its allowable for the first succeeding proration period reduced by the amount of such overproduction and such overproduction shall be made up within the first succeeding proration period. If, at the end of the first succeeding proration period, the well is still overproduced, and has not been in balance since the end of the preceding proration period, then it shall be shut in and its current monthly allowable charged against said overproduction until the well is in balance. If, at any time, a well is overproduced an amount equaling six times its current monthly allowable, it shall be shut in until it is in balance.

The Commission may allow overproduction to be made up at a lesser rate than would be the case if the well were completely shut in upon a showing at public hearing after due notice that complete shut in of the well would result in material damage to the well.

GRANTING OF ALLOWABLES.

RULE 11. No gas well shall be given an allowable until Form C-104 and Form C-110 have been filed together with a plat showing acreage attributed to said well and the locations of all wells on the lease.

RULE 12. Allowables to newly completed gas wells shall commence on the date of connection to a gas transportation facility, as determined from an affidavit furnished to the Commission (Box 2045, Hobbs, New Mexico) by the purchaser, or the date of filing of Form C-104, and Form C-110 and the plat described above, whichever date is the later.

REPORTING OF PRODUCTION

RULE 13. The monthly gas production from each gas well shall be metered separately and the gas production therefrom shall be reported to the Commission on Form C-115 so as to reach the Commission on or before the 20th day of the month next succeeding the month in which the gas was produced. The operator shall show on such report what disposition has been made of the gas produced.

Each purchaser or taker of gas in the Arrow Gas Pool shall submit a report to the Commission so as to reach the Commission on or before the 20th day of the month next succeeding the month in which the gas was purchased or taken.

Such report shall be filed on either Form C-111 or Form C-114 (whichever is applicable) with the wells being listed in approximately the same order as they are listed on the proration schedule.

Forms C-111 and C-114 referred to herein shall be submitted in duplicate, the original being sent to the Commission at Box 871, Santa Fe, New Mexico, the other copy being sent to Box 2045, Hobbs, New Mexico.

Form C-115 shall be submitted in accordance with Rule 1114 of the Commission's Rules and Regulations.

The full production of gas from each well shall be charged against the well's allowable regardless of what disposition has been made of the gas; provided, however, that gas used on the lease for consumption in lease houses, treaters, compressors, combustion engines and other similar lease equipment shall not be charged against the well's allowable.

DEFINITIONS

RULE 14. A gas well shall mean a well producing with a gas-oil ratio in excess of 100,000 cubic feet of gas per barrel of oil.

RULE 15. A well producing from the Arrow Gas Pool and not classified as a gas well as defined in Rule 14 shall be classified as an oil well.

RULE 16. The term "gas Purchaser" as used in these rules, shall mean any "taker" of gas either at the wellhead or at any point on the lease where connection is made for gas transportation or utilization. It shall be the responsibility of said "taker" to submit a nomination.

RULE 17. No gas, either dry gas or casinghead gas, produced from the Arrow Gas Pool shall be flared or vented unless specifically authorized by order of the Commission after notice and hearing.

RULE 18. Oil wells producing from the Arrow Gas Pool shall be allowed to produce a volume of gas each day not exceeding the daily normal unit oil allowable multiplied by 10,000; provided, however, that such well shall not be allowed to produce oil in excess of the normal unit allowable as ordered by the Commission under the provisions of Rule 505.

EXHIBIT "A"

Horizontal limits of the Jalmat Gas Pool

Township 21 South, Range 36 East

All of Section 31
SW/4 of Section 32
All of Secs. 33 and 34

Township 22 South, Range 35 East
E/2 Section 13

Exhibit "A" (Cont'd)

Township 22 South, Range 36 East
All of Secs. 3 through 10, inclusive
W/2 Sec. 11
W/2 Section 14
All of Secs. 15 through 18, inclusive
NE/4 Sec. 19
All of Secs. 20 through 23, inclusive
W/2 Sec. 24
All of Secs. 25 through 29, inclusive
All of Secs. 32 through 36, inclusive

Township 22 South, Range 37 East
SW/4 Sec. 31

Township 23 South, Range 36 East
All of Secs. 1 through 4, inclusive
N/2 and SE/4 Sec. 5
E/2 Sec. 8
All Secs. 9 through 16, inclusive
NE/4 Sec. 17
All Secs. 21 through 27, inclusive
E/2 Sec. 28
E/2 Sec. 33
All Secs. 34, 35 and 36

Township 23 South, Range 37 East
All Secs. 6, 7, S/2 Sec. 8
All Secs. 17 through 21, inclusive
All Secs. 28 through 33, inclusive

Township 24 South, Range 36 East
All of Secs. 1, 2, and 3
E/2 Sec. 4
NE/4 Sec. 9
N/2, SE/4 Sec. 10
All of Secs. 11 through 14, inclusive
E/2 Sec. 15
All Secs. 22 through 26, inclusive
E/2 Sec. 27
E/2 Sec. 34
All Secs. 35 and 36

Township 24 South, Range 37 East
All of Secs. 5, 6, 7 and 8
W/2 Sec. 9
W/2 Sec. 16
All of Secs. 17 through 23, inclusive
All of Secs. 26 through 35, inclusive

Township 25 South, Range 36 East
All of Soc. 1
N/2 Sec. 2
All of Secs. 12, 13, 24 and 25
NE/4 Sec. 36

Township 25 South, Range 37 East
All Sec. 2 through 33, inclusive
W/2 Sec. 34

Exhibit "A" (Cont'd)

Township 26 South, Range 37 East
W/2 Sec. 3
All Secs. 4 through 9, inclusive
W/2 Sec. 10
All of Secs. 15 through 22, inclusive
All Secs. 27, 28 and 29
N/2, SE/4 Sec. 30
E/2 Sec. 31
All of Secs. 32, 33 and 34

EXHIBIT "B"

Horizontal limits of the Eumont Gas Pool

Township 19 South, Range 36 East
All of Secs. 12, 13, 14, 23, 24, 25, 26
E/2 Sec. 27
E/2 Sec. 34
All of Secs. 35 and 36

Township 19 South, Range 37 East
W/2 Sec. 4
E/2 Sec. 5
All of Secs. 7, 8, 17, 18, 19, 20
W/2 Sec. 9
W/2 Sec. 21
W/2 Sec. 27
All of Secs. 28, 29, 30, 31, 33 and 34

Township 20 South, Range 36 East
All of Secs. 1, 2
E/2 Sec. 3
E/2 Sec. 10
All of Secs. 11, 12, 13 and 14
NE/4 Sec. 15
N/2 and SE/4 Sec. 23
All of Secs. 24 and 25
E/2 Sec. 26
E/2 Sec. 35
All Sec. 36

Township 20 South, Range 37 East

W/2 Sec. 2
All of Secs. 3 through 10, inclusive
W/2 Sec. 11
All of Secs. 15 through 22, inclusive
S/2 Sec. 23
All of Secs. 26 through 35, inclusive
W/2 Sec. 36

Township 21 South, Range 35 East
All of Sec. 1
SE/4 Sec. 2

Exhibit "B" (Cont'd)

Township 21 South, Range 35 East (cont'd)
NE/4 Sec. 11
All of Sec. 12
All of Secs. 13 and 24

Township 21 South, Range 36 East
All of Secs. 1 through 21, inclusive
N/2 and SW/4 Sec. 22
W/2 Sec. 27
All of Secs. 28, 29 and 30
N/2 and SE/4 Sec. 32

Township 21 South, Range 37 East
All of Secs. 7 and 18

EXHIBIT "C"

Township 21 South, Range 36 East
SE/4 Sec. 24
All Sec. 25
E/2 Sec. 26
NE/4 and S/2 Sec. 35
All Sec. 36

Township 22 South, Range 36 East
All of Secs. 1 and 2
NE/4 Sec. 11
All of Sec. 12
N/2 and SE/4 Sec. 13

Township 22 South, Range 37 East
W/2 Sec. 7
All Sec. 18
N/2 Sec. 19

EXHIBIT "D"

Horizontal limits of the Eunice-Monument Oil Pool

Township 19 South, Range 36 East
E/2 Sec. 12
All of Sec. 13
All Secs. 23 through 27, inclusive
All Secs. 34, 35 and 36

Township 19 South, Range 37 East
SW/4 Sec. 3
S/2 Sec. 4
All of Secs. 7 and 8
W/2 Sec. 9
W/2 Sec. 16
All Secs. 17 through 21, inclusive
S/2 Sec. 27
All Secs. 28 through 34, inclusive

Exhibit "D" (Cont'd)

Township 20 South, Range 36 East
All Secs. 1, 2 and 3
All Secs. 10 through 14, inclusive
E/2 Sec. 15
All Secs. 23 through 26, inclusive
E/2 Sec. 27
All Secs. 35 and 36

Township 20 South, Range 37 East
All Secs. 3 through 10, inclusive
All Secs. 15 through 21, inclusive
W/2 Sec. 22
All Secs. 29 through 33, inclusive

Township 21 South, Range 35 East
All Secs. 1, 12, 13, 24
E/2 Sec. 25

Township 21 South, Range 36 East
SW/4 Sec. 1
All of Secs. 2 through 11, inclusive
W/2 Sec. 12
W/2 Sec. 13
All Sec. 14 through 22, inclusive
NW/4 Sec. 23
W/2 Sec. 27
All Secs. 28, 29 and 30
N/2 and SE/4 Sec. 32
All Sec. 33
W/2 Sec. 34

EXHIBIT "E"

Horizontal limits of the Cooper-Jal Oil Pool

Township 23 South, Range 36 East
All of Secs. 4, 5, 8, 9, 15, 16, 17, 20, 21, 22, 27, 28, 33 and 34

Township 24 South, Range 36 East
W/2 Sec. 2
All of Secs. 3 and 4
N/2 Sec. 9
All Sec. 10
W/2 Sec. 11
SW/4 Sec. 13
All Secs. 14 and 15
All Secs. 22, 23
NW/4 and W/2 SW/4 Sec. 24
W/2 Sec. 25
All Secs. 26, 27, 34 and 35
W/2 Sec. 36

Township 25 South, Range 36 East
All Secs. 1, 2, 3, 11, 12, 13, 14, 23, 24, 25, 26 and 36

Township 25 South, Range 37 East
SW/4 Sec. 6
W/2 Sec. 7
W/2 Sec. 18
W/2 and W/2 E/2 Sec. 19
W/2 Sec. 30
All Sec. 31
SW/4 Sec. 32

EXHIBIT "F"

Horizontal limits of the Langlie-Mattix Oil Pool

Township 23 South, Range 36 East
All of Secs. 1, 2, 3, 10, 11, 12, 13, 14, 23, 24, 25, 26, 35 and 36

Township 23 South, Range 37 East
W/2 Sec. 6
All of Secs. 7, 18, 19
W/2 W/2 Sec. 26
All Sec. 27
S/2 Sec. 28
All Secs. 29 through 35, inclusive

Township 24 South, Range 36 East
All Sec. 1
E/2 Sec. 2
E/2 Sec. 11
All Sec. 12
N/2 and SE/4 Sec. 13
E/2 and E/2 SW/4 Sec. 24
E/2 Sec. 25
E/2 Sec. 36

Township 24 South, Range 37 East
All of Secs. 2 through 11, inclusive
All of Secs. 14 through 23, inclusive
SW/4 Sec. 25
All Secs. 26 through 35, inclusive
W/2 Sec. 36

Township 25 South, Range 37 East
All of Secs. 2 through 5, inclusive
N/2 and SE/4 Sec. 6
E/2 Sec. 7
All of Secs. 8 through 11, inclusive
W/2 Sec. 13
All Secs. 14 through 17, inclusive
E/2 Sec. 18
E/2 E/2 Sec. 19
All Secs. 20 through 23, inclusive
W/2 Sec. 24
All Sec. 25

Exhibit "F" (Cont'd)

Township 25 South, Range 37 East (Cont'd)
All Secs. 26 through 29, inclusive
E/2 Sec. 30
N/2, SE/4 Sec. 32
All Secs. 33, 34 and 35
W/2 Sec. 36

Township 26 South, Range 37 East
NW/4 Sec. 1
NE/4 Sec. 2

EXHIBIT "G"

Horizontal limits of the South Eunice Oil Pool

Township 21 South, Range 35 East
E/2 Sec. 36

Township 21 South, Range 36 East
All Sec. 31
SW/4 Sec. 32

Township 22 South, Range 35 East
E/2 Sec. 1

Township 22 South, Range 36 East
W/2 Sec. 3
All Secs. 4 through 10, inclusive
SW/4 Sec. 11
W/2 Sec. 14
All Secs. 15 through 23, inclusive
All Secs. 25 through 29, inclusive
E/2 Sec. 30
NE/4 Sec. 31
All Secs. 32 through 36, inclusive

EXHIBIT "H"
GAS-OIL RATIO TEST SCHEDULE

NAME OF POOL	GOR LIMIT	TEST PERIOD			DEADLINE FOR FILING FORM C-116
Oil Pools					
Arrowhead	3500	Nov.	Dec.		Jan. 15, 1955
Cooper-Jal	10000	Sept.			October 15, 1954
Eunice	6000	Oct.	Nov.	Dec.	January 15, 1955
Monument	3000	July	Aug.	Sept.	October 15, 1954
South Eunice	10000	Sept.	Oct.		November 15, 1954
Hardy	10000	Sept.	Oct.		November 15, 1954
Langlie-Mattix	10000	Sept.			October 15, 1954
Leonard	10000	Sept.			October 15, 1954
South Leonard	10000	Sept.			October 15, 1954
Penrose-Skelly	10000	Sept.	Oct.	Nov.	December 15, 1954
Rhodes	10000	Sept.	Oct.		November 15, 1954
GAS POOLS					
Arrow	10000	Oct.	Nov.		December 15, 1954
Eumont	10000	Oct.	Nov.	Dec.	January 15, 1955
Jalmat	10000	Sept.	Oct.	Nov.	December 15, 1954

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

E. S. WALKER, Member

W. B. MACEY, Member and Secretary

S E A L

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EXHIBIT "A"

Lc 16

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF TEXAS PACIFIC COAL & OIL COMPANY FOR AN ORDER IMMEDIATELY TERMINATING GAS PRORATIONING IN THE JALMAT GAS POOL, LEA COUNTY, NEW MEXICO, OR IN THE ALTERNATIVE, FOR AN ORDER IMMEDIATELY CANCELLING ALL ACCUMULATED UNDERPRODUCTION; REQUIRING PURCHASERS TO INCREASE NOMINATIONS COMMENSURATE WITH ACTUAL TAKES; ESTABLISHING DELIVERABILITY AS A FACTOR IN THE PRORATION FORMULA; ESTABLISHING MAXIMUM TAKES AS TO WELLS IN THE POOL; AND SUCH OTHER ORDERS AS WILL IMMEDIATELY BRING THE POOL INTO BALANCE AND MAINTAIN SUCH BALANCE WITHOUT WASTE AND WITHOUT ABUSE OF CORRELATIVE RIGHTS.

CASE NO. _____

APPLICATION

Comes now applicant, Texas Pacific Coal & Oil Company, by its attorneys, Campbell & Russell, and states:

1. Applicant is the owner of 41.75 non-marginal gas units and 6.71 marginal gas units within the limits of the Jalmat Gas Pool, Lea County, New Mexico. All of said units involve leases from the State of New Mexico.

2. There are 389.13 gas units in the Jalmat Gas Pool and El Paso Natural Gas Company is connected to and purchases from 336.23 of said gas units, being approximately 86% of the total gas units in the field. El Paso Natural Gas Company has exclusive control over the rate of takes from each of applicant's wells in the pool.

EXHIBIT "B"

3. On January 1, 1954, the Oil Conservation Commission of New Mexico instituted gas prorationing in the then-defined limits of the pool, and for a period of 2½ years, until the last six months of 1956, allowables and production within the pool were maintained in reasonable balance. During the last six months of 1956, El Paso Natural Gas Company took from Applicant'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 carry over into the first proration period of 1957.

4. The Oil Conservation Commission, at the request of certain gas purchases, has to date failed to balance production at the end of each proration period as provided in the rules governing gas prorationing in the Jalmat Pool.

5. Many of the gas wells in the Jalmat Gas Pool have been and are now unable to produce the allowable assigned to them and there is now accumulated under-production in said pool which cannot be made up before the end of the current proration period.

6. During the year 1957, El Paso Natural Gas Company, by reason of over-production accumulated to wells on which it failed to supplement its nominations and due to the failure to balance production at the end of 1956 and at the end of the first six months of 1957, has drastically reduced its takes from some non-marginal wells of applicant with the result that marginal wells

(Exhibit "B")

in the Jalmat Gas Pool are in some instances being permitted to produce more gas than non-marginal wells, which results in drainage of gas from applicant's properties and a loss of gas reserves.

7. If the El Paso Natural Gas Company is required by reason of present rules governing gas prorationing in the Jalmat Gas Pool to continue to restrict production from applicant's non-marginal wells, or to shut-in said wells, applicant will continue to suffer drainage from its properties.

8. Certain of applicant's wells, even if shut-in during the balance 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, the result will be a negative allowable for the entire pool during a portion of the next proration period.

9. That during the period of gas prorationing, El Paso Natural Gas Company has consistently run gas from wells with high deliverability with the result that the method of prorationing, as now established, has meant that, during the year 1956, 40% of the wells in the pool produced 60% of the gas at an average rate of 303,725 MCF per unit, which was 58,090 MCF per unit in excess of the allowables.

10. El Paso Natural Gas Company has failed to keep individual wells of applicant in reasonable balance with each other.

11. The continuation of gas prorationing in this pool will

(Exhibit "B")

result in drainage of applicant's properties and abuse of its correlative rights, and will render impossible the 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 will result in economic loss to applicant and the State of New Mexico as royalty owner.

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 accumulated under-production and redistributing such under-production to over-produced wells in the Jalmat Gas Pool; and requiring gas purchasers to nominate a sufficient amount of gas from the pool 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 the Commission to issue such further order or orders as will bring the pool immediately into

(Exhibit "B")

balance and maintain such balance without waste and without abuse of applicant's or others' correlative rights.

Respectfully submitted,

CAMPBELL & RUSSELL

Jack M. Campbell

JMC:bb

(Exhibit "B")

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
ORder No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL &
OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 18, 1957, at 9 o'clock a.m. on November 14, 1957, and again at 9 o'clock a.m. on December 9, 1957, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission".

NOW, on this 29th day of January, 1958, the Commission, a quorum being present, having considered the application, and the evidence adduced and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject

EXHIBIT "C"

matter thereof.

(2) That the applicant, Texas Pacific Coal & Oil Company, seeks an order in the subject case for the immediate termination of gas prorationing in the Jalmat Gas Pool, Lea County, New Mexico, or in the alternative, an order for the immediate cancellation of all underproduction accumulated to wells in the Jalmat Gas Pool as of Julyl, 1957, and further, to require the gas purchases in said pool to nominate a sufficient amount of gas from the pool to permit the wells from which said purchasers are able to take gas to have an allowable equal to their actual production, and further for the establishment of a proration formula in the Jalmat Gas Pool whereby the allowables would be assigned 75 percent on the basis of deliverability times acreage and 25 per cent on the basis of acreage along; and further, for the establishment of a maximum amount of gas which may be taken from any well in the Jalmat Gas Pool during a specified period of time.

(3) That it is necessary to continue the proration of gas production from the Jalmat Gas Pool in order to prevent waste and protect correlative rights.

(4) That all underage which accrued to wells in the Jalmat Gas Pool prior to July 1, 1957, and which was not produced prior to January 1, 1958, will be cancelled and redistributed as of that date in accordance with the Special Rules and Regulations

(Exhibit "C")

for the Jalmat Gas Pool as set forth in Order No. R-520 as amended by Order No. R-967, and that the applicant has failed to prove the necessity for any additional relief in this regard.

(5) 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.

(6) That 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 in the Jalmat Gas Pool to meet the market demand for gas from said pool.

(7) That the allowable gas production in the Jalmat Gas Pool should be allocated to the non-marginal wells in said pool in accordance with a proration formula based on seventy-five percent (75%) acreage times deliverability plus twenty-five percent (25%) acreage only.

(8) That the applicant has failed to prove the necessity for establishing a limitation on the amount of gas which may be taken from wells in the Jalmat Gas Pool in addition to the limitations presently imposed by the Spedal Rules and Regulations for the Jalmat Gas Pool.

(Exhibit "C")

(9) That the application of Texas Pacific Coal & Oil Company in the subject case should be denied in all respects except that the Special Rules and Regulations for the Jalmat Gas Pool should be amended to provide for a deliverability factor in the gas proration formula.

IT IS THEREFORE ORDERED:

(1) That the application of Texas Pacific Coal and Oil Company in Case No. 1327 be and the same is hereby denied in all respects except that portion of the application concerning the inclusion of a deliverability factor in the gas proration formula for the Jalmat Gas Pool.

(2) That all orders heretofore issued by the Commission creating non-standard gas proration units in the Jalmat Gas Pool, which orders provide in substance that the unit well be granted an allowable in the proportion that the acreage dedicated to the well bears to a standard gas proration unit in the Jalmat Gas Pool, be and the same are hereby amended, effective July 1, 1958, to read as follows: That the unit be assigned an "Acreage Factor" for allowable purposes to be determined by dividing the acreage dedicated to the well by 160 acres.

(3) That Rule 5, and Ruly 6, and Rule 12 of the Special Rules and Regulations for the Jalmat Gas Pool as set forth in Order No. R-520 and as amended by Order No. R-967, be and the same are hereby revised, effective July 1, 1958, to read as follows:

(Exhibit "C")

SPECIAL RULES AND REGULATIONS FOR THE
JALMAT GAS POOL

RULE 5. (a) (first paragraph) No change

(second paragraph) Revise to read as follows:

A non-standard gas proration unit shall be assigned an "Acreage Factor" for proration purposes to be determined by dividing the acreage in the non-standard gas proration unit by 160 acres. Any gas proration unit containing between 632 and 648 acres shall be considered to contain 640 acres for the purpose of computing allowables.

(third paragraph) No change

(b) No change.

RULE 6. (a) The Commission, after notice and hearing, shall consider the nominations of the gas purchasers from the Jalmat Gas Pool and other relevant data in fixing the allowable production for the pool.

(b) The monthly allowable allocation to the Jalmat Gas Pool shall be divided and allocated among the wells in the pool which are entitled to an allowable in the manner hereinafter set forth.

A marginal well shall be assigned an allowable equal to its maximum production during any month of the preceding gas proration period.

The pool allowable remaining after deducting the total allowable assigned to marginal wells shall be allocated among the non-marginal wells in the pool as follows:

(1) Twenty-five percent (25%) of the remaining pool allowable shall be allocated among the non-marginal wells in the pool in the proportion that each well's "Acreage Factor" bears to the total "Acreage Factor" for all non-marginal wells in the pool.

(2) Seventy-five percent (75%) of the remaining pool allowable shall

(Exhibit "C")

be allocated among the non-marginal wells in the pool in the proportion that each well's "AD Factor" bears to the total "AD Factor" for all non-marginal wells in the pool.

A well's "Acreage Factor" shall be determined by dividing the acreage assigned to the well by 160 acres. The "Acreage Factor" shall be determined to the nearest one-hundredth of a unit.

A well's "AD Factor" shall be determined by multiplying the well's "Acreage Factor" by its "Calculated Deliverability" (expressed in MCF per day). The "AD Factor" shall be computed to the nearest whole unit. In those instances where there is more than one well on a proration unit the "Calculated Deliverability" for the unit shall be determined by averaging the "Calculated Deliverabilities" of all the wells on the unit.

(c) 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. The results of such tests shall determine a well's "Calculated Deliverability." Deliverability tests taken during 1958 shall be used in calculating allowables for wells in the Jalmat Gas Pool until July 1, 1959. Subsequent annual deliverability tests shall be used for each twelve-month period thereafter.

(d) No well shall be assigned an allowable until an approved deliverability test has been filed with the Commission.

(e) The Secretary of the Commission shall have authority to exempt marginal wells from the requirement of taking an annual deliverability test in those instances where the deliverability of the well is of such low volume as to have no significance in the determination of the well's allowable.

(f) Retests and tests taken after recompletion or workover shall be taken in the same manner as provided in sub-paragraph (c) above, and any change in the well's "Calculated Deliverability" resulting therefrom shall become effective:

(1) On the date of reconnection after workover, such date to be determined from Form C-104 as filed by the operator; or

(2) A date 45 days prior to the date upon which a well's deliverability and shut-in pressure test is reported to the Commission on Form C-122-C; or

(Exhibit "C")

(3) A date 45 days prior to the receipt and approval of Form C-104 by the Commission's office (Box 2045, Hobbs, New Mexico);

(Form C-104 shall specify the exact nature of the workover or remedial work; if the nature of the work cannot be explained on Form C-104, in that event, Form C-103 shall also be filed in accordance with Rule 1106 of the Commission's Statewide Rules and Regulations. Form C-128 (Well Location and Acreage Dedication Plat) shall be submitted by the operator at any time there is a change in the acreage dedicated to said well);

RULE 12. Allowables to newly completed gas wells shall commence:

(a) On the date of connection to a gas transportation facility, such date to be determined from an affidavit furnished to the Commission (Box 2045, Hobbs, New Mexico) by the purchaser;

(b) the latest filing date of Form C-104, C-110 or C-128; or

(c) a date 45 days prior to the date upon which the well's deliverability and shut-in pressure test is reported to the Commission on Form C-122-C;

whichever date is later.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

MURRAY E. MORGAN, Member

A. L. PORTER, JR., Member & Secretary

S E A L

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(Exhibit "C")

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL
& OIL COMPANY FOR AN ORDER IMMEDI-
ATELY TERMINATING GAS PRORATIONING
IN THE JALMAT GAS POOL; OR IN THE
ALTERNATIVE, REVISING THE SPECIAL
RULES AND REGULATIONS FOR THE JALMAT
GAS POOL IN LEA COUNTY, NEW MEXICO.

APPLICATION FOR REHEARING

TO THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO:

COMES NOW CONTINENTAL OIL COMPANY, a Delaware Corporation, duly authorized to transact business in the State of New Mexico, hereinafter sometimes referred to as "applicant", and applies for a rehearing in the above entitled and numbered case and in support thereof would respectfully show unto the New Mexico Oil Conservation Commission, hereinafter referred to as "Commission", the following:

1. This applicant owns and operates oil and gas leases and gas wells within the limits of the Jalmat Gas Pool in Lea County, New Mexico.

EXHIBIT "D"

2. This applicant participated in and presented testimony to the Commission in the hearing on the application of Texas Pacific Coal & Oil Company in the above styled and numbered case and as an operator in the Jalmat Gas Pool was affected by Order No. R-1092-A entered by the Commission under date of January 29, 1958.

3. This applicant believes and therefore alleges that Order No. R-1092-A aforesaid was erroneous, illegal and is invalid and by reason thereof a rehearing is requested in respect to that portion of said Order No. R-1092-A which provides that effective July 1, 1958, a deliverability factor shall be included in the gas proration formula of the Jalmat Gas Pool and the succeeding portions of said Order carrying into effect the decision of the Commission that deliverability shall be included in the proration formula subsequent to July 1, 1958, and as grounds therefor states:

(a) That the application of Texas Pacific Coal & Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. R-520 in Case No. 673 of this Commission entered on the 12th day of August, 1954, and therefore should not have been entertained by the Commission and cannot be made the basis of a valid Order in Case No. 1327 in so far as the inclusion of deliverability in the proration formula is concerned.

(Exhibit "D")

(b) That the evidence introduced in this proceedings provides no basis upon which a valid order could be entered by the Commission changing the basis for the allocation of production from the Jalmat Gas Pool from a 100% acreage basis to the basis provided in Order No. R-1092-A for the reason that Order No. R-520 entered by this Commission in Case No. 673 constituted a final determination that deliverability should not be included in the proration formula of the Jalmat Gas Pool. Texas Pacific Coal & Oil Company was a party to and actively participated in the hearing in Case No. 673 in which the inclusion of deliverability as a factor in the proration formula was vigorously advocated and considered by the Commission, and Order No. R-520 was entered denying the request for the inclusion of deliverability in said formula. No appeal was taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered in said Case No. 673. On the basis of the record in this case, the Commission is without authority to modify or change the decision as reached in Case No. 673.

(c) That the inclusion of deliverability as a factor in the Jalmat Gas Pool proration formula as ordered bythe Commission in Order No. R-1092-A is predicated on a finding by this Commission "that the applicant has proved that there is a general correlation between the deliverabilities of thegas wells in the Jalmat Gas Pool and the gas in place under the tracts

(Exhibit "D")

dedicated to said wells". This applicant respectfully alleges that this finding of the Commission is contrary to and wholly without support in the evidence and is therefore invalid and void. In further support of the grounds here alleged there is attached hereto as Exhibit "A" a vertical bar graph depicting the relationship between the recoverable gas in place under the fifty-eight tracts which were the subject of testimony and exhibits presented by this applicant and other operators at the hearing in this case before the Commission on December 9, 1957, and the deliverability of the fifty-eight gas wells located on said tracts. Said exhibit is based upon evidence in the record in this case and clearly demonstrates the total absence of correlation between the deliverabilities of gas wells in the Jalmat Gas POol and gas in place under the tracts dedicated to said wells. If afforded an opportunity to do so, this applicant will present further evidence in this regard but asserts that on the evidence received by the Commission at the December 9, 1957 hearing in this case it is clearly shown that no such correlation exists.

(d) That Order No. R-1092-A is invalid in that even thought it be assumed, as found by the Commission, it has been proved "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", said finding provides no basis authorized by the statutes of New Mexico for modification

(Exhibit "D")

of the pre-existing acreage formula for proration of gas produced from said pool.

(e) That the Commission has considered factors not permitted by the statutes of New Mexico in arriving at its decision which was the basis of Order No. R-1092-A. It is apparent from said Order that it was predicated in part upon (1) a finding that the inclusion of a deliverability factor in the Jalmat Gas Pool proration formula would result in the production of a greater percentage of the pool allowable, and (2) that such inclusion of a deliverability factor would more nearly enable various gas purchasers to meet the market demand for gas in the Jalmat Gas Pool. Neither of said considerations provides any legal basis for the allocation of production under the statutes of New Mexico.

(f) That Order No. R-1092-A results in economic waste in that it will require the expenditure of an excess of Four Hundred Thousand Dollars ($400,000.00) by this applicant to increase the deliverability of the gas wells operated by it in this pool in an effort to protect its correlative rights, although the ultimate recovery from the tracts operated by this applicant will not be appreciably increased thereby.

(g) That Order No. R-1092-A will result in underground waste in that many of the wells in the Jalmat Gas Pool have been completed for some ten to twenty years and their condition

(Exhibit "D")

is such that the action required of a prudent operator under Order No. R-1092-A will necessarily result in underground waste of natural gas and abuse of correlative rights of the owners of many of said wells.

(h) That the Order No. R-1092-A is invalid in that the Commission would have authority to change its existing proration order for the Jalmat Gas Pool only upon proof by the applicant in this case, Texas Pacific Coal & Oil Company, by a preponderance of the evidence, that either (1) waste would be reduced or eliminated, or (2) correlative rights of the owners in the Jalmat Gas Pool would be protected to a greater degree by the inclusion of deliverability as a factor in said proration formula. The burden of proof so assumed by Texas Pacific Coal & Oil Company as such applicant was not discharged by it.

(i) That Order No. R-1092-A results in irreparable injury to the correlative rights of this applicant and deprives this applicant of its property without due process of law in that it will permit production by offset operators of natural gas underlying the tracts owned and/or operated by this applicant without affording compensating counter-drainage from other adjoining tracts, and will prevent this applicant from producing the recoverable gas in place in the Jalmat Gas Pool underlying the respective tracts upon which the wells operated by this applicant are located.

(Exhibit "D")

(j) That Order No. R-1092-A is unreasonable, arbitrary and discriminatory and the effect of said order is to confiscate and deprive this applicant of its property without due process of law contrary to and in violation of the Fourteenth Amendment to the Constitution of the United States and of Article II, Section 18 of the Constitution of the State of New Mexico. Under the provisions of Order No. R-520, as amended, and in reliance upon said order, this applicant has performed drilling operations, recompletion operations, and has expended large sums of money on its properties in the Jalmat Gas Pool, acquiring vested property rights therein prior to the issuance of Order No. R-1092-A.

(k) That as a result of the aforesaid expenditures and other actions taken by this applicant in drilling operations, recompletion operations, and other actions taken in good faith and in reliance upon the existing proration rules as set forth in Order No. R-520, as amended, the Commission is as a matter of equity and justice, estopped from amending said Order No. R-520, as amended, to include a deliverability factor in the allocation formula, which amendment would discriminate against this applicant.

(l) That Order No. R-1092-A, as regards the findings and provisions therein which purport to revise and change the existing allocation formula for the Jalmat Gas Pool as set forth and provided for in Order No. R-520 as amended by Order No. R-967,

(Exhibit "D")

is so vague, indefinite and uncertain as to render said Order No. R-1092-A invalid and void, and particularly is this true as regards paragraph (3) of said Order insofar as it purports to revise, effective July 1, 1958, Rule 6 of the Special Rules and Regulations for The Jalmat Gas Pool.

WHEREFORE, applicant Continental Oil Company prays that this application for rehearing be granted for the purpose of reconsidering that portion of Order No. R-1092-A providing for the inclusion of a deliverability factor in the allocation formula of the Jalmat Gas Pool effective July 1, 1958, and that after notice as required by law, and upon rehearing, the Commission modify said Order R-1092-A by striking and removing therefrom each and every erroneous and invalid finding referred to hereinabove and each and every provision of said order relating to the inclusion of a deliverability factor in the gas proration formula for the Jalmat Gas Pool, and in lieu thereof, enter its order denying the application of Texas Pacific Coal & Oil Company in Case No. 1327 in its entirety.

Respectfully submitted,

CONTINENTAL OIL COMPANY

By: s/ Harry G. Dippel
Harry G. Dippel
1710 Fair Building
Fort Worth, Texas

ATWOOD & MALONE

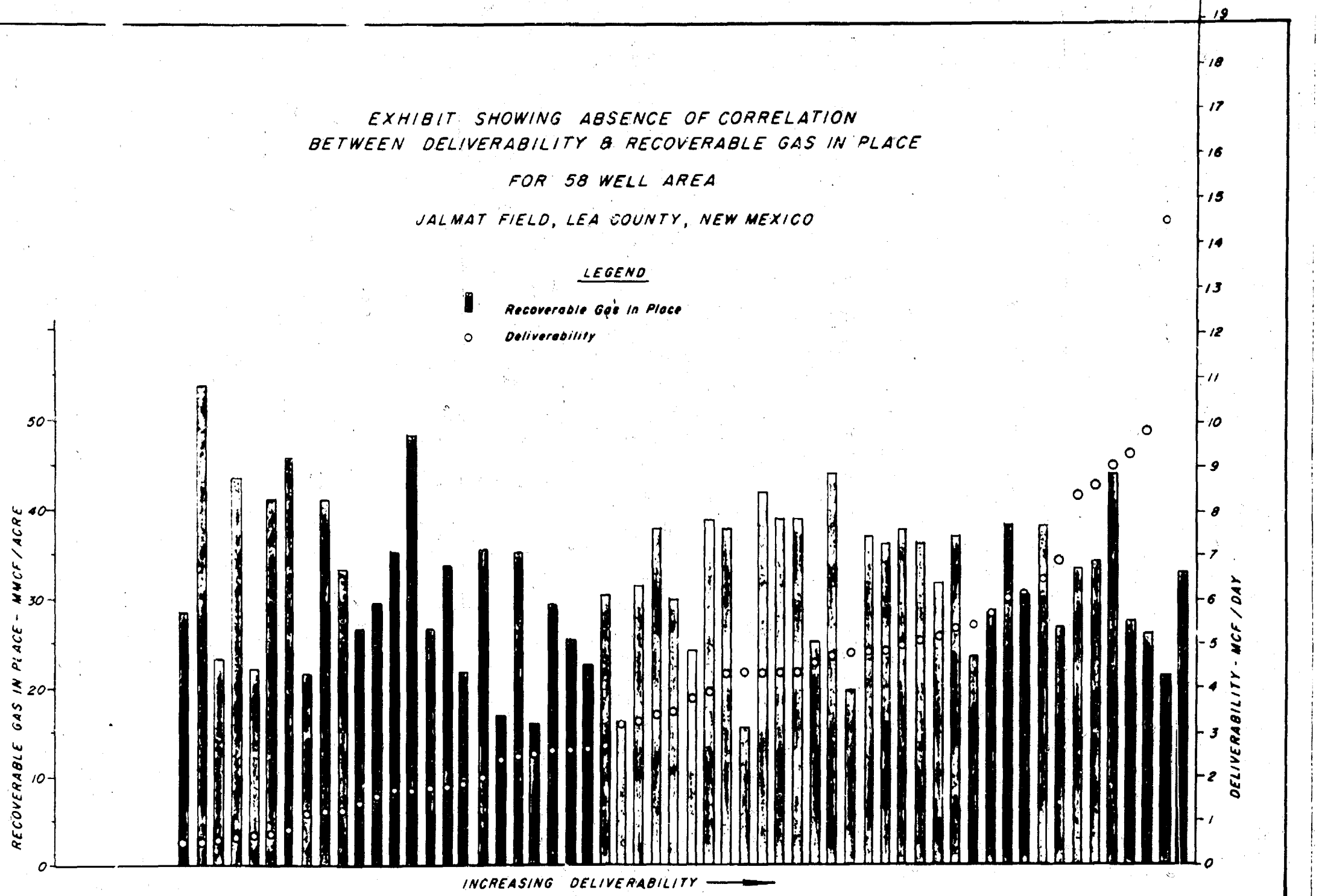
By: s/ Ross L. Malone
Ross L. Malone
P. O. Box 667
Roswell, New Mexico

KELLAHIN AND FOX

By: s/ Jason W. Kellahin
Jason W. Kellahin
P. O. Box 1713
Santa Fe, New Mexico

(Exhibit "D")

EXHIBIT SHOWING ABSENCE OF CORRELATION
BETWEEN DELIVERABILITY & RECOVERABLE GAS IN PLACE
FOR 58 WELL AREA
JALMAT FIELD, LEA COUNTY, NEW MEXICO



BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-B

APPLICATION OF TEXAS PACIFIC COAL
& OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION FOR REHEARING

BY THE COMMISSION:

This cause came on for consideration for a rehearing in Case No. 1327, Order No. R-1092-A, dated January 29, 1958, upon the petition of Skelly Oil Company, Cities Service Oil Company, The Texas Company, Sun Oil Company, Humble Oil & Refining Company, The Atlantic Refining Company, Continental Oil Company, Samedan Oil Corporation, Shell Oil Company, Sinclair Oil & Gas Company, Amerada Petroleum Corporation, Standard Oil Company of Texas, Tidewater Oil Company, and Pan-American Petroleum Corporation.

NOW, on this 19th, day of February, 1958, the Commission, a quorum being present, having considered the petitions for rehearing,

HEREBY ORDERS:

That the above-styled cause be reopened and a rehearing be held

at 9 o'clock a. m. on March 25, 1958, at Mabry Hall, State Capitol, Santa Fe, New Mexico.

IT IS FURTHER ORDERED:

That the testimony on rehearing shall be limited to new evidence on the issues raised in the petitions for rehearing.

IT IS FURTHER ORDERED:

That Order No. R-1092-A shall remain in full force and effect pending the issuance of any further order in this case.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Signed by: Edwin L. Mechem, Chairman; Murray E. Morgan, Member; A. L. Porter, Jr., Member & Secretary.

ir/

(Exhibit "E")

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-C

APPLICATION OF TEXAS PACIFIC COAL
& OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 18, 1957, November 14, 1957, and again on December 9, 1957, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission", and this cause came on for rehearing before the Commission, upon the petition of Skelly Oil Company et al., at 9 o'clock a.m. on March 25, 1958, at Santa Fe, New Mexico.

NOW, on this 25th day of April, 1958, the Commission, a quorum being present, having considered the application, the petitions for rehearing, and the testimony and evidence adduced at the original hearings and the subsequent rehearing, and being fully advised in the premises,

EXHIBIT "F"

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 hearings and the rehearing in this case, the Commission reaffirms its finding that Texas Pacific Coal and 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 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.

(3) That the provisions of Order No. 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.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Edwin L. Mechem, Chairman
Murray E. Morgan, Member
(S E A L) A. L. Porter, Jr., Member & Secretary

(Exhibit "F")

AND, THEREAFTER, to-wit: On the 12th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now Respondent, Oil Conservation Commission of New Mexico, and for its response to the Petition for Review, states:

1. It admits the allegations of Paragraphs 1, 2, 3, 4(a), 4(b), 4(c), 4(d), 5 and 7.

2. It denies the general allegations of Paragraph 6 that the Orders complained of are "unreasonable, unlawful, capricious and arbitrary and are therefore invalid and void."

3. It denies the allegations of Paragraph 6(a) through 6(l), together with all legal conclusions stated therein. It further denies the allegation in Paragraph 6 (m) that the Orders complained of are unlawful, unreasonable, arbitrary and capricious and, therefore, are invalid and void. It admits that the testimony referred to in Paragraph 6(m) was excluded, but in this connection states that said testimony is neither relevant nor material to the issues before the Commission in Case No. 1327.

4. It denies the allegations of Paragraph 8 and it further denies that the Petitioner may, without limitation, introduce evidence before the Court upon trial of this cause.

WHEREFORE, Respondent prays the Court:

1. That the Petition for Review be dismissed.

2. That Orders No. R-1092-A and R-1092-C of the Commission be affirmed.

3. That the Court enter such Order, or further Orders, as it may determine to be proper.

/s/ William J. Cooley

/s/ Oliver E. Payne

Attorneys for Respondent, Oil Conservation Commission of New Mexico

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 13th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

RESPONSE

Comes Now Respondent, Texas Pacific Coal and Oil Company, pursuant to Rule 10(c) of the Rules of Civil Procedure, and hereby adopts the Response herein filed on behalf of the Oil Conservation Commission of New Mexico as its Response in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

TEXAS PACIFIC COAL AND OIL COMPANY

By: /s/ Jack M. Campbell
Campbell & Russell
P. O. Box 721
Roswell, New Mexico

Attorneys for Respondent

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now Respondent, El Paso Natural Gas Company, a Delaware corporation, and for its response to the Petition for Review herein, states:

1. It admits the allegations of Paragraphs 1, 2, 3, 4(a), 4(b), 4(c), 4(d), 5 and 7.

2. It denies the general allegations of Paragraph 6 that the Orders complained of are "unreasonable, unlawful, capricious and arbitrary and are therefore invalid and void".

3. It denies the allegations of Paragraph 6(a) through 6(m), together with all legal conclusions stated therein.

4. It denies the allegations of Paragraph 8 and it further denies that the Petitioner may, without limitation, introduce evidence before the Court upon trial of this cause.

WHEREFORE, Respondent prays the Court:

1. That the Petition for Review be dismissed.

2. That Orders No. R-1092-A and R-1092-C of the Commission be affirmed.

3. That the Court enter such Order, or further Orders, as it may determine to be proper.

HARDIE, GRAMBLING, SIMS & GALATZAN
P. O. Box 153 - El Paso, Texas

BY: /s/ A. L. Grambling

COWAN AND LEACH
Hobbs, New Mexico

BY: /s/ Ray C. Cowan

Attorneys for Respondent
El Paso Natural Gas Company

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now the respondent Southern Union Gas Company, a foreign corporation, pursuant to Rule 10(c) of the Rules of Civil Procedure, and hereby adopts the response herein filed on behalf of the respondent Oil Conservation Commission of New Mexico as its response, in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

WILLIS L. LEA, JR., AND A. S. GRENIER
Burt Building, Dallas, Texas

MANUEL A. SANCHEZ
Santa Fe, New Mexico

By /s/ Manuel A. Sanchez

Attorneys for the above named respondent

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

RESPONSE

Comes now Respondent Permian Basin Pipeline Company, and, pursuant to Rule 10(c) of the Rules of Civil Procedure, hereby adopts the response herein filed on behalf of the Oil Conservation Commission of New Mexico as its response in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

PERMIAN BASIN PIPELINE COMPANY
Respondent

By /s/ Robert W. Ward
Attorney for Respondent

Robert W. Ward
201 North Love
Lovington, New Mexico

Lawrence I. Shaw
F. Vinson Roach
2223 Dodge Street
Omaha 1, Nebraska

Attorneys for Permian Basin
Pipeline Company, Respondent

(Service of Pleading
certified to.)

AND, THEREAFTER, to-wit: On the 3rd day of July 1958, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

MOTION FOR PRE-TRIAL CONFERENCE

Comes now Respondent, Oil Conservation Commission of New Mexico, and moves the Court, pursuant to Rule 16 of the Rules of Civil Procedure, to order a pre-trial conference in this cause for the following purposes:

1. Consolidation of this Cause with Cause Nos. 16214, 16215, 16216, 16217, 16218, 16219, 16220, for the purposes of trial.

2. A determination of the nature and scope of the review.

3. The consideration of legal matters raised in the Petition for Review, particularly in Paragraphs 6(a), 6(b), 6(c), 6(e), 6(f).

4. The consideration of the transcript of testimony before the Commission and its part in the Review proceedings.

5. The necessity or desirability of amendments to the pleadings.

6. The possibility of obtaining Admissions of Fact and documents, which will avoid unnecessary proof.

7. Such other matters as may aid in the disposition of this action.

Oil Conservation Commission of New Mexico
Respondent

Oliver E. Payne

By: William J. Cooley
Attorneys for Respondent

(Service of pleading
certified to.)

AND, THEREAFTER, to-wit: On the 9th day of September 1958, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit:

MINUTES - PRE-TRIAL CONFERENCE

BE IT REMEMBERED, That on the 4th day of August, 1958, in the District Court, at Lovington, New Mexico, a pre-trial conference in matters consolidated under the above-stated number by order of the Court herein, the Honorable John R. Brand, Judge of the Fifth Judicial District, in and for Lea County, State of New Mexico, at which time there appeared the following:

JASON KELLAHIN Kellahin & Fox Box 1713, Santa Fe, N.M.	- Continental Oil Company and Amerada Petroleum Corp.
O. E. SMITH	- Humble Oil & Refining Co.
HARRY G. DIPPEL 1710 Fair Building Fort Worth, Texas	- Continental Oil Company
H. D. [illegible] Tulsa, Oklahoma	- Amerada Petroleum Corp.
REED ELLIOTT	- Standard Oil Co. of Texas
HOWARD G. BRATTON Harvey, Dow & Hinkle Box 547, Roswell, N.M.	
JACK M. CAMPBELL Box 721, Roswell, N.M.	- Texas Pacific Coal & Oil Co.
KIRK NEWMAN Box 867, Roswell, N.M.	- Pan American Petroleum Corp.

A. T. ADAIR
Fort Worth, Texas - Texas Pacific Coal & Oil Co.

OLIVER PAYNE
Box 871, Santa Fe, N.M. - New Mexico Oil Conservation Commission

JUDGE MORRIS GALATZAN
El Paso, Texas

T. McCARTHY
Omaha, Nebraska

RAY C. COWAN
Cowan & Leach
Box 1526, Hobbs, N.M. - El Paso Natural Gas Company

ROBERT W. WARD
201 North Love St.
Lovington, N.M. - Permian Basin Pipeline Co.

THE COURT: Who is to lead off, gentlemen?

MR. KELLAHIN: Since this is on motion filed by Mr. Campbell and members of the Oil Conservation Commission staff, we assume they will proceed in the matter.

MR. CAMPBELL: If it please the Court, the Oil Conservation Commission has filed the original motion for pre-trial conference in this case. Briefly, the matter is brought before this Court from an Order of the New Mexico Oil Conservation Commission by eight petitioners who have petitioned the Court to review the order of the Commission. Mr. Kellahin and his group represent the petitioners; Mr. Payne represents the Oil Conservation Commission, which is one respondent, and I represent Texas Pacific Coal & Oil

Company, and Mr. Ward is appearing for Permian Basin Pipeline Company, and Mr. Cowan for El Paso Natural Gas Company. Southern Union Gas Company is also a respondent in this case and has filed appropriate pleadings.

When we filed the motion for pre-trial conference, we had set out certain matters for which we requested the Court to consider at a pre-trial conference. Those matters have since been modified to some extent by a letter directly to the Court from Mr. Malone and then by a letter responding to that from the Oil Conservation Commission, and, as we understand it, at the present time the matters that the Court will consider at the pre-trial conference are: the matter of the consolidation of these eight cases for the purpose of hearing; the question of the part that the transcript of testimony before the Commission may play in the hearing; and basically the issues which are involved in the case which have been raised by the petitioners in their petition for review; and finally the nature and extent of the review that the Court will hear on this appeal from the Order of the New Mexico Oil Conservation Commission. The legal matters that are raised in the petition, we understand, are not to be heard at this time but we will define them if we can as between the parties so that at the time of the hearing of the case they can be heard.

If the Court please, we feel the most essential and preliminary matters that must be determined by the Court before we can proceed further in these cases is the nature and extent of a review of an order from the Oil Conservation Commission. We have briefed this question and are prepared to furnish the Court with a copy of our brief. I will do whatever the Court sees fit with what order the Court wants to take these matters up and how he wants to hear argument in connection with the legal question.

THE COURT: Have you agreed as to the propriety of consolidation?

MR. CAMPBELL: We certainly have.

MR. KELLAHIN: We certainly are, your Honor.

THE COURT: Sometimes we consolidate matters and find out that it would have been simpler and better for everybody concerned if it had been tried separately, but I take it this is not one of those sort of things.

MR. KELLAHIN: I think there is a matter raised in one question that is not raised in the others, but I think substantially they are the same.

THE COURT: Very well. I see no reason then to do other than order this consolidation, and we will treat the matters as having been consolidated. Now, Mr. Campbell, I will be glad to have you submit your brief and you may argue it at this time.

(WHEREUPON, Mr. Campbell makes argument.)

MR. CAMPBELL: I wonder if the suit can be given one number so that in the future we may proceed in that manner?

THE COURT: Yes. It will be given the number of the first matter filed.

(Mr. Ward makes observation, and Mr. Campbell and Mr. Bratton make argument.)

THE COURT: It may be, Mr. Bratton, that Mr. Campbell knows more about how I feel about this matter than you do. A matter was presented here once -- it was a suit for declaratory judgment filed by Phillips Petroleum, wasn't it, Mr. Campbell -- something similar to this I suppose. It was, I believe, a case in which the Oil Conservation Commission had made their first allocation, had not changed a previous order, isn't that right? In other words, we had a gas producing field where the owners had gone in fifteen or twenty years earlier and had acquired oil and gas leases, property rights which they had purchased, money which they had spent for developing gas property, and, as I recall it, the Oil Conservation Commission, without notice to all of the persons interested in it and concerned, had put up an order to the effect that a unit of 160 acres would be determined to be the basis on which gas might be produced under the

proration schedule. Cases were referred to, one case from Mississippi in which the legislature there had provided that, absent a public right as affected by waste, had specified that the Conservation Commission could not put up such an order without notice to all persons interested and without giving them an opportunity to be heard as to how it affected their various property rights.

It was my feeling at that time, and I expressed myself on it, to the effect that, if prior even to the creation of the Oil Conservation Commission, if I had gone to the owner of a piece of land and had taken from him an oil and gas lease for which I had paid value and had spent money in drilling one or more gas wells, and for fifteen or twenty years had been producing gas under the provisions of that lease which required me to pay him one-eighth of the proceeds of the gas produced, saved and marketed, and that under the law existing at the time I took the lease, and during all the intermediate years my rights were not affected or hampered by proration schedules and orders accompanying them which said that I had to treat my lease as 160 acres, even though it comprised only 40 acres, any act of the Legislature that purported to give the Oil Conservation Commission the right to take from me any portion of my property, without notice and without opportunity to be heard, was unconstitutional as taking my property without due process.

Now that was an off-hand remark made and that appearing in the nature of a pre-trial conference. The Oil Conservation Commission was not a party to the action. It asked permission to join as a party and it entered its appearance, and for reasons which I do not know and have no reason to inquire into nothing more was ever heard of that proceeding.

But I still have that idea. I know of no constitutional authority which will permit the Legislature to set up an administrative body to go in and redistribute property among people in accordance with some formula of its own unless that redistribution is made necessary by the public right to prevent the waste of our natural resources.

Now, where are we?

I would think further, getting to the present matter -- first, I don't believe it was mentioned, but it is my idea that the use of the Latin term "de novo" would imply in a trial de novo that the simple "preponderance" rule ought to obtain rather than the rule well known to apply to appellate procedure which specifies that the substantial evidence rule ought to apply. In my mind, de novo means simply that, even if I be restricted to the testimony taken before the Commission, that, if it be a trial de novo, that I'd be supposed to apply to the evidence the rule that the occasion be governed -- decision be reached by application of the preponderance of evidence. Certainly I feel that, if

it be necessary for the full information of the Court to determine whether or not the Commission has acted within its powers and within constitutional limitations, I would listen to new testimony. No new testimony would be accepted or heard which is merely cumulative, which was available to the parties at the time of the hearing before the Commission, but if you, Mr. Bratton, tell this Court, that we wish to urge upon you that this Commission acted without constitutional authority, or that it acted -- in other words, saying that they acted within their apparent authority, we assert the authority given by the Legislature was beyond the Legislature's power because it traverses the Constitution, and that was not argued at the hearing, and there was no testimony adduced to that effect, then in that situation I fail to see how this Court can shut its eyes to those considerations. It would otherwise have to send the matter back to the Oil Conservation Commission, and I know of no way in which I can instruct it as to what additional evidence to take.

It would be my idea that I could listen properly to testimony which was not offered or considered by the Commission, probably to testimony which was unavailable to it. I think if you gentlemen came into court and persuaded me that a change of conditions had occurred which makes the order of the Commission absurd under present conditions,

even though proper under the conditions then obtaining, that I should remand the matter to the Commission, set aside its order, remand it to take such additional testimony in view of the changed conditions as it sees fit. I do not believe that I could properly pass on the facts which might exist now and did not exist at the time the Commission considered the problem because then I would be finding facts which it is their duty to find.

I agree with Mr. Campbell that I have no authority to modify the order of the Commission, giving the word "modify" the sense that I say, "You have told these people that 160 acres is the proration unit, and I have decided that it ought to be 200 or 320." That is a modification. Certainly, if it become apparent as a mathematical matter that the engineers had used an improper formula -- as engineers have been known to do -- multiplied 2 by 2 and came up with 3 -- this Court could modify an order based upon that sort of an assumption, the same as a court might correct a clerical error. And as I also stated that, if I thought, as against one of the respondents, the Commission's order was capricious, irrational or otherwise untenable, I might be inclined to disapprove that particular order and, finding the other orders not subject to such exception, confirm them.

So, what testimony I propose to listen to depends upon your pleadings and your specifications, and I will certainly

expect all parties, in the event they desire to introduce additional testimony, to set out the gist of what testimony they propose to offer and the reason for doing so. And, I, of course, am not called upon to rule whether or not I will listen to additional testimony until I find out what additional testimony is proposed. That could be done and passed on well in advance of the actual trial; in other words, at a second pre-trial conference.

You will, then, in your application for another pre-trial conference, say, "We request that the Court listen to testimony of A, B and C, petroleum engineers, whose testimony will be to the effect that so and so and so and so and so, and this testimony we want to present because it was not before the Conservation Commission; we want to use it because of some reason -- either it was not then available, conditions have changed -- it is our feeling that the Court can understand whether or not the previous order was compatible with the Commission's powers.

You refer to Swisher v. Darden. I don't remember what the Supreme Court said about that but I did take testimony, I presume without objections. (Note. The testimony before the Board was taken on a tape recorder.) If one claims that his property has been confiscated and taken without due process, that raises a constitutional question, and, if the

Court cannot understand what is involved without the taking of additional testimony, it will be permitted.

Anything further?

MR. CAMPBELL: If the Court please, may I request a little bit more information about the last portion of your conclusions? As I understand Mr. Bratton's argument, it is his present position that the very essence of this matter, as they view it, is that the formula set up by the Commission results in the respondents losing their property to someone else, their property rights, and this a deprivation of their property without due process of law.

THE COURT: I think that is all you are complaining about, isn't it, Mr. Bratton?

MR. BRATTON: First and foremost, that's our complaint.

MR. CAMPBELL: What I'm inquiring is this: Is it the Court's conclusion that, if he can be convinced from the transcript of the testimony already available to the Commission that the Commission had evidence -- that, if there is evidence in there that would enable the Court to make a determination independently, that he will not hear evidence? As I view it personally, we could conceivably start from scratch on that position, and I'd like to be clear as to what is meant.

THE COURT: That's a matter of the mechanics of it. I am no one to do any more work than my position compels me to do. I

would first expect counsel to advise me what evidence he wishes to present. Then I would read the transcript, and, if I concluded that I was sufficiently informed by the transcript, I would refuse to hear more testimony. But if it appeared to me that the transcript is deficient in facts which were to help me to a determination, which means in effect that I conclude that the Commission should have heard additional testimony, should have called for additional testimony -- but certainly I intend to permit no new testimony which is merely cumulative or argumentative, or, which by reasonable intelligence and reasonable presumption can afford the Court an opportunity to decide the issue without taking additional testimony --

MR. BRATTON: If the Court please, within that framework I believe there is one basic proposition that we will present to the Court in our request to permit additional testimony, that the order of which we are complaining is in effect now. The Oil Conservation Commission put it into effect July the 1st.

THE COURT: Of this year?

MR. BRATTON: Of this year, yes, sir. That means that wells which previously produced and were permitted to produce ten million cubic feet of gas, are now being permitted to produce two million, and vice versa. We know now what is

actually going on under the order. At the time this matter was presented and argued before the Commission, of course, there was conjecture as to just exactly what the allowable might mean and what might go on, but now we know. We have that information and we can now come before the Court and show to the Commission exactly what is going on in the field and where we think that gas is being taken from us and given to somebody else. Now that is one of our basic questions which we will propose to present.

THE COURT: That is one of the things I meant by a change in condition. I would suggest that you supply opposing counsel with your geological data or engineering data as to those factors.

MR. WARD: Your Honor, I don't believe we have here a constitutional question separate and distinct from the basic question before the Court which is whether it was reasonable in the sight of the various parties. I thought I ought to mention that. I don't think it is a separate and distinct problem.

THE COURT: In regard to the Phillips matter. I still regard it entirely possible that the Court might hold that any act which purports to give to the Oil Conservation Commission such broad powers as they apparently were given in this Act is unconstitutional. I have intimated this much before but I'm not deciding that.

Mr. Bratton, as soon as possible, you will supply opposing counsel with what you deem to be the results of putting their order into effect. It is entirely possible that on receipt of that information, the Oil Conservation Commission might ask that this order be remanded for rehearing by them. I'm sure that if the Oil Conservation Commission is convinced that the practical application of their order resulted in something they did not intend and in something which should not be persisted in, that it would make an order more nearly to what it thinks should be done.

MR. CAMPBELL: If the Court please, in that regard I might mention that I know nothing that prohibits anybody at any time from appearing before the Oil Conservation Commission and filing an application for a change in order as far as that's concerned, rather than before this Court.

THE COURT: Probably so but I don't suppose it would be proper to do so if it was in here. They wouldn't want this Court to take jurisdiction of a matter at the same time they were asking the Oil Conservation Commission to change their order on the same proposition. I assume Mr. Bratton knows that if he disagrees with the position of the appellant here that he can dismiss and start over with the Oil Conservation Commission.

MR. BRATTON: That is one of the legal questions that we are going to present to the Court at a later date, the question

of collateral attack upon the order of the Conservation Commission by appealing to the Commission in a separate action to change an order in a previous action.

THE COURT: Anything further?

MR. CAMPBELL: If the Court please, we have an answer but perhaps we can dispose of that if we are going to have a second pre-trial. I don't know that they are very essential at this time. I think we have enough information that we can proceed to the second conference and proceed with these matters defining the issues, the legal issues, in that second conference if the Court would rather have it that way.

THE COURT: That would suit me.

(Counsel agree to have second pre-trial conference in the month of September on date to be stipulated on.)

THE COURT: The transcript will serve as the pre-trial order.

** *** **

AND, THEREAFTER, to-wit: On the 15th day of September 1958, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit:

PETITIONERS' OFFER OF PROOF

Pursuant to the pre-trial Order of the Court issued after the pre-trial conference in the above case held on August 4, 1958, the Petitioners set forth below the names of the witnesses which they propose to use in the above matter, the nature of their testimony, and the reason such testimony is offered.

1. Petitioners propose to offer testimony and evidence by Mr. Robert M. Leibrock, Consulting Petroleum Engineer, Midland, Texas.

At the time of the hearing before the Oil Conservation Commission the opinions of all experts were based upon then available information. A great portion of said information was not of recent date, and the opinions were based upon the estimate of the various experts as to what allowables might be assigned to various wells if the proposed formula including a deliverability factor was put into effect. Since the date of the Commission's Order complained of in this cause, new deliverability tests have been taken on all the wells in the field and the Commission Order has been put into effect as of July 1, 1958, and allowables have been assigned to the wells in the pool based upon said formula for each month since that date.

On the basis of the information now available, a study has been made by engineers from all of the Petitioner companies, which study has been supervised by Mr. Leibrock, and based upon this study Mr. Leibrock can now testify to the following:

(a) Petitioners deny that apressure decline study can validly be utilized to determine the recoverable gas in place under a particular tract within the pool. However, even adopting this method of analysis, which method was utilized by the Respondent companies in their testimony before the Commission, a study of the field shows that there is more drainage under the deliverability formula than there would be under an acreage formula. This study will show that even utilizing the Respondent companies' method of analysis, deliverability does not result in a more equitable allocation but rather in a less equitable allocation than under the pre-existing formula.

(b) Utilizing the same method of analysis, it will be shown that the Petitioners will suffer over Four and One Half Million Dollars more drainage over the life of the field under the deliverability formula than they would under the pre-existing acreage formula.

(c) On the basis of a pore volume analysis of the entire field utilizing the results of the pressure tests made on all of the wells since the Commission Order was entered, it will be shown that there will be more total drainage throughout the field

On the basis of the information now available, a study has been made by engineers from all of the Petitioner companies, which study has been supervised by Mr. Leibrock, and based upon this study Mr. Leibrock can now testify to the following:

(a) Petitioners deny that apressure decline study can validly be utilized to determine the recoverable gas in place under a particular tract within the pool. However, even adopting this method of analysis, which method was utilized by the Respondent companies in their testimony before the Commission, a study of the field shows that there is more drainage under the deliverability formula than there would be under an acreage formula. This study will show that even utilizing the Respondent companies' method of analysis, deliverability does not result in a more equitable allocation but rather in a less equitable allocation than under the pre-existing formula.

(b) Utilizing the same method of analysis, it will be shown that the Petitioners will suffer over Four and One Half Million Dollars more drainage over the life of the field under the deliverability formula than they would under the pre-existing acreage formula.

(c) On the basis of a pore volume analysis of the entire field utilizing the results of the pressure tests made on all of the wells since the Commission Order was entered, it will be shown that there will be more total drainage throughout the field

and that the above listed Petitioners will suffer more drainage, substantially as will be shown under Paragraphs (a) and (b) above.

2. Petitioners have alleged that the orders of the Commission insofar as they purport to change the allocation formula to include a deliverability factor are so vague, indefinite and uncertain as to leave Petitioners without knowledge or information as to the meaning thereof.

In support of this contention, Petitioners propose to offer testimony and evidence by Mr. Leibrock for the purpose of showing that the term deliverability is meaningless unless defined as to how such deliverability is to be determined, and for the further purpose of showing that it is virtually impossible to obtain accurate deliverability tests under the conditions prescribed by the Commission.

In further support of this contention Petitioners propose to call Elvis Utz, Gas Engineer for the Oil Conservation Commission as an adverse witness to testify as to a meeting called without public notice or opportunity to be heard and conducted under his direction and supervision at Santa Fe, New Mexico, subsequent to adoption of the Order complained of as a result of which meeting the memorandum was issued by the Commission purporting to give meaning and effect to the Order complained of by defining the term "deliverability" and prescribing the conditions under which deliverability tests are to be taken.

3. Mr. Leibrock will testify that since the Commission Order was entered in this cause there have been two instances in which operating companies have shut in producing wells and by dedicating the acreage formerly assigned to those wells to high deliverability wells have been able to obtain a higher allowable for the same total amount of acreage than they would have been able to obtain by allowing all of the wells on the acreage to remain in a producing status. He will further show that there are other locations and areas in the pool in which the same result can be accomplished by shutting in producing wells, which will increase the deviation of the deliverability formula from the objective established by the statute. This evidence is now available due to the fact that deliverability tests have been taken on all the wells since the Commission Order was entered and the allowables under a deliverability formula are now available. Petitioners will offer this evidence in support of the allegations in their Petitions that the Commission finding that there is a general correlation between deliverabilities and recoverable gas in place under the tracts dedicated to the well is a conclusion which can be shown to be fallacious by actual occurrences in the field.

4. Petitioners will offer the testimony of Mr. Leibrock to explain the record made before the Commission, which is voluminous and in large measure very technical and complicated.

5. Petitioners will offer evidence as to the sources of

information and basis upon which any exhibits offered are prepared. However, the necessity for this testimony may be obviated by stipulation.

6. Petitioners will offer such other or further evidence as may appear advisable in rebuttal to any evidence or testimony offered by Respondents. The nature of this testimony and the witnesses who will offer such testimony or evidence cannot be determined until Respondents have offered evidence and the nature thereof is known.

Respectfully submitted,

ATWOOD & MALONE
Roswell, New Mexico

KELLAHIN & FOX
Santa Fe, New Mexico

HERVEY, DOW & HINKLE

By /s/ Howard C. Bratton

Attorneys for Petitioners

(Service of Pleading certified to.)

AND, THEREAFTER, to-wit: On the 23rd day of September 1958, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit:

STATEMENT OF THE CASE

This case involves the question of proration of gas production from the Jalmat Gas Pool, which lies generally in Townships 21 South, Range 35 East, through 23 South, 35 East; 21 South, 36 East through 26 South, 36 East; and 22 South, 37 East through 25 South, 37 East; in Lea County, New Mexico, and which pool produced generally from the Yates and Seven Rivers formations.

Proration of gas production is governed by the provisions of Sections 65-3-13 and 65-3-14, New Mexico Statutes, 1953, and rules adopted by the Oil Conservation Commission of New Mexico.

Gas prorationing was first instituted in the Jalmat Gas Pool and a number of other pools in southeastern New Mexico in 1954, after a series of hearings extending over approximately four years, during the course of which it was strongly urged by gas transmission companies that deliverability based on the ability of a well to produce be included in any proration formula. As a result of these hearings, the Oil Conservation Commission adopted without reference to deliverability a proration formula based solely upon the acreage allocated to the individual well.

Although the proration order required that wells be brought

into balance every six months, by restricting or shutting in those wells which had overproduced the amount of gas allocated to them and by the taking of production from those wells which had not produced their allowable, this provision of the proration order was suspended for a period of approximately four years, until December 31, 1957. By that date there were a number of wells which had produced in excess of the allowable assigned to them; other wells had not been produced to the extent of the allowable.

By application filed in the latter part of 1957, Texas Pacific Coal & Oil Company sought an order from the Commission "immediately terminating gas prorationing in the Jalmat Gas Pool, Lea County, New Mexico, or, in the alternative, for an order immediately cancelling all accumulated under production; requiring purchasers to increase nominations commensurate with actual takes; establishing deliverability as a factor in the proration formula; establishing maximum takes as to wells in the pool; and such other orders as will immediately bring the pool into balance and maintain such balance without waste and without abuse to correlative rights."

The application was heard as Commission Case No. 1327 on October 18, on November 14 and again on December 9, 1957.

Under date of January 29, 1958, the Commission entered its order No. R-1092-A denying the application of Texas Pacific Coal

& Oil Company in all respects except that the existing allocation formula based upon acreage alone was changed to a formula based upon 75% acreage times deliverability plus 25% acreage.

Following entry of this order, fourteen operators, including all of the companies filing appeal in this court, filed applications for rehearing on Order No. R-1092-A.

Rehearing was held on March 25, 1958. Under date of April 25, 1958, the Commission entered its order No. R-1092-C, reaffirming, and refusing to modify the provisions of Order No. R-1092-A.

On the basis of these two orders, petitions were filed in this court seeking review of the Commission's action under the provisions of Section 65-3-22, New Mexico Statutes, 1953, by: Continental Oil Company, Shell Oil Company, Cities Service Oil Company, Pan-American Petroleum Corporation, Humble Oil and Refining Company, Amerada Petroleum Corporation, Standard Oil Company of Texas, and The Atlantic Refining Company.

The Petitions For Review

As a result of the Commission's action in its Cause No. 1327, this Court now has before it eight cases attacking the Commission's orders on various grounds.

Separate petitions for review were filed by each of the eight companies. Basically, the matters raised in these petitions for review are the same; however, it should be noted that some of the Petitions raise questions and attack is made upon the

Commission's orders on legal grounds which do not appear in the petitions filed by other of the companies. For the purposes of this pre-trial conference we do not feel it necessary to point out to the Court where these differences exist, but will attempt to delineate the legal questions raised, regardless of whether they appear in one, or more of the petitions for review.

Since the petitions are fundamentally the same, except for minor differences, there is no logical argument against consolidating the cases for hearing in this Court, and they have been so consolidated.

Statutory Provisions For Review

Probably the first question to be resolved is raised by the provisions of the statute governing review by the court of actions taken by the Oil Conservation Commission.

Section 65-3-22, after first requiring that an application for rehearing be filed with the Commission, provides in subsection (b):

> Any party to such rehearing proceeding, dissatisfied with the disposition of the application for rehearing may appeal therefrom to the district court of the county wherein is located any property of such party affected by the decision, by filing a petition for the review of the action of the Commission within twenty (20) days after the entry of the order following rehearing or after the refusal of rehearing as the case may be. Such petition shall state briefly the nature of the proceedings before the commission and shall set forth the order or decision of the commission complained of and the grounds of invalidity thereof upon which the applicant will rely; provided, however, that the questions reviewed

> on appeal shall be only questions presented to the commission by the application for rehearing. Notice of such appeal shall be served upon the adverse party or parties and the commission in the manner provided for the service of summons in civil proceedings. Thetrial upon appeal shall be de novo, without a jury, and the transcript of proceedings before the commission, including the evidence taken in hearings by the commission, shall be received in evidence by the ccurt in whole or in part upon offer by either party, subject to legal objections to evidence, in the same manner as if such evidence was originally offered in the district court. The commission action complained of shall be prima facie valid and the burden shall be upon the part or parties seeking review to establish the invalidity of such action of the commission. The court shall determine the issues of fact and of law and shall, upon a preponderance of the evidence introduced before the court, which may include evidence in addition to the transcript of proceedings before the commission, and the law applicable thereto, enter its order either affirming, modifying, or vacating the order of the commission. In the event the court shall modify or vacate the order or decision of the commission, it shall enter such order in lieu thereof, as it may determine to be proper. Appeals may be taken from the judgment or decision of the district court to the Supreme Court in the same manner as provided for appeals from any other final judgment entered by a district court in the State. The trial of such application for relief from action of the commission and the hearing of any appeal to the Supreme Court from the action of the district court shall be expedited to the fullest extent possible.

The provisions of this statute, in the light of decisions of the courts in other administrative law cases, immediately raise questions both as to the nature and scope of review to be accorded in the district court, and the relief that may be granted upon review. The petitions filed in the cases now before the Court raise the questions on both points. Petitioners are here seeking a trial de novo, with the right to introduce the record before the commission, and additional evidence. Petitioners further seek relief from the court by way of an order either vacating

Orders Nos. R-1092-A and R-1092-C, or the modification of said orders by the court.

Questions Raised In The Petitions

The petitions have alleged that the orders are unreasonable, unlawful, arbitrary and capricious, and are therefore invalid and void, on a number of grounds, which may be summarized briefly as follows:

1. That the application of Texas Pacific Coal & Oil Company, insofar as it sought inclusion of deliverability as a factor in the proration formula is concerned, constituted a collateral attack upon the previcus proration order of the commission.

2. That absent a showing of a change of conditions, or that waste would occur, the Commission was without jurisdiction to change the previously-established proration formula.

3. That Texas Pacific Coal & Oil Company participated in the previous proration hearings, did not appeal therefrom, and was therefore estopped to request a change in the proration formula in a new proceeding in the absence of a showing that waste was occuring or would occur, or that there had been achange of conditions subsequent to the previous hearings.

4. That the finding of the Commission that there is a general correlation between the deliverability of gas wells in the pool and therecoverable gas in place under the tracts dedicated to the wells, upon which finding the orders complained of are based, is not supported by the evidence.

5. That even if such a correlation exists, it forms no basis authorized by law for modification of the pre-existing proration order.

6. That the decision of the Commission is not based upon any factor authorized by law for the determination of a proration formula, but is based upon factors not contemplated nor permitted by the statutes of New Mexico.

7. That the orders will result in waste and will violate correlative rights, contrary to law.

8. That the orders will result in underground waste, contrary to law.

9. That the orders will result in greater drainage across lease lines than would occur under the previously existing proration orders.

10. That vested property rights have accrued which will be disturbed and violated as a result of the Commission's orders, and there will result a taking of property without due process of law.

11. Correlative rights will be violated in that the orders permit production by offset operators of gas underlying lands of petitioners, without affording compensating counter-drainage, and will prevent petitioners from producing the recoverable gas in place underlying the tracts upon which the wells are located, contrary to law.

12. That the orders are vague, indefinite and uncertain and fail to advise petitioners of their rights thereunder.

13. That the commission erred in refusing to admit testimoney as to property rights acquired under the pre-existing proration order.

14. That the formula for prorating allowable production which includes a deliverability factor is not a reasonable basis upon which to prorate and allocate the allowable production of gas from the pool, contrary to law.

15. That the proposed new formula must clearly protect correlative rights of operators, who have made large expenditures and made changes in contractual positions on the basis of the previous order.

16. That the orders are contrary to a preponderance of the evidence.

These assertions raise numerous legal questions, most of which would be summed up under argument on the Commission's application of the provisions of the New Mexico Statutes to the facts before it in this case. Such questions can be resolved only by reference to the record, which is not now before the Court, coupled with legal argument on the powers and duties of the Commission in prorating and allocating gas production under the provisions of the statutes.

Other Matters

In addition to the matters raised in the petitions for review, the prayer for relief raises additional questions which are authorized by the statute, in that petitioners ask the court to either vacate or modify the orders of the commission; that they be accorded a hearing de novo and the court determine the issues of fact and law on the matters presented; that the Court enter its order affirming Commission's Order No. R-520; and that the Court enter any proper orders modifying or in lieu of the orders complained of here.

The relief sought is authorized by Sec. 65-3-22 of the statutes. It will be necessary to determine what relief is proper and should be afforded petitioners in this case.

Conclusion

Under the applicable statutes, the Commission is authorized to prevent waste, and to protect correlative rights.

Petitioners contend here that there is no question of waste prevention before the Commission in this case when it considered a change in the proration formula. The sole question was one of reallocating the allowable gas production in the pool, resulting in the restriction of production from some wells over that enjoyed for many years, and increasing the production to be allowed to other wells, with no increase in the ultimate recovery from the

pool. The question is solely one of who is going to produce the gas from the pool.

ATWOOD & MALONE
Roswell, New Mexico

KELLAHIN & FOX
Santa Fe, New Mexico

HERVEY, DOW & HINKLE

By /s/ Jason W. Kellahin

Attorneys for Petitioners

AND, THEREAFTER, to-wit: On the 23rd day of September 1958, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit:

PETITIONERS' SUPPLEMENTAL OFFER OF PROOF

Supplementing Petitioners' Offer of Proof heretofore filed pursuant to the pre-trial order of the Court, and without in any way modifying said Petitioners' Offer of Proof, Petitioners further propose to use an additional witness as follows:

1. Petitioners propose to offer testimony and evidence by a qualified engineer of Continental Oil Company for the purpose of showing that it is impossible to determine the deliverability of gas wells with any degree of accuracy under the conditions prescribed by the Oil Conservation Commission, that the results of deliverability tests are frequently based upon arbitrary assumptions, and the results of such tests vary with the conditions under which the wells are tested.

This testimony and evidence is based upon tests made in the field under conditions prescribed by the Commission subsequent to the adoption of the orders complained of in the above captioned proceeding, the results of which tests have just become available to counsel.

The testimony and evidence is offered in support of Petitioners contention in this case that the order of the

Commission is vague, indefinite and uncertain; for the purpose of supporting Petitioners contention that the formula for prorating allowable production of gas which includes a deliverability factor is not a reasonable basis upon which to prorate and allocate the allowable production of gas from the Jalmat Gas Pool; and for the further purpose of supporting Petitioner's contention that inclusion of a deliverability factor in the proration formula will result in irreparable injury to the correlative rights of Petitioners and will prevent Petitioners from producing the recoverable gas in place underlying the tracts on which their wells are located.

Respectfully submitted,

ATWOOD & MALONE
Roswell, New Mexico

HERVEY, DOW & HINKLE
Roswell, New Mexico

KELLAHIN & FOX
Santa Fe, New Mexico

By /s/ Jason W. Kellahin

Attorneys for Petitioners

AND, THEREAFTER, to-wit: On the 12th day of June 1959, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

MOTION

Come now the petitioners and move the Court for an order directing the respondent Oil Conservation Commission of New Mexico and the individual members thereof to forthwith prepare and certify to this Court the entire record of its proceedings, including the transcript of all testimony, all original exhibits, admitted or offered at the hearing before the Oil Conservation Commission of New Mexico, and all orders entered by the Commission pertaining to the case under Case No. 1327 on the docket of said Commission, all of which are necessary for use in reviewing the action of said Commission in this cause as provided by law.

KELLAHIN AND FOX

By /s/ Jason W. Kellahin
Attorneys for Petitioners

(Service of Pleading certified to.)

AND, THEREAFTER, to-wit: On the 12th day of June 1959, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follows, to-wit: an

ORDER

This matter coming regularly before the Court upon the motion of petitioners for an order directing the respondent Oil Conservation Commission of New Mexico and its individual members to forthwith prepare and certify to this Court the entire record of its proceedings, including the transcript of all testimony, all original exhibits admitted or offered at the hearing before the Oil Conservation Commission, and all orders entered by the Commission pertaining to the case under Case No. 1327 on the docket of said Commission, and

The Court being fully advised in the premises and good cause appearing therefor,

It is, therefore, ORDERED that the respondent Oil Conservation Commission of New Mexico, and the individual members thereof, forthwith prepare and certify to this Court the entire record of its proceedings, including the transcript of all testimony, all original exhibits admitted or offered at the hearing before the Oil Conservation Commission of New Mexico, and all orders entered by the Commission pertaining to the case under Case No. 1327 on the docket of said Commission.

It is further ORDERED that a certified copy of this order be forthwith served on said Commission and the members thereof, or on their attorney.

/s/ John R. Brand
District Judge

AND, THEREAFTER, to-wit: On the 26th day of June 1959, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

S T I P U L A T I O N

It is hereby stipulated and agreed by the parties hereto that JOHN BURROUGHS, Governor of the State of New Mexico, is successor in office to Edwin L. Mechem, and as such is a member of respondent OIL CONSERVATION COMMISSION OF NEW MEXICO, and that he be substituted for and named in these actions as successor to said Edwin L. Mechem for all purposes.

KELLAHIN AND FOX

By /s/ Jason W. Kellahin
Attorneys for Petitioners

/s/ Oliver E. Payne
OLIVER PAYNE, Attorney for Oil Conservation Commission of New Mexico

/s/ Robert W. Ward
ROBERT W. WARD, Attorney for Permian Basin Pipeline Company

/s/ A. S. Grenier
Attorney for Southern Union Gas Company

HARDIE, CRAMELING, SIMS & GALATZAN and RAY C. COWAN

By /s/ Ray C. Cowan
Attorneys for El Paso Natural Gas Company

CAMPBELL & RUSSELL

By /s/ Jack M. Campbell
Attorneys for Respondent Texas Pacific Coal & Oil Company

AND, THEREAFTER, to-wit: On the 26th day of June 1959, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit:

RESPONDENTS' OFFER OF PROOF

Respondents make this offer of proof without prejudice to their contention, heretofore presented to the Court, that the Court may not lawfully receive or consider any testimony or other evidence in addition to the record made before the Oil Conservation Commission of New Mexico in Case No. 1327, and Respondents expressly reserve the right to object to all testimony or other evidence offered by Petitioners upon trial of this matter.

Subject to the foregoing, and pursuant to the requirement of the Court upon pre-trial conference, Respondents set forth herein the names of witnesses they propose to use and the general nature of their testimony. This offer of proof is subject to revision depending upon the nature of proof actually offered and received by the Court upon tender by Petitioners.

1. W. R. Keller, Consulting Petroleum Engineer, will testify in rebuttal to Robert M. Leibrock upon the matter of the use ofa pressure decline study to determine recoverable gas in place and upon the equities involved in the gas proration formula adopted by the Commission as opposed to the "straight acreage" formula advocated by Petitioners.

2. Elvis Utz, Gas Engineer for the Oil Conservation Commission of New Mexico, will testify as to the complete history of gas prorationing Southeast New Mexico and the use of deliverability as a factor in the proration formula in the Jalmat Gas Pool. Mr. Utz will also testify as to the practical use of deliverability and testing procedures thereunder.

3. Randall Montgomery, Proration Manager for the Oil Conservation Commission, will testify as to the re-working of wells since the adoption of the present proration formula in the Jalmat Gas Pool and the effect of such work in regard to prevention of waste and protection of correlative rights.

4. Frank Martin, Texas-Pacific Coal and Oil Company, will present an analysis of allowable production in the Jalmat Gas Pool since the present formula became effective including an analysis of re-work operations and increased deliverability resulting therefrom, particularly with respect to Continental Oil Company, one of the Petitioners herein.

5. Norman Woodruff, El Paso Natural Gas Company, will present evidence to show that allocation of gas under the present formula provides a more equitable distribution of production than did the "straight acreage" formula.

Respondents will offer such other or further evidence as may appear advisable in rebuttal to any testimony or evidence offered by Petitioners. The nature of this testimony or evidence

cannot be determined until Petitioners have offered evidence and the nature thereof is known.

Respectfully submitted,

OIL CONSERVATION COMMISSION OF NEW MEXICO
Santa Fe, New Mexico

CAMPBELL AND RUSSELL
Roswell, New Mexico

COWAN AND LEACH
Hobbs, New Mexico

HARDIE, GRAMBLING, SIMS AND GALATZAN
El Paso, Texas

ROBERT W. HARD
Lovington, New Mexico

By /s/ Oliver E. Payne
Oliver E. Payne
Attorney for the
Oil Conservation Commission

AND, THEREAFTER, to-wit: On the 21st day of August 1959, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit:

REQUESTED FINDINGS OF FACT AND CONCLUSIONS OF LAW

Come now respondents and, pursuant to Rule 52(b), submit the following requested Findings of Fact and Conclusions of Law.

Findings of Fact

1. The Court has jurisdiction of this cause of action and of the parties thereto.

2. Oil Conservation Commission Orders No. R-1092-A and R-1092-C are not unreasonable, unlawful, arbitrary, or capricious.

3. Oil Conservation Commission Orders No. R-1092-A and R-1092-C are not vague, indefinite, or uncertain.

4. Petitioners had knowledge and information as to the meaning of Oil Conservation Commission Orders No. R-1092-A and R-1092-C, and the meaning of the term "deliverability" as used therein, and said Orders were understandable.

5. The proration formula based upon 100% acreage was established by Oil Conservation Commission Orders No. R-368-A and R-369-A and not by Order No. R-520.

6. Oil Conservation Commission Orders No. R-368-A and R-369-A contained findings as follows:

> "(6) That pending further study and orders, the allocation of gas in the Jalco (Langmat) Gas Pool should be calculated on the basis of 100 per cent acreage . . . .
>
> "(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 employes the factors of deliverability, pressure, or any other factor relating to gas well productivity."

7. There is a general co-relation between the deliverability of gas wells in the Jalmat Gas Pool and the recoverable gas in place under the tracts dedicated to said wells, and the inclusion of a deliverability factor in the proration formula for the pool will therefore result in a more equitable allocation of the gas production in said pool than under a formula based upon 100% acreage.

8. The formula adopted by the Oil Conservation Commission in its Orders No. R-1092-A and R-1092-C allocates the allowable production among the gas wells in the Jalmat Gas Pool delivering to a gas transportation facility upon a reasonable basis, and recognizes correlative rights, and insofar as it is practicable, said Order prevents drainage between producing tracts in the said pool which is not equalized by counter-drainage.

9. In its final determination in this matter the Oil Conservation Commission did not consider any improper factors.

10. Oil Conservation Commission Orders No. R-1092-A and R-1092-C have not resulted and will not in the future result in

any economic waste.

11. Oil Conservation Commission Orders No. R-1092-A and R-1092-C have not caused and will not in the future cause underground waste.

12. The deliverability formula in the Order complained of encourages prudent operations and discourages imprudent operations and, thus, contributes to prevention of waste and the better utilization of gas in the Jalmat Gas Pool than did the 100% acreage formula.

Conclusions of Law

1. The application of Texas Pacific Coal and Oil Company in Case No. 1327 before the Oil Conservation Commission did not constitute a collateral attack upon any prior order of the Oil Conservation Commission.

2. Neither Orders No. R-368-A, R-369-A, or R-520 entered by the Oil Conservation Commission constituted a final determination that the allocation of the allowable production from the Jalmat Gas Pool should be made on a 100% acreage basis, and the Oil Conservation Commission had authority and jurisdiction to modify or change the proration formula established by its previous orders.

3. Neither Texas Pacific Coal and Oil Company nor the Oil Conservation Commission was estopped from requesting a change or making a change in the prorationing formula for the Jalmat Gas

Pool, and the Oil Conservation Commission had authority to revise, modify, or change its Orders No. R-368-A, R-369-A, or R-520.

4. The finding of the Oil Conservation Commission in its Order R-1092-C "that there is a general co-relation between the deliverabilities of the gas wells in the Jalmat Gas Pool and the recoverable gas in place under the tracts dedicated to said wells" is a proper finding, and provides a basis authorized by the Statutes of New Mexico for changing the proration formula for allocation of gas production from the Jalmat Gas Pool.

5. Oil Conservation Commission Orders No. R-1092-A and R-1092-C are not unlawful, unreasonable, arbitrary, or capricious.

6. The Oil Conservation Commission in Case No. 1327 did not err by refusing to permit the introduction of testimony with reference to property rights allegedly acquired by petitioners while No. R-520 was in effect, nor did it err in refusing to permit petitioners to present testimony or proof of communitization of properties which had occurred while said Order was in effect.

7. Oil Conservation Commission Orders No. R-1092-A and R-1092-C protect correlative rights of owners of properties in the Jalmat Gas Pool and tend to prevent waste.

8. Oil Conservation Commission Orders No. R-1092-A and R-1092-C are not vague, indefinite or uncertain.

9. Oil Conservation Commission Orders No. R-1092-A and R-1092-C are not confiscatory; do not deprive petitioners of their

property without due process of law; and do not impair vested rights.

10. Oil Conservation Commission Orders No. R-1092-A and R-1092-C are not unreasonable, unlawful, arbitrary or capricious.

11. Petitioners failed to sustain their burden of proving the allegations in their petition for review and therefore the petition should be dismissed and Orders No. R-1092-A and R-1092-C should be affirmed.

Respectfully submitted,

CAMPBELL & RUSSELL

By /s/ Jack M. Campbell
Jack M. Campbell

Attorneys for Respondent
Texas Pacific Coal and Oil Company
but submitted on behalf of all
Respondents

(Service of Pleading
certified to.)

AND, THEREAFTER, to-wit: On the 27th day of August 1959, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

M O T I O N

Come now the Petitioners and move the court for an order enlarging the time in which to submit their requested findings of fact and conclusions of law, now due on August 26, 1959, granting them an additional ten days in which to file such requested findings of fact and conclusions of law, and in support thereof state:

1. That by reason of illness, and by reason of duties with the American Bar Association, two of the three resident counsel have not been available to participate fully in the preparation of such requested findings and conclusions.

2. That due to the large number of parties involved as Petitioners in these consoldiated cases the time allowed has not been sufficient for consultation with non-resident counsel participating in said cases.

ATWOOD & MALONE
Roswell, New Mexico

KELLAHIN & FOX
Santa Fe, New Mexico

HERVEY, DOW & HINKLE
Roswell, New Mexico

By /s/ Clarence E. Hinkle
Attorneys for Petitioners

AND, THEREAFTER, to-wit: On the 25th day of August 1959 in open court, and on the 27th day of August 1959 there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: an

O R D E R

This matter coming regularly before the court upon the Motion of Petitioners for an order enlarging the time in which to submit requested findings of fact and conclusions of law now due on August 26, 1959, and

The court being fully advised and good cause appearing therefor,

IT IS, THEREFORE, ORDERED that the time for submitting requested findings of fact and conclusions of law be and the same hereby is extended to September 8, 1959.

/s/ Geo. T. Harris
District Judge

AND, THEREAFTER, to-wit: On the 28th day of August 1959, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: &

CERTIFICATE

I hereby certify that a true copy of the Order entered herein by District Judge George T. Harris, extending the time for filing requested findings of fact and conclusions of law herein to September 8, 1959, was mailed to opposing counsel of record this 26th day of August, 1959.

KELLAHIN & FOX

By /s/ Jason W. Kellahin
Attorneys for Petitioners

AND, THEREAFTER, to-wit: On the 31st day of August 1959, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

M O T I O N

Come now the petitioners and move the Court for an Order enlarging the time in which to submit their requested findings of fact and conclusions of law, now due on August 26, 1959, granting them an additional 20 days in which to file such requested findings of fact and conclusions of law, and in support thereof state:

1. That by reason of illness, and by reason of duties with the American Bar Association, two of the three resident New Mexico counsel have not been available to participate fully in the preparation of such requested findings and conclusions.

2. That due to the large number of parties involved as petitioners in these consolidated cases, the time allotted has not been sufficient for consultation with non-resident counsel participating in said cases.

KELLAHIN & FOX

By /s/ Jason W. Kellahin
Attorneys for Petitioners

(Service of Pleading certified to.)

AND, THEREAFTER, to-wit: On the 31st day of August 1959, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: an

O R D E R

This matter coming regularly before the Court upon the motion of petitioners for an order enlarging the time in which to submit requested findings of fact and conclusions of law, now due on August 26, 1959, and

The Court being fully advised and good cause appearing therefor,

It is, therefore, ORDERED that the time for submitting requested findings of fact and conclusions of law be and the same hereby is extended to September 26, 1959.

/s/ John R. Brand
District Judge

AND, THEREAFTER, to-wit: On the 3rd day of September 1959, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

CERTIFICATE

I hereby certify that a true copy of the Order entered herein by District Judge John R. Brand, extending the time for filing requested findings of fact and conclusions of law herein to September 26, 1959, was mailed to opposing counsel of record this 1st day of September, 1959.

KELLAHIN & FOX

By /s/ Jason W. Kellahin
Attorneys for Petitioners

AND, THEREAFTER, to-wit: On the 18th day of January 1960, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit:

REQUESTED FINDINGS OF FACT AND CONCLUSIONS OF LAW OF PETITIONERS CONTINENTAL OIL COMPANY, ET AL

COME NOW Petitioners in the above styled and numbered cause and respectfully request the Court to adopt the following:

Findings of Fact

1. The above styled and numbered cause is a consolidation of eight appeals from Orders No. R-1092-A and R-1092-C of the Oil Conservation Commission of New Mexico, entered respectively on January 29, 1958, and April 25, 1958. The Petitioners who individually appealed from the Orders and whose appeals were consoldiated by order of the Court in this case are: Continental Oil Company, Amerada Petroleum Corporation, Pan-American Petroleum Corporation, Cities Service Oil Company, Shell Oil Company, The Atlantic Refining Company, Standard Oil Company of Texas, and Humble Oil and Refining Company. The Respondents in all appeals are the Oil Conservation Commission of New Mexico, composed of Edwin L. Mechem, member and chairman, Murray Morgan, member, and A. L. Porter, Jr., 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, and Southern Union Gas Company, a foreign corporation. By stipulation John Burroughs was substituted for Edwin L. Mechem as member and chairman of the Oil Conservation Commission and Respondent in the cases.

2. Each of the Petitioners is a foreign corporation duly admitted to do business in the State of New Mexico and is the owner of oil and gas properties and gas wells situated within the exterior boundaries of the Jalmat gas pool, located in Lea County, New Mexico.

3. The appeals consolidated in the above described and numbered cause were taken under the provisions of Section 65-3-22, New Mexico Statutes, 1953, Annotated. Timely application for rehearing on each of the Orders appealed from was made by the respective Petitioners before the Oil Conservation Commission of New Mexico, and all matters alleged as grounds for reversal by the several Petitioners in their respective Petitions for Review were raised in Applications for Rehearing filed with the New Mexico Oil Conservation Commission as required by statute. Timely appeals were taken by each of Petitioners from Orders No. R-1092-A and R-1092-C, and service of notice of said appeals as required by law was duly made upon Respondents.

4. The Jalmat gas pool in Lea County, New Mexico, lies generally in Townships 21 to 26 South, Ranges 35 to 37 East, and produces a gas principally from the Yates and Seven Rivers formations. Gas was originally discovered and development of the

pool began in about the year 1935. At the time of the filing of the Petition in the proceeding before the Oil Conservation Commission from which this appeal is taken, there were approximately 389.13 gas units within the Jalmat Gas Pool, each of which was producing natural gas through one or more gas wells.

5. The Oil Conservation Commission of New Mexico did not limit the production of natural gas from the wells located in what is now the Jalmat Gas Pool from the time of the original discovery of gas in said area until January 1, 1954. After extensive hearings held over a period of some three years, the Oil Conservation Commission, by order effective January 1, 1954, inaugurated prorationing in what is now the Jalmat Gas Pool. On August 12, 1954, following further hearings, the Commission issued its Order No. R-520 in Case No. 673 which created the Jalmat Gas Pool and provided the method for allocating gas allowable as between the wells in said pool. Said Order provided for the allocation of all allowable production between natural gas wells solely on the basis of the acreage attributed to each well. This was the basis on which all natural gas allowables have been allocated as between the wells in the natural gas pools of southeastern New Mexico, and likewise the basis on which all oil allowables have been and are allocated as between oil wells in the State of New Mexico. The production of natural gas from the Jalmat pool as provided in Order No. R-520 continued to be

allocated on a 100% acreage basis until the entry by the Commission of Order No. R-1092-A, from which this appeal is taken.

6. Case No. 1327 before the Oil Conservation Commission, in which Orders No. R-1092-A and R-1092-C were entered, was initiated by the application of Respondent Texas Pacific Coal and Oil Company praying in the alternative:

> (1) an Order immediately terminating gas prorationing in the Jalmat Gas Pool, or
>
> (2) an Order immediately cancelling all accumulated under-production and redistributing such under-production to over-produced wells in the Jalmat Gas Pool; requiring gas purchasers to make adequate nominations; and,
>
> (3) 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 any specified period of time.

7. After hearings, the Oil Conservation Commission, on January 29, 1958, entered Order No. R-1092-A, including deliverability as a factor in the proration formula for the Jalmat Gas Pool. The Commission thereby terminated the allocation of allowable in the Jalmat pool on the 100% acreage basis which had existed since the inauguration of proration on January 1, 1954, and substituted a formula of 25% acreage plus 75% acreage times deliverability, thereby making deliverability a major factor in the allocation of gas allowable. Other relief prayed in Case No. 1327 was denied.

8. Petitioners applied for rehearing, and after rehearing the Commission entered its Order No. R-1092-C directing that Order No. R-1092-A remain in full force and effect.

9. During the course of pre-trial conferences on August 4, 1958, and September 23, 1958, it was stated by counsel for one or more of the parties, without dissent from counsel for any of the parties, that the issues presented by the Orders appealed from in this case involved only questions of correlative rights as affected by the change in the allocation formula and that there was no question of waste of any character involved in the case. On the basis that there was no public interest involved, the Court made its trial ruling that the Oil Conservation Commission was not properly an adversary party, at which time counsel for the Commission denied it had agreed that no question of waste was involved.

10. Order No. R-1092-A, as reaffirmed by Order No. R-1092-C, is based upon a finding by the Commission that "Texas Pacific Coal and 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 wells." Said finding is not supported by substantial evidence in the record before the Commission in that;

(a) No evidence whatever was presented by Respondents

in the hearing before the Oil Conservation Commission as to the recoverable gas in place under the tracts dedicated to the wells in the Jalmat Gas Pool. The existence or nonexistence of a correlation between deliverabilities of gas wells and "the recoverable gas in place under the tracts dedicated to said wells" could not be determined in the absence of such evidence, and hence no substantial evidence supports said finding.

(b) All testimony presented by Respondents was as to the "reserves" of the gas wells in the Jalmat pool, as distinguished from the recoverable gas in place under the tracts assigned to said wells. All such "reserves" were determined by the extrapolation of a pressure production decline curve based entirely upon the past production history of the well. To attribute unproduced reserves to a well based upon the extrapolation of such a curve assume that all drainage from surrounding tracts which has occurred during the history of the well in question will continue throughout its lifetime. It thereby attributes to a draining well (usually a high deliverability well), and hence to the tract on which it is situated, recoverable gas in place which underlies tracts dedicated to other wells in the pool.

(c) The recoverable gas in place under a tract bears no fixed relationship to the amount of gas which a well on the tract could produce inasmuch as many gas wells have the capacity to drain much larger tracts than the acreage actually dedicated to the well. This condition exists with reference to many wells in the Jalmat Gas Pool.

(d) The only evidence offered before the Commission or before this Court as to the recoverable gas in place under the tracts assigned to the wells in the Jalmat pool was offered by Petitioners and showed a total absence of correlation between the deliverabilities of wells in said pool and the recoverable gas in place under the tracts dedicated to said wells.

11. Order No. R-1092-A purports to allocate 75% of the gas production from the Jalmat Gas Pool on the basis of the acreage dedicated to a well multiplied by the calculated deliverability of said well. Calculated deliverability is defined in the Order as the result of deliverability tests to be taken "in a manner and at such time as the Commission may prescribe" and is not otherwise defined in the Order.

12. The term "deliverability" as used in the oil and gas industry means the ability of a well to produce under specified conditions, and until such conditions are specified, the term is meaningless for purposes of practical application.

13. By informal memorandum issued without notice and hearing under date of February 24, 1958, the Commission undertook to define deliverability and to prescribe the conditions under which deliverability tests would be taken in the Jalmat Gas Pool and the manner of calculating the results of such tests.

14. The calculated deliverabilities resulting from successive tests of wells in the Jalmat Gas Pool, taken in the

manner prescribed by the memorandum of February 24, 1958, have varied to such an extent that the deliverability factor in the proration formula has proved to be an erratic, unpredictable and constantly fluctuating factor, and has no relation whatever to the recoverable gas in place under the tracts assigned to the respective wells. The inclusion of such calculated deliverabilities in the formula for the allocation of allowable therefore results in including a factor which has no relationship to recoverable gas in place.

15. In individual cases, the calculated deliverability of wells in the Jalmat pool, as computed on the basis of successive official annual tests made in accordance with the requirements of the Oil Conservation Commission, has fluctuated up to extremes of more than 2,000%. For all of the wells in the pool as a whole, there resulted an average change in calculated deliverability between 1958 and 1959 of 40.32%. This change could have no relationship to any change in recoverable gas in place under the tracts assigned to the wells tested.

16. Fluctuations in calculated deliverability revealed by successive tests of wells in the Jalmat pool conform to no pattern whatever. The evidence did not establish that fluctuation was related directly to rpudent operation, manner of completion or any other facts. Each of such factors may affect the calculated deliverability of a particular well, but they have no

uniform or predictable effect upon any well.

17. The evidence discloses that as a result of the modification in the proration formula provided for by Order R-1092-A, eight operators in the Jalmat pool experienced a total reduction in monthly income from the sale of natural gas produced from said pool of approximately $40,000.00. Four other operators at the same time experienced an increase in monthly revenue from the sale of gas produced from said pool of approximately $50,000.00. The redistribution of allowable production which resulted in these changes in income from the sale of gas conformed generally to the evidence presented before the Commission by Petitioners as to the anticipated effect of the inclusion of deliverability in the proration formula. There was no evidence before the Commission or before the Court from which it could be concluded that such redistribution resulted in the elimination of any pre-existing abuse of correlative rights under the acreage formula.

18. The evidence discloses that application of the proration formula promulgated by Order R-1092-A, results in a net increase in drainage between tracts in said pool under said Order as compared to the uncompensated drainage which occurred under the pre-existing Order allocating allowables on the basis of acreage alone.

19. Order R-1092-A, as reaffirmed by Order R-1092-C, results in injury to the correlative rights of the operators in the

Jalmat Gas Pool which does not occur under the pre-existing 100% acreage allocation formula.

20. The evidence discloses no change in the condition of the Jalmat Gas Pool itself subsequent to January 1, 1954, on which date proration of gas was begun under a 100% acreage formula, which could be made the basis of reconsideration by the Commission of the proration formula in said pool, as was done in Case No. 1327.

21. Respondent Texas Pacific Coal and Oil Company was the only producer of natural gas in the Jalmat Gas Pool which supported before the Commission the inclusion of a deliverability factor in the proration formula for said pool. The remaining Respondents, other than the Commission, are natural gas pipeline companies which, if producing gas in said pool at all, do so incidentally to the operation of their pipelines.

Conclusions of Law

1. The Court has jurisdiction of this review action and of the parties thereto.

2. Under the statutes of New Mexico, the Oil Conservation Commission, in the allocation of natural gas allowables, is required to afford to the owner of each property in the pool an opportunity to produce his just and equitable share of the gas in the pool. That share is defined as the amount that can be

practically obtained without waste substantially in the proportion that the quantity of the recoverable gas under such property bears to the total recoverable gas in the pool. The use of any other standard for determining the rights of the owners in a pool than that prescribed by the statute as above stated is contrary to the statute and in excess of the jurisdiction of the Commission. The substitution of "reserves" for recoverable gas in place made by the Commission in the promulgation of Order R-1092-A is in excess of the jurisdiction of the Commission, and Order R-1092-A is, therefore, invalid and void.

3. Orders R-1092-A and R-1092-C of the New Mexico Oil Conservation Commission are not supported by substantial evidence presented before the Commission in Case No. 1327 and are, therefore, arbitrary and capricious and invalid and void.

4. In the absence of waste, which is not involved in this case, proration of natural gas in the Jalmat Gas Pool, having been inaugurated by the Commission on the basis of 100% acreage formula, could only be changed by the Commission if the formula proposed would result in greater protection of the correlative rights of the owners in said pool as said rights are defined by the statutes of New Mexico.

5. The finding of the Commission that the inclusion of a deliverability factor in the proration formula for the Jalmat pool would result in a "more equitable allocation of the gas production in said pool than under the present gas proration formula"

is not the equivalent of a finding that such action would result in affording to the owner of each property in the pool a better opportunity to produce without waste his just and equitable share of the gas in said pool, so far as can be practically obtained without waste, substantially in the proportion that the quantity of recoverable gas under such property bears to the total recoverable gas in the pool, which is the standard fixed by the Legislature.

6. Having failed to find the facts required by the statute for the exercise of this power, the Commission is without jurisdiction to enter an Order terminating proration under the former acreage formula and substituting the formula provided by Order R-1092-A.

7. There is no 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 wells. The inclusion of the deliverability factor in the proration formula for said pool will result in increased drainage in said pool not offset by compensating counter drainage. Orders R-1092-A and R-1092-C are, therefore, arbitrary, capricious and void.

8. The issue of waste is not involved in this case.

9. In the absence of an issue of waste, and the absence of any showing before the Commission of a change of condition upon which such action might be predicated, the Commission was without

authority or jurisdiction to modify the proration formula in the Jalmat Gas Pool, which was promulgated by Order R-520.

10. The loss of income sustained by Petitioners and other operators in the Jalmat Gas Pool as a result of Order R-1092-A, as reaffirmed by Order R-1092-C, constitutes a taking of their property without due process of law, contrary to the provisions of the Constitution of the State of New Mexico, the United States of America, and said Order is, therefore, void.

11. Order No. R-1092-A, as reaffirmed by Order R-1092-C, is so vague and indefinite as to be invalid and void for the reason that it fails to provide for the manner in which the calculated deliverability of wells will be determined, and, hence, it is impossible for the owners of wells in said pool to determine from said Order its impact upon them and their property.

12. In the alternative, and only in the event that the Court shall refuse the proceeding requested conclusion, Order R-1092-A, as reaffirmed by Order R-1092-C, is so vague, indefinite and uncertain as to be invalid and void in that the fluctuation of calculated deliverabilities of wells in the Jalmat Gas Pool which has actually occurred under said Order and the subsequent memorandum issued by the Commission can have no possible relation to fluctuations in the recoverable gas in place. This results in a redistribution of the ownership of the gas in place in the Jalmat Gas Pool on an illegal arbitrary and capricious basis and without due process of law in violation of State and Federal Constitutions.

13. Order R-1092-A is invalid and void for the reason that it does not constitute a reasonable basis for the proration of production of natural gas in the Jalmat Gas Pool inasmuch as it gives major effect to a factor which is completely erratic and unpredictable and which facotr has no relation to the recoverable gas in place due to its susceptability to influence from factors other than recoverable gas in place.

14. Under the Statutes of New Mexico the Commission must allocate allowable production "upon a reasonable basis and recognizing correlative rights". Any allocation formula adopted, therefore, must result in affording, so far as it is practical to do so, to the owner of each property in the pool the opportunity to produce, without waste, his just and equitable share of the gas in the pool. This is defined as 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 gas under such property bears to the total recoverable gas in the pool. An acreage proration formula for the Jalmat pool having been established originally, a finding that a proposed modification of the formula would result in affording a greater opportunity to produce his just and equitable share of the gas in the pool, as defined by the statute, is an essential prerequisite of any change in the formula. No such finding was made and no evidence was presented in this case which

would support such a finding inasmuch as no evidence was offered by Respondents as to the recoverable gas in place under the tracts of the respective owners. There was, therefore, no evidence as to the effect of the proposed formula upon the right of each owner in the pool to produce the amount of gas, which the statute defines as his correlative right in the pool, and no evidence which would support a change in the formula.

15. Judgment should be entered declaring Orders R-1092-A and R-1092-C to be void, and vacating and setting them aside.

Respectfully submitted,

HERVEY, DOW & HINKLE

KELLAHIN & FOX

ATWOOD & MALONE

By: /s/ Ross L. Malone
Attorneys for Petitioners

AND, THEREAFTER, to-wit: On the 17th day of February 1960, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit:

DECISION OF THE COURT

The Court makes the following

Findings of Fact

1. The Court has jurisdiction of this cause of action and of the parties thereto.

2. Oil Conservation Commission Orders No. R-1092-A and R-1092-C are not unreasonable, unlawful, arbitrary, or capricious.

3. Oil Conservation Commission Orders No. R-1092-A and R-1092-C are not vague, indefinite, or uncertain.

4. Petitioners had knowledge and information as to the meaning of Oil Conservation Commission Orders No. R-1092-A and R-1092-C, and the meaning of the term "deliverability" as used therein, and said Orders were understandable.

5. The proration formula based upon 100% acreage was established by Oil Conservation Commission Orders No. R-368-A and R-369-A and not by Order No. R-520.

6. Oil Conservation Commission Orders No. R-368-A and R-369-A contained findings as follows:

> "(6) That pending further study and orders, the allocation of gas in the Jalco (Langmat) Gas Pool should be calculated on the basis of 100 per cent acreage . . . . .
>
> "(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 employes the factors of deliverability, pressure, or any other factor relating to gas well productivity."

7. There is a general co-relation between the deliverability of gas wells in the Jalmat Gas Pool and the recoverable gas in place under the tracts dedicated to said wells, and the inclusion of a deliverability factor in the proration formula for the pool will therefore result in a more equitable allocation of the gas production in said pool than under a formula based upon 100% acreage.

8. The formula adopted by the Oil Conservation Commission in its Orders No. R-1092-A and R-1092-C allocates the allowable production among the gas wells in the Jalmat Gas Pool delivering to a gas transportation facility upon a reasonable basis, and recognises correlative rights, and insofar as it is practicable, said Order prevents drainage between producing tracts in the said pool which is not equalized by counter-drainage.

9. In its final determination in this matter the Oil Conservation Commission did not consider any improper factors.

10. Oil Conservation Commission Orders No. R-1092-A and R-1092-C have not resulted and will not in the future result in

any economic waste.

11. Oil Conservation Commission Orders No. R1092-A and R-1092-C have not caused and will not in the future cause underground waste.

12. The deliverability formula in the Order complained of encourages prudent operations and discourages imprudent operations and, thus, contributes to prevention of waste and the better utilization of gas in the Jalmat Gas Pool than did the 100% acreage formula.

The Court adopts the following

Conclusions of Law

1. The application of Texas Pacific Coal and Oil Company in Case No. 1327 before the Oil Conservation Commission did not constitute a collateral attack upon any prior order of the Oil Conservation Commission.

2. Neither Orders No. R-368-A, R-369-A, or R-520 entered by the Oil Conservation Commission constituted a final determination that the allocation of the allowable production from the Jalmat Gas Pool should be made on a 100% acreage basis, and the Oil Conservation Commission had authority and jurisdiction to modify or change the proration formula established by its previous orders.

3. Neither the Texas Pacific Coal and Oil Company nor the Oil Conservation Commission was estopped from requesting a

change or making a change in the prorationing formula for the Jalmat Gas Pool, and the Oil Conservation Commission had authority to revise, modify, orchange its Orders No. R-368-A, R-369-A, or R-520.

4. The finding of the Oil Conservation Commission in its Order R-1092-C "that there is a general co-relation between the deliverabilities of the gas wells in the Jalmat Gas Pool and the recoverable gas in place under the tracts dedicated to said wells" is a proper finding, and provides a basis authorized by the Statutes of New Mexico for changing the proration formula for allocation of gas production from the Jalmat Gas Pool.

5. Oil Conservation Commission Orders No. R-1092-A and R-1092-C are not unlawful, unreasonable, arbitrary, or capricious.

6. The Oil Conservation Commission in Case No. 1327 did not err by refusing to permit the introduction of testimony with reference to property rights allegedly acquired by petitioners while No. R-520 was in effect, nor did it err in refusing to permit petitioners to present testimony or proof of communitization of properties which had occurred while said Order was in effect.

7. Oil Conservation Commission Orders No. R-1092-A and R-1092-C protect correlative rights of owners of properties in the Jalmat Gas Pool and tend to prevent waste.

8. Oil Conservation Commission Orders No. R-1092-A and R-1092-C are not vague, indefinite or uncertain.

9. Oil Conservation Commission Orders No. R-1092-A and R-1092-C are not confiscatory; do not deprive petitioners of their property without due process of law; and do not impair vested rights.

10. Oil Conservation Commission Orders No. R-1092-A and R-1092-C are not unreasonable, unlawful, arbitrary or capricious.

11. Petitioners failed to sustain their burden of proving the allegations in their petition for review and therefore the petition should be dismissed and Orders No. R-1092-A and R-1092-C should be affirmed.

All requested finds of fact and conclusions of law submitted by the parties at variance herewith are hereby refused.

DONE on this the 16th day of February, A. D. 1960.

/s/ John R. Brand
District Judge

AND, THEREAFTER, to-wit: On the 17th day of February 1960, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

JUDGMENT

This cause having come on for trial before the Court on July 21, 1959, the parties having appeared by their respective Counsel, and the Court having considered the entire record of proceedings before the Oil Conservation Commission of New Mexico, including the transcript of all testimony, all original exhibits admitted or offered at the hearings before said Commission, and all orders entered by the Commission pertaining to Case No. 1327 on the docket of said Commission; and the Court having heard additional testimony and considered additional exhibits admitted in evidence by this Court upon trial of this Cause and having heard argument of Counsel; and the Court having filed its Findings of Fact and Conclusions of Law, it is hereby

ORDERED, ADJUDGED AND DECREED that each of the Petitions for Review filed by Petitioners herein be and the same is hereby dismissed, and it is hereby

FURTHER ORDERED, ADJUDGED AND DECREED that Orders No. R-1092-A and R-1092-C of the Oil Conservation Commission of New Mexico be and they are each hereby in all respects fully affirmed.

/s/ John R. Brand
District Judge

Entered this Feb. 16, 1960

AND, THEREAFTER, to-wit: On the 14th day of March 1960, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

MOTION FOR ALLOWANCE OF APPEAL

Petitioner in the above cause, by its attorneys, being aggrieved, move the Court to enter its order allowing an appeal to the Supreme Court of New Mexico from the judgment entered herein.

ATWOOD & MALONE
Roswell, New Mexico

By /s/ Ross L. Malone

HERVEY, DOW, & HINKLE
Roswell, New Mexico

By /s/ Howard C. Bratton

KELLAHIN & FOX
Santa Fe, New Mexico

By /s/ Jason W. Kellahin

Attorneys for Petitioner

AND, THEREAFTER, to-wit: On the 14th day of March 1960, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit:

ORDER ALLOWING APPEAL

This matter coming regularly before the Court upon the motion of the petitioner, by its attorneys,

It is, therefore, ORDERED that the petitioner herein be, and it is hereby, granted an appeal to the Supreme Court of New Mexico from the judgment heretofore entered in this cause.

/s/ John R. Brand
District Judge

AND, THEREAFTER, to-wit: On the 14th day of March 1960, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit:

NOTICE OF APPEAL

TO: Oliver E. Payne
Oil Conservation Commission of New Mexico
Box 871
Santa Fe, New Mexico

Jack M. Campbell
Campbell & Russell
Box 721
Roswell, New Mexico

Ray C. Cowan
P. O. Box 1526
Hobbs, New Mexico

Robert W. Ward
201 E. Love
Lovington, New Mexico

Manuel Sanchez
Batts Building
Santa Fe, New Mexico

Notice is hereby given pursuant to applicable rule of the Supreme Court of New Mexico that an order has been entered in the District Court in this cause allowing an appeal in the above entitled matter to said Supreme Court by the Petitioner herein.

KELLAHIN & FOX
Santa Fe, New Mexico

By /s/ Jason W. Kellahin

ATWOOD & MALONE
Roswell, New Mexico

By /s/ Ross L. Malone

HERVEY, DOW & HINKLE
Roswell, New Mexico

By /s/ Howard Bratton

ATTORNEYS FOR PETITIONER

AND, THEREAFTER, to-wit: On the 14th day of March 1960, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

CERTIFICATE

The undersigned clerk and reporter of the above Court hereby respectively certify that satisfactory arrangements have been made by petitioner, above named, with the undersigned for payment of compensation to undersigned by virtue of the pending appeal in this cause.

/s/ W. M. Beauchamp
Clerk of the Court

/s/ Clarence V. Johnson
Court Reporter

AND, THEREAFTER, to-wit: On the 22nd day of March 1960, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit:

PROOF OF SERVICE

The undersigned, one of the attorneys for Petitioner, Continental Oil Company, in the above styled and numbered cause hereby certifies that on the 21st day of March, 1960, he mailed a copy of the Notice of Appeal to the following named counsel for Respondents:

Oliver E. Payne
Oil Conservation Commission of New Mexico
Box 871
Santa Fe, New Mexico

Jack M. Campbell
Campbell & Russell
Box 721
Roswell, New Mexico

Ray C. Cowan
P. O. Box 1526
Hobbs, New Mexico

Robert W. Ward
201 North Love
Lovington, New Mexico

Manuel Sanchez
Ratts Building
Santa Fe, New Mexico

HERVEY, DOW & HINKLE
P. O. Box 547
Roswell, New Mexico

KELLAHIN & FOX
P. O. Box 1713
Santa Fe, New Mexico

ATWOOD & MALONE

By /s/ E. Kirk Newman
P. O. Box 867
Roswell, New Mexico

AND, THEREAFTER, to-wit: On the 22nd day of March 1960, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit:

PROOF OF SERVICE

The undersigned, one of the attorneys for Petitioner, Continental Oil Company, in the above styled and numbered cause hereby certifies that on the 21st day of March, 1960, he mailed a copy of the Notice of Appeal to the following named counsel for Respondents:

Oliver E. Payne
Oil Conservation Commission of New Mexico
Box 871
Santa Fe, New Mexico

Jack M. Campbell
Campbell & Russell
Box 721
Roswell, New Mexico

Ray C. Cowan
P. O. Box 1526
Hobbs, New Mexico

Robert W. Ward
201 North Love
Lovington, New Mexico

Manuel Sanchez
Batts Building
Santa Fe, New Mexico

HERVEY, DOW & HINKLE
P. O. Box 547
Roswell, New Mexico

KELLAHIN & FOX
P. O. Box 1713
Santa Fe, New Mexico

ATWOOD & MALONE

By /s/ E. Kirk Newman
P. O. Box 867
Roswell, New Mexico

AND, THEREAFTER, to-wit: On the 25th day of March 1960, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

MOTION FOR ALLOWANCE OF CROSS-APPEAL

Comes now Respondent Oil Conservation Commission of New Mexico in the above-captioned cause and moves the court for an order granting it a cross-appeal to the Supreme Court of New Mexico from the final judgment made and entered of record in said cause on the 17th day of February, 1960, for the reason that the Respondent Oil Conservation Commission of New Mexico was not permitted to actively participate in the trial of such cause and was thereby aggrieved.

OLIVER E. PAYNE
Special Assistant Attorney General
P. O. Box 871, Santa Fe, New Mexico
Attorney for Respondent
Oil Conservation Commission

s/ Oliver E. Payne

AND, THEREAFTER, to-wit: On the 25th day of March 1960, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: an

ORDER GRANTING CROSS-APPEAL

Upon motion of the Respondent Oil Conservation Commission of New Mexico for an order allowing it a cross-appeal to the Supreme Court of the State of New Mexico from the final judgment made and entered of record in the above-styled and numbered cause on February 17, 1960,

IT IS ORDERED that the Respondent Oil Conservation Commission of New Mexico be, and it is hereby, granted a cross-appeal to the Supreme Court of New Mexico from said final judgment.

Dated this 25 day of March, 1960.

/s/ John R. Brand
District Judge
Fifth Judicial District

AND, THEREAFTER, to-wit: On the 28th day of March, 1960, there was filed in the office of said Clerk, in said Cause No. 16,213, in words and figures as follow, to-wit: a

NOTICE OF ALLOWANCE OF CROSS-APPEAL

TO:

Jason Kellahin	Ross L. Malone	Howard Bratton
Kellahin & Fox	Atwood & Malone	Hervey, Dow & Hinkle
Attorneys at Law	Attorneys at Law	Attorneys at Law
Santa Fe, New Mexico	Roswell, New Mexico	Roswell, New Mexico

You are hereby notified and advised that a Motion for Allowance of Cross-Appeal from the final judgment made and entered in the above-styled and numbered cause on the 17th day of February, 1960, was filed on the 25th day of March, 1960, and on said date an order granting a cross-appeal to Respondent Oil Conservation Commission of New Mexico was made and filed.

Enclosed with this Notice of Allowance of Cross-appeal is a copy of the Motion for Allowance of Cross-appeal and a copy of the Order Granting the Cross-Appeal.

OLIVER E. PAYNE
Special Assistant Attorney General
P. O. Box 871, Santa Fe, New Mexico
Attorney for Respondent
OIL CONSERVATION COMMISSION

S/ Oliver E. Payne

I hereby certify that on the 25th day of March, 1960, I mailed a true copy of the Notice of Allowance of Cross-Appeal to resident opposing counsel of record. Enclosed therewith was a copy of the Motion for Allowance of Cross-Appeal and the Order Granting the Cross-Appeal.

s/ Oliver E. Payne
Special Assistant Attorney General
Attorney for Respondent Oil
Conservation Commission
P. O. Box 871, Santa Fe, New Mexico

AND, THEREAFTER, to-wit: On the 12th day of April 1960, there was filed in the office of said Clerk, in said Cause No. 16,213 (and in Causes No. 16,214, 16,215, 16,217, 16,218, 16,219 and 16,220), in words and figures as follow, to-wit: a

STIPULATION

Whereas, petitioners have heretofore filed their motion for appeal and the Court having entered its order allowing an appeal to the Supreme Court of New Mexico from the judgment entered in each of the above captioned causes, and

Whereas, said causes were consolidated for trial in the District Court under style and designation of "Continental Oil Company, et al., Petitioners, vs. Oil Conservation Commission of New Mexico, et al., Respondents, No. 16213 through No. 16220, inclusive; consoldiated under No. 16213," heard on a common record, and a consolidated judgment entered therein, and

Whereas said causes present identical questions for review in the Supreme Court,

Now, therefore, the undersigned attorneys of record for the respective parties hereto, hereby stipulate and agree that said appeals may be consolidated for all purposes, and that said appeals by petitioners may be heard and determined upon a single transcript and record, and;

It is further stipulated and agreed that the original

transcript only of the hearing before the Oil Conservation Commission of New Mexico, with exhibits and attachments thereto, in the application of Texas Pacific Coal and Oil Company for an order amending the pool rules of the Jalmat Gas Pool, Lea County, New Mexico, heard as Case No. 1327 on the docket of said Commission, which transcript of proceedings was received in evidence as an exhibit in the District Court in and for the County of Lea, State of New Mexico, Dockets Nos. 16213 through 16220, inclusive, consolidated under No. 16213, shall be considered by the Court as if the same had been included in the transcript, bill of exceptions and record, as prepared and certified by the Clerk of the Court, relating to the appeal herein now pending, and

It is further stipulated and agreed that original exhibits offered and received in evidence at the trial of causes Nos. 16213 through 16220, inclusive, consolidated under Cause No. 16213, in the District Court, are of such character they cannot be transferred into the record and that the originals only of said exhibits shall be sent, with the proper certificate attached, to the Supreme Court of New Mexico, and that the same beconsidered a part of the transcript, bill of exceptions and record as prepared and certified by the clerk of the court, relating to the appeal herein now pending.

ATWOOD & MALONE
HERVEY, DOW & HINKLE
KELLAHIN & FOX

By /s/ Jason W. Kellahin
Attorneys for Petitioners

/s/ Oliver E. Payne
OLIVER E. PAYNE, Attorney for
Respondent Oil Conservation
Commission of New Mexico

/s/ Manuel A. Sanchez
MANUEL A. SANCHEZ, Attorney for
Respondent Southern Union Gas Company

CAMPBELL & RUSSELL

By /s/ Jack M. Campbell
Attorneys for Respondent
Texas Pacific Coal & Oil Company

COWAN & LEACH

By /s/ Ray C. Cowan
Attorneys for Respondent
El Paso Natural Gas Company

/s/ Robert W. Ward
ROBERT W. WARD, Attorney for
Respondent Permian Basin Pipeline
Company

AND, THEREAFTER, to-wit: On the 12th day of April 1960, there was filed in the office of said Clerk, in said Cause No. 16,213, (and in Causes Nos. 16,214, 16,215, 16,217, 16,218, 16,219 and 16,220), in words and figures as follow, to-wit: an

O R D E R

This matter coming on regularly to be heard on the stipulation of counsel for consoldiation of the appeals and preparation of the record herein, and the Court being fully advised, and good cause appearing therefor.

NOW, THEREFORE, it is ORDERED that Causes Nos. 16213, 16214, 16215, 16217, 16218, 16219, 16220 on the docket of this Court be, and the same hereby are consolidated for all purposes, and

Permission is hereby granted to prepare and submit a single transcript and record in said consolidated cause and,

Permission is further granted to submit the original transcript only of the hearing before the Oil Conservation Commission of New Mexico, with exhibits and attachments thereto, in the Application of Texas Pacific Coal & Oil Company for an order amending the pool rules of the Jalmat Gas Pool, Lea County, New Mexico, heard as Case No. 1327 on the docket of said Commission, which transcript of proceedings was received in evidence as an exhibit in this Court, Docket Nos. 16213 through 16220, inclusive, consolidated under No. 16213, and the same shall be considered as

if the same had been included in the transcript, bill of exceptions and record as prepared and certified by the Clerk of the court, relating to the appeals pending herein, and

Permission is further granted that the original exhibits offered and received in evidence at the trial of Causes Nos. 16213 through 16220, inclusive, consolidated under Docket No. 16213 in the District Court shall be certified in the original only, and that the same be considered a part of the transcript, bill of exceptions and record as prepared and certified by the clerk of the court relating to the appeals herein now pending.

/s/ John R. Brand
District Judge

AND, THEREAFTER, to-wit: On the 12th day of April 1960, there was filed in the office of said Clerk, in said Cause No. 16,213 (and in Causes No. 16214, 16215, 16217, 16218, 16219, 16220), in words and figures as follow, to-wit: a

P R A E C I P E

TO: Clerk of the District Court
Lea County
Lovington, New Mexico

Court Reporter
Lea County
District Court, Div. 3
Lovington, New Mexico

Please prepare, in triplicate except as hereinafter stated, for use in an appeal of this cause, the following:

1. Complete record proper, excepting only summons and subpoenas, and returns thereon in Causes Nos. 16213, 16214, 16215, 16217, 16218, 16219, and 16220, and

2. Complete transcript of testimony and proceedings of the trial of the above causes Nos. 16213, 16214, 16215, 16217, 16218, 16219, and 16220, consolidated under No. 16213, together with all exhibits, objections by counsel, and rulings by the Court and letter from Court to Counsel dated July 27, 1959, and any proceedings which may hereafter occur in said causes to be included in the Bill of Exceptions.

3. Transcript of the hearing before the Oil Conservation

Commission of New Mexico, with exhibits, and attachements thereto, certified to the Court by the Oil Conservation Commission of New Mexico, and received in evidence, in the original only, however, pursuant to stipulation and order heretofore entered, to be included in the Bill of Exceptions.

The foregoing is deemed a complete record necessary for a review of the subject cause.

Respectfully submitted,

ATWOOD & MALONE
HERVEY, DOW & HINKLE
KELLAHIN & FOX

By /s/ Howard Bratton
Attorneys for Petitioners

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 21st day of April 1960, there was filed in the office of said Clerk, in said Cause No. 16,213 (consolidated for trial with Causes, 16,214, 16,2155, 16,217, 16218, 16,219 and 16,220), in words and figures as follow, to-wit:

POINT RELIED UPON BY CROSS-APPELLANT

Comes now Respondent Oil Conservation Commission of New Mexico in the above-styled and numbered causes and, in order to preclude the possibility of any waiver of rights under Rule 17 (2) of the Supreme Court Rules as related to Rule 12 (4) of the Supreme Court Rules, set forth the following point which is relied upon in its cross-appeal:

> The trial court erred in ruling that the Oil Conservation Commission was not a proper adversary party and thuscould not actively participate in the trial of this cause, inasmuch as the Oil Conservation Commission was the only party specifically representing the public interest.

Respectfully submitted,

OLIVER E. PAYNE
Special Assistant Attorney General
P. O. Box 871, Santa Fe, New Mexico
Attorney for Respondent
Oil Conservation Commission

s/ Oliver E. Payne

(Service of pleading certified to.)

AND BE IT FURTHER REMEMBERED, That on the 13th day of May, 1958, there was filed in the office of the Clerk of the District Court of the Fifth Judicial District of the State of New Mexico, within and for the County of Lea, in Cause No. 16214 on the Civil Docket of said Court, wherein AMERADA PETROLEUM CORPORATION, a Corporation, is Petitioner, and concerning the same Orders of The Oil Conservation Commission of the State of New Mexico referred to in District Court Cause No. 16213, in words and figures as follow, to-wit: a

PETITION FOR REVIEW OF ACTION
OF THE OIL CONSERVATION COMMISSION OF NEW MEXICO

Comes now Amerada Petroleum Corporation, hereinafter called petitioner, and petitions the Court for review of the action of the Oil Conservation Commission of the State of New Mexico in Case No. 1327 on the Commission's docket, and Orders No. R-1092-A and No. R-1092-C entered therein, and states:

1. Petitioner is a corporation organized and existing by authority of law and duly admitted to do business in the State of New Mexico, and is the owner and operator of natural gas wells and interests in gas wells situate within the exterior boundaries of the Jalmat Gas Pool, located in Lea County, New Mexico; respondent Oil Conservation Commission of New Mexico is a statutory body created and existing under the provisions of the laws of the State of New Mexico, composed of the members named in the

caption hereof, and vested with jurisdiction over all matters relating to the conservation of oil and gas in the State of New Mexico, the prevention of waste, and the enforecement of the Conservation Act of the State of New Mexico, being Chapter 65, Article 3, New Mexico Statutes Annotated, 1953 Compilation, as amended; Respondent Texas Pacific Coal & Oil Company is a foreign corporation admitted to do business in the State of New Mexico; respondent El Paso Natural Gas Company is a foreign corporation admitted to do business in the State of New Mexico; respondent Southern Union Gas Company is a foreign corporation admitted to do business in the State of New Mexico; respondent Permian Basin Pipeline Company is a foreign corporation admitted to do business in the State of New Mexico.

2. On the 29th day of January, 1958, the Oil Conservation Commission of New Mexico entered its Order No. R-1092-A in Case No. 1327 on the docket of said Commission, changing the existing gas proration formula applicable to wells in the Jalmat Gas Pool, which existing formula had been promulgated by Order No. R-520 of the Oil Conservation Commission, entered in its Case No. 673 on August 12, 1954.

3. Petitioner was a party to Case No. 1327 and was affected by Order No. R-1092-A entered therein. Petitioner duly filed an application for rehearing directed to said Order No. R-1092-A, and after rehearing the Oil Conservation Commission, on the 25th

day of April, 1958, entered its Order No. R-1092-C, reaffirming and refusing to modify the provisions of Order No. R-1092-A. Petitioner was affected by and dissatisfied with the disposition of its application for rehearing and with the provisions of Order No. R-1092-C, and by this proceeding seeks review as provided by law of Case No. 1327 and Orders Nos. R-1092-A and R-1092-C entered therein by the Commission.

4. The nature of the proceeding before the Oil Conservation Commission of New Mexico is briefly as follows:

(a) The Jalmat Gas Pool is a pool defined and delineated by the Oil Conservation Commission, and is located in Lea County, New Mexico. The Commission, on August 12, 1954, after extended hearings, entered its Order No. R-520, which order instituted gas prorationing in the Jalmat Gas Pool, said Order No. R-520 having been entered in Case No. 673 on the Commission's docket. Said Order provided for allocation of the allowable gas production among the various wells in the pool on the basis of 100 per cent of the acreage dedicated to each individual well. All owners and operators and person interested were afforded an opportunity to be heard in Case 673. No appeal was taken from Order No. R-520, which order became effective January 1, 1955, and remained in full force and effect until the action of the Commission complained of herein. A copy of said Order No. R-520 marked as Exhibit A, is filed with the Clerk of the District Court of Lea County simultaneously with the filing of this petition for review

and by reference is incorporated herein. Copies of said Order are in the possession of, or available to, all parties to this proceeding.

(b) In the year 1957 Texas Pacific Coal & Oil Company filed its application with the Commission seeking an order immediately terminating gas prorationing in the Jalmat Gas Pool, or in the alternative, for an order cancelling all accumulated underproduction with redistribution of allowables, and establishment of a new proration formula containing deliverability as a factor. A copy of said application is attached hereto, marked Exhibit B, and made a part hereof.

(c) The application of Texas Pacific Coal & Oil Company was heard as Commission Case No. 1327. After hearings were held, the Commission, on January 29, 1958, entered its Order No. R-1092-A, a copy of which is attached hereto, marked Exhibit C, and made a part hereof. By terms of said Order No. R-1092-A, the Commission denied the application of Texas Pacific Coal & Oil Company insofar as it sought the termination of prorationing in the Jalmat Gas Pool, and cancellation and redistribution of allowables in said pool, but it did change the proration formula in said Pool from the formula set forth in Order No. R-520 to a formula based upon 25 per cent acreage and 75 per cent acreage times deliverability.

(d) On or about February 17, 1958, and within the time allowed by law, petitioner filed its application for rehearing

on Order No. R-1092-A, a copy of which application is attached hereto, marked Exhibit D, and made a part hereof. The Commission granted rehearing in accordance with its Order No. R-1092-B, copy of which is attached hereto, marked Exhibit E, and made a part hereof. After notice and hearing, the Commission on April 25, 1958, entered its Order No. R-1092-C, denying the relief sought in Petitioner's application for rehearing, and reaffirming the provisions of Order No. R-1092-A. A copy of said Order No. R-1092-C is attached hereto, marked Exhibit F, and made a part hereof.

5. Parties adverse to petitioner in the proceedings before the Oil Conservation Commission in Case No. 1327 were Texas Pacific Coal & Oil Company, El Paso Natural Gas Company, Permian Basin Pipeline Company, and Southern Union Gas Company, each of which parties are named as respondents herein.

6. Petitioner alleges that Orders No. R-1092-A and No. R-1092-C are unreasonable, unlawful, arbitrary and capricious, and are therefore invalid and void on the following grounds, which grounds were raised in Petitioner's application for rehearing before the Oil Conservation Commission of New Mexico:

(a) The application of Texas Pacific Coal & Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. R-520 entered in Case No. 673 before the Commission, and

therefore should not have been entertained by the Commission, and could not be the basis of a valid order in Case No. 1327 insofar as changing of the basis of allocation of allowable production from the Jalmat Gas Pool from 100 per cent acreage to include a deliverability factor in the proration formula is concerned.

(b) Order No. R-520, entered in Commission Case No. 673 constituted a final determination that the allocation of the allowable production from the Jalmat Gas Pool should be made on a 100 per cent acreage basis. No appeal was taken from the final decision of the Commission in Case No. 673, and the application in Case No. 1327 did not allege, and the record in said case does not show any change of conditions in the Jalmat Gas Pool, or that any waste would result from retention of the 100 per cent acreage allocation formula. On the basis of the application and the record, the Commission was without authority or jurisdiction to modify or change the proration formula ordered in Case No. 673.

(c) Texas Pacific Coal & Oil Company, applicant in Case No. 1327, was a participant in Case No. 673, and did not appeal from the final decision of the Commission set forth in Order No. R-520, and said company was estopped to request a change in the proration formula for the Jalmat Gas Pool in the absence of evidence showing a change in conditions in the pool from the time of entry of Order No. R-520 or evidence showing

that waste would result from the retention of the proration formula set forth in said Order No. R-520. No such allegations were made and no such evidence was introduced, and therefore the Commission was without authority to revise, modify or change Order No. R-520 to provide that the proration formula for the Jalmat Gas Pool should contain a deliverability factor.

(d) The Oil Conservation Commission in its Finding No. 5 in Order No. R-1092-A, Exhibit C.attached, and in its Order No. R-1092-C, Exhibit F attached, found 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 wells. Such findings by the Commission are contrary to the evidence in Case No. 1327, and are without support in the evidence introduced before the Commission, and are therefore invalid and void.

(e) Commission's Orders Nos. R-1092-A and R-1092-C are invalid in that even though it be assumed that it was proved by the evidence: "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," as found by the Commission, such a finding provides no basis authorized by statute for modification of the pre-existing acreage formula for allocation of allowable production of gas from the Jalmat Gas Pool.

(f) The Commission used as a basis for its decision in Case No. 1327, insofar as a deliverability factor is concerned, factors which are not contemplated or permitted by the statutes of New Mexico for determination of a proration formula. Finding No. 6 of the Commission's Order No. R-1092-A found: (1) that the inclusion of a deliverability factor in the Jalmat proration formula would result in the production of a greater percentage of the pool allowable, and (2) that it would more nearly enable various gas purchasers in the pool to meet the market demand for gas from said pool. Neither of said considerations provides any legal basis upon which the Commission could allocate production from the Jalmat Gas Pool under the statutes of New Mexico. The consideration of such factors rendered the decision of the Commission based thereon invalid and void.

(g) The uncontradicted evidence before the Commission showed that inclusion of a deliverabilitty factor in the proration formula would result in economic waste in that it would require the expenditure of large sums of money by this petitioner and others in the Jalmat Gas Pool in efforts to increase the deliverability of gas wells in order to protect their correlative rights, although the ultimate recovery from the various tracts would not be appreciably increased thereby, and although efforts to increase the deliverabilities of wells in the Jalmat Gas Pool could not prevent the violation of correlative rights which would result from the inclusion of a deliverability factor in the

proration formula, and Orders Nos. R-1092-A and R-1092-C are therefore in violation of and contrary to the Commission's statutory duty to prevent waste and protect correlative rights, and are therefore invalid and void.

(h) The evidence before the Commission showed that the inclusion of a deliverability factor in the Jalmat Gas Pool proration formula would result in underground waste in that many wells in the Jalmat Gas Pool have been completed for many years, and their condition is such that the action required of a prudent operator under a proration formula containing a deliverability factor would necessarily result in the underground waste of natural gas, since efforts to increase the deliverability of older wells would result in the loss of some wells. Orders Nos. R-1092-A and R-1092-C are in violation of the Commission's statutory duty to prevent waste and protect correlative rights, and are therefore invalid and void.

(i) The uncontradicted evidence before the Oil Commissionshowed that there would be greater drainage across adjoining lease lines if the proration formula were amended to include a deliverability factor than there would be under the straight acreage formula. Evidence introduced by the applicant was directed only to drainage from area to area in the pool, and did not contradict the evidence offered by the petitioner and other operators that there would be greater drainage across lease lines if the proration formula should be changed to include a deliverability factor.

(j) The evidence shows that the inclusion of a deliverability factor in the proration formula as ordered by the Commission would result in irreparable injury to the correlative rights of petitioner and would deprive petitioner of its property without due process of law in that it would permit the production by offset operators of natural gas underlying lands owned by, or operated by, petitioner, without affording compensating counter drainage from other adjoining tracts, and would prevent petitioner from producing the recoverable gas in place in the Jalmat Gas Pool underlying the tracts upon which the wells of this petitioner are located.

7. The orders of the Commission, review of which is here sought, are unlawful, unreasonable, arbitrary and capricious and, therefore, are invalid and void for the further reason that the Commission refused to permit this petitioner and other operators opposing the application in Case No. 1327 to present testimony with reference to property rights acquired by and during the existence of Order No. R-520 hereinabove referred to. In particular the Commission refused to permit this and other operators to present evidence as to purchases of producing properties and royalties and loans made upon producing properties and royalties based upon the proration formula existing under Order No. R-520, and likewise refused the opportunity to present proof of communitization of properties which had occurred under the acreage allocation formula with reference to which this petitioner and other parties in comparable positions sustain

irreparable injury as the result of the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool.

8. Order Nos. R-1092-A and R-1092-C, insofar as they purport to institute a deliverability factor in the proration formula for the Jalmat Gas Pool, are so vague, indefinite and uncertain that this petitioner is without any means of determining the meaning thereof, and is not advised of his rights thereunder.

9. This petitioner is the owner of oil and gas leases and gas wells within the limits of the Jalmat Gas Pool, and is affected by the orders of the Commission review of which are here sought, and is dissatisfied with the disposition of its application for rehearing, and this Court has jurisdiction of this petition for review.

10. The formula for prorating allowable production set forth in Order No. R-1092-A which introduces a deliverability factor in the proration formula is not a reasonable basis upon which to prorate and allocate the allowable gas production from the Jalmat Gas Pool in that it fails to recognize or protect correlative rights, contrary to law, and will result in waste, and is therefore unlawful. The 100 per cent acreage factor heretofore in effect in said pool better protects the correlative rights of the owners in the pool and the prevention of waste, as required by law.

WHEREFORE, Petitioner respectfully prays the Court as authorized by Section 65-3-22, New Mexico Statutes Annotated, 1953 Compilation, that:

1. Notice of this Petition for Review be served in the manner provided for the service of summons in civil proceedings upon the Oil Conservation Commission, upon Texas Pacific Coal & Oil Company, and upon the parties who entered appearances in support of the application of Texas Pacific Coal & Oil Company, being El Paso Natural Gas Company, Permian Basin Pipeline Company, and Southern Union Gas Company.

2. This Petition be set for trial in the manner provided and with all the rights accorded by law, and that this Court review the action of the Oil Conservation Commission herein complained of.

3. This Court try this action de novo, as provided by law, and determine the issues of fact and law presented herein.

4. This Court enter its order vacating and setting aside Orders Nos. R-1092-A and R-1092-C of the Commission hereinabove referred to, and enter in lieu thereof its order affirming and making permanent Commission's Order No. R-520 of the Oil Conservation Commission.

5. This Court enter such other or further order or orders modifying or in lieu of Orders Nos. R-1092-A and R-1092-C as this court may determine to be proper.

6. That Petitioner have such other and further relief as may be proper.

Respectfully submitted,

AMERADA PETROLEUM CORPORATION

John S. Miller
P. O. Box 2040
Tulsa, Oklahoma

KELLAHIN & FOX
P. O. Box 1713
54½ East San Francisco
Santa Fe, New Mexico

By /s/ Jason W. Kellahin
Jason W. Kellahin

Attorneys for Petitioner, Amerada Petroleum Corporation

E X H I B I T S

TO
AMERADA PETROLEUM CORPORATION
PETITION FOR REVIEW
OF ACTION OF THE OIL CONSERVATION COMMISSION OF NEW MEXICO

Exhibit	See Page Volume I
A	15
B	16
C	21
D*	
E	37
F	39

(*See next page.)

BEFORE THE OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

APPLICATION OF TEXAS PACIFIC COAL & OIL COMPANY FOR AN ORDER IMMEDIATELY TERMINATING GAS PRORATIONING IN THE JALMAT GAS POOL; OR IN THE ALTERNATIVE, REVISING THE SPECIAL RULES AND REGULATIONS FOR THE JALMAT GAS POOL IN LEA COUNTY, NEW MEXICO.

CASE NO. 1327
Order No. R-1092-A

APPLICATION FOR REHEARING

Comes Now Amerada Petroleum Corporation, a corporation, and states to the Commission:

1. This Applicant is a corporation owning and operating oil and gas leases and gas wells within the limits of the Jalmat Gas Pool in Lea County, New Mexico.

2. Applicant participated in and presented testimony to the Commission in hearings on the Application of Texas Pacific Coal & Oil Company in the above styled and numbered case and as an Operator in the Jalmat Gas Pool was affected by Order No. R-1092-A entered by the Commission under date of January 29, 1958.

3. Applicant believe and therefore alleges that Order No. R-1092-A aforesaid was erroneous, illegal and is invalid and by reason thereof a rehearing is requested in respect to that portion

of said Order which provides that effective July 1, 1958, a deliverability factor shall be included in the gas proration formula of the Jalmat Pool and the succeeding portions of said Order carrying into effect the decision of the Commission that deliverability shall be included in the proration formula subsequent to July 1, 1958, and as grounds therefor states:

(a) The Application of Texas Pacific Coal & Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. R-520 in Case No. 673 of this Commission, entered on the 12th day of August, 1954, and therefore should not have been entertained by the Commission and cannot be made the basis of a valid Order in Case No. 1327 insofar as the inclusion of deliverability in the proration formula is concerned.

(b) The evidence introduced in this proceeding provides no basis upon which a valid order could be entered by the Commission changing the basis for the allocation of production from the Jalmat Gas Pool from a 100% acreage basis fo the basis as provided in Order No. R-1092-A of the Commission for the reason that Order No. R-520 entered by this Commission in Case No. 673 constituted a final determination that deliverability should not be included in the proration formula of the Jalmat Gas Pool. Texas Pacific Coal & Oil Company was a party to Case

(Exhibit "D")

No. 673 and supported the inclusion of deliverability in the proration formula, which request was considered by the Commission, and Order No. R-520 was entered denying the request of said Texas Pacific Coal & Oil Company for the inclusion of deliverability in said formula. No appeal was taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered. On the basis of the record in this case, the Commission is without authority to modify or change the decision so reached in Case.No. 673.

(c) The inclusion of deliverability in the Jalmat Gas proration formula as ordered by Order No. R-1092-A is predicated on a finding by this Commission "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." Applicant respectfully alleges that this finding of the Commission is contrary to and wholly without support in the evidence and is therefore invalid and void. In further support of the grounds here alleged, Applicant attaches hereto as Exhibit "A" a vertical bar graph depicting the relationship between the recoverable gas in place under the 58 tracts, which were the subject of testimony and exhibits presented by this applicant and other operators before the Commission on December 9, 1957, and the deliverabilities of the gas wells located on said tracts. Said exhibit is based

(Exhibit "D")

upon the testimony in the record in this case and clearly demonstrates the total absence of correlation between the deliverabilities of gas wells in the Jalmat Gas Pool and gas in place under the tracts dedicated to said wells. If afforded an opportunity to do so, Applicant will present further evidence in this regard but asserts that on the evidence heard by the Commission it is clearly shown that no such correlation exists.

(d) The order of the Commission is invalid in that even though it be assumed that as found by the Commission it has been 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" said finding provides no basis authorized by the statutes of New Mexico for modification of the pre-existing acreage formula for proration of gas produced from said pool.

(e) That the Commission has considered factors not permitted by the statutes of New Mexico in arriving at its decision which was the basis of Order No. R-1092-A. It is apparent that said Order was predicated in part upon (1) a finding that the inclusion of a deliverability factor in the Jalmat proration formula would result in the production of a greater percentage of the pool allowable and (2) that it would more nearly enable various gas purchasers to meet the market demand for gas in the Jalmat Gas Pool. Neither of said considerations provides any legal basis for the allocation of production under the statutes

(Exhibit "D")

of New Mexico.

(f) The Order of the Commission results in economic waste in that it will require the expenditure of an excess of $30,000.00 by this Applicant to increase the deliverability of its gas wells in an effort to protect its correlative rights, although the ultimate recovery from the tracts operated by this applicant will not be appreciably increased thereby.

(g) The Order of the Commission will result in underground waste in that many of the wells in the Jalmat Gas Pool have been completed for some ten to twenty years and their condition is such that the action required of a prudent operator under the Order of the Commission will necessarily result in the underground waste of natural gas and the abuse of correlative rights of the owners of many of said wells.

(h) The Order of the Commission is invalid in that the Commission would have authority to change its existing proration order for the Jalmat Gas Pool only upon the proof by the Applicant in this case, by a preponderance of the evidence, either that waste would be reduced or eliminated or that correlative rights of the owners in the Jalmat Pool would be protected to a greater degree by the inclusion of deliverability in said proration formula. The burden of proof so assumed by Texas Pacific Coal & Oil Company was not discharged by Applicant.

(i) Order No. R-1092-A results in irreparable injury

(Exhibit "D")

to the correlative rights of this Applicant and deprives this Applicant of its property without due process of law in that it will permit production by offset operators of natural gas underlying the tracts owned by this Applicant without affording compensating counter-drainage from other adjoining tracts, and will prevent this Applicant from producing the recoverable gas in place in the Jalmat pool underlying the tract upon which the wells of Applicant are located.

(j) That Order No. R-1092-A discriminates against, and confiscates the vested property rights of, this Applicant who in good faith, and in reliance to Order No. 520, incurred costs to recomplete and to rework wells in the Jalmat Pool on the basis of the acreage proration formula provided for in Order No. R-520.

WHEREFORE, Applicant respectfully prays the Commission that a rehearing be granted in the above styled and numbered case as to that portion of the Order and Decision of the Commission providing for the inclusion of a deliverability factor in the allocation formula of the Jalmat Gas Pool subsequent to July 1, 1958.

AMERADA PETROLEUM CORPORATION

By /s/ H. D. Bushnell
H. D. Bushnell
Attorney for Applicant

(For Exhibit referred to above, see Page 36, Volume I.)

(Exhibit "D")

AND, THEREAFTER, to-wit: On the 12th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,214, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now Respondent, Oil Conservation Commission of New Mexico, and for its response to the Petition for Review, states:

1. It admits the allegations of Paragraphs 1, 2, 3, 4(a), 4(b), 4(c), 4(d), 5 and 9.

2. It denies the genral allegations of paragraph 6 that the Orders complained of are "unreasonable, unlawful, capricious and arbitrary and are therefore invalid and void."

3. It denies the allegations of Paragraph 6(a) through 6(j), together with all legal conclusions stated therein.

4. It denies the allegation in Paragraph 7 that the Orders complained of are unlawful, unreasonable, arbitrary and capricious and, therefore, are invalid and void. It admits that the testimony referred to in Paragraph 7 was excluded, but in this connection states that said testimony is neither relevant nor material to the issues before the Commission in Case No. 1327.

5. It denies the allegations of Paragraphs 8 and 10.

WHEREFORE, Respondent prays the Court:

1. That the Petition for Review be dismissed.

2. That Orders No. R-1092-A and R-1092-C of the Commission

be affirmed.

3. That the Court enter such Order, or further Orders, as it may determine to be proper.

/s/ William J. Cooley

/s/ Oliver E. Payne

Attorneys for Respondent, Oil Conservation Commission of New Mexico

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 13th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,214, in words and figures as follow, to-wit: a

RESPONSE

Comes now Respondent, Texas Pacific Coal and Oil Company, pursuant to Rule 10(c) of the Rules of Civil Procedure, and hereby adopts the Response herein filed on behalf of the Oil Conservation Commission of New Mexico as its Response in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

TEXAS PACIFIC COAL AND OIL COMPANY

By: /s/ Jack M. Campbell
Campbell & Russell
P. O. Box 721
Roswell, New Mexico

Attorneys for Respondent

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,214, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now the respondent Southern Union Gas Company, a foreign corporation, pursuant to Rule 10(c) of the Rules of Civil Procedure, and hereby adopts the Response herein filed on behalf of the respondent Oil Conservation Commission of New Mexico as its response, in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

WILLIS L. LEA, JR., and A. S. GRENIER
Burt Building, Dallas, Texas
MANUEL A. SANCHEZ
Santa Fe, New Mexico

By /s/ Manuel A. Sanchez

Attorneys for the above named respondent

(Service of Pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,214, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now Respondent, El Paso Natural Gas Company, a Delaware corporation, and for its response to the Petition for Review herein, states:

1. It admits the allegations of Paragraphs 1, 2, 3, 4(a), 4(b), 4(c), 4(d), 5 and 9.

2. It denies the general allegations of Paragraph 6 that the Orders complained of are "unreasonable, unlawful, capricious and arbitrary and are therefore invalid and void".

3. It denies the allegations of Paragraph 6(a) through 6(j), together with all legal conclusions stated therein.

4. It denies the allegations of Paragraphs 7, 8, and 10.

WHEREFORE, Respondent prays the Court:

1. That the Petition for Review be dismissed.

2. That Orders No. R-1092-A and R-1092-C of the Commission be affirmed.

3. That the Court enter such Order, or further Orders, as it may determine to be proper.

HARDIE, GRAMBLING, SIMS & CALATZAN
P. O. Box 153 - El Paso, Texas
By: /s/ A. L. Grambling

COWAN & LEACH
Hobbs, New Mexico
By: /s/ Ray C. Cowan
Attorneys for Respondent,
El Paso Natural Gas Company

162

(Service certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,214, in words and figures as follow, to-wit: a

RESPONSE

Comes now Respondent Permian Basin Pipeline Company, and, pursuant to Rule 10(c) of the Rules of Civil Procedure, hereby adopts the response herein filed on behalf of the Oil Conservation Commission of New Mexico as its response in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

PERMIAN BASIN PIPELINE COMPANY,
Respondent

By /s/ Robert W. Ward
Attorney for Respondent

Robert W. Ward
201 North Love
Lovington, New Mexico

Lawrence I. Shaw
F. Vinson Roach
Patrick J. McCarthy
2223 Dodge Street
Omaha 1, Nebraska

Attorneys for Permian Basin
Pipeline Company, Respondent

(Service of Pleading
certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,214, in words and figures as follow, to-wit: a

RESPONSE

Comes now Respondent Permian Basin Pipeline Company, and, pursuant to Rule 10(c) of the Rules of Civil Procedure, hereby adopts the response herein filed on behalf of the Oil Conservation Commission of New Mexico as its response in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

PERMIAN BASIN PIPELINE COMPANY,
Respondent

By /s/ Robert W. Ward
Attorney for Respondent

Robert W. Ward
201 North Love
Lovington, New Mexico

Lawrence I. Shaw
F. Vinson Roach
Patrick J. McCarthy
2223 Dodge Street
Omaha 1, Nebraska

Attorneys for Permian Basin
Pipeline Company, Respondent

(Service of Pleading
certified to.)

AND, THEREAFTER, to-wit: On the dates set forth below, there was filed in the office of said Clerk, in said Cause No. 16,214, instruments identical in words and figures to those filed in Cause No. 16,213 as follow, to-wit:

Instrument	Date Filed	Set Forth in Vol. I Page
Motion for Pre-Trial Conference	July 3, 1958	48
Minutes - Pre-Trial Conference	Sept. 9, 1958	50
Petitioners' Offer of Proof	Sept. 15, 1958	65
Statement of the Case	Sept. 23, 1958	70
Petitioners' Supplemental Offer of Proof	Sept. 23, 1958	80
Motion	June 12, 1959	82
Order	June 12, 1959	83
Stipulation	June 26, 1959	85
Respondents' Offer of Proof	June 26, 1959	86
Requested Findings of Fact and Conclusions of Law	Aug. 21, 1959	89
Motion	Aug. 27, 1959	94
Order	Aug. 27, 1959	95
Certificate	Aug. 28, 1959	96
Motion	Aug. 31, 1959	97
Order	Aug. 31, 1959	98
Certificate	Sept. 3, 1959	99
Requested Findings of Fact and Conclusions of Law of Petitioners Continental Oil Company, et al.	Jan. 18, 1960	100

Instrument	Date Filed	Set Forth in Vol. I Page
Decision of the Court	Feb. 17, 1960	115
Judgment	Feb. 17, 1960	120
Motion for Allowance of Appeal	Mar. 14, 1960	121
Order Allowing Appeal	Mar. 14, 1960	122
Notice of Appeal	Mar. 14, 1960	123
Certificate	Mar. 14, 1960	124
Proof of Service	Mar. 22, 1960	125
Motion for Allowance of Cross-Appeal	Mar. 25, 1960	126
Order Granting Cross-Appeal	Mar. 25, 1960	127
Notice of Allowance of Cross-Appeal	Mar. 28, 1960	128
Stipulation	Apr. 12, 1960	130
Order	Apr. 12, 1960	133
Praecipe	Apr. 12, 1960	135
Point Relied Upon by Cross-Appellant	Apr. 21, 1960	137

** *** **

AND, BE IT REMEMBERED, That on the 13th day of May, 1958, there was filed in the office of said Clerk of the District Court of the Fifth Judicial District of the State of New Mexico, within and for the County of Lea, in Cause No. 16215 on the Civil Docket of said Court, wherein PAN AMERICAN PETROLEUM CORPORATION, a Corporation, is Petitioner, and concerning the same Orders of The Oil Conservation Commission of the State of New Mexico referred to in District Court Cause No. 16213 herein set forth, in words and figures as follow, to-wit: a

PETITION FOR REVIEW

COMES NOW Pan American Petroleum Corporation, herein referred to as "Petitioner", and respectfully states to the Court:

1. Petitioner is a corporation organized under the laws of the State of Delaware and duly admitted to do business in the State of New Mexico. Petitioner is the owner and operator of oil and gas properties and gas wells situate within the exterior boundaries of the Jalmat Gas Pool located in Lea County, New Mexico.

2. On January 29, 1958, the Oil Conservation Commission of New Mexico entered its Order No. R-1092-A in Case No. 1327 on the docket of said Commission. By the provisions of said Order, the gas proration formula theretofore applicable to the Jalmat Gas Pool, under which allocation of allowable was made on

a 100% acreage basis, was changed to include deliverability as a factor in the allocation of production as between the wells in said gas pool. The proration formula theretofore existing had been promulgated by Order No. R-520 entered by the Oil Conservation Commission of New Mexico in Case No. 673 on August 12, 1954. By the terms of said Order No. R-520, the 100% acreage formula had been in effect for the proration of allowable between wells in the Jalmat Pool at all times subsequent to January 1, 1955. A copy of Commission Order No. R-1092-A above referred to is attached hereto as Exhibit "A". A copy of order No. R-520 above referred to is identified as Exhibit "B" and filed with the Clerk of the District Court of Lea County, New Mexico, simultaneously with the filing of this Petition for Review and by reference incorporated herein. Copies of Order No. R-520 are in the possession of all parties to this proceeding.

3. Within twenty days after the entry of Order No. R-1092-A Petitioner filed an Application for Rehearing directed to said Order. A copy of said Application for Rehearing is attached hereto as Exhibit "C". A rehearing was granted by the Oil Conservation Commission and testimony was heard on March 25, 26 and 27, 1958. Thereafter, on the 25th day of April, 1958, the Oil Conservation Commission of New Mexico promulgated its Order No. R-1092-C refusing to modify its Order No. R-1092-A and in all respects reaffirming the provisions thereof. A copy of Order No. R-1092-C is attached hereto as Exhibit "D".

4. Petitioner was affected by the provisions of Order No. R-1092-A and is dissatisfied with the disposition of its Application for Rehearing, and bythis proceeding seeks review as provided by law of Orders Nos. R-1092-A and R-1092-C above referred to.

5. The Jalmat Gas Pool, located in Lea County, New Mexico, was established by Order No. R-520, herein referred to as Exhibit "B". That Order instituted gas prorationing in the Jalmat Gas Pool effective January 1, 1955. While thereafter modified, insofar as here pertinent said Order continued in effect, and proration of natural gas allowables as between the wells in the Jalmat Gas Pool was made pursuant to its provisions subsequent to January 1, 1955, until the effective date of R-1092-A. Such allocation was based 100% upon the acreage dedicated to each well, as is more fully shown by the provisions of said Order.

6. Order No. R-520 was entered by the Oil Conservation Commission of New Mexico in Case No. 673 on the docket of said Commission. Said case was regularly advertised and heard, and all owners or operators interested were afforded an opportunity to present their views with respect to the institution of prorationing and the allocation formula to be used for the distribution of allowable among the various wells in the pool. The company respondents to this review action each participated

4. Petitioner was affected by the provisions of Order No. R-1092-A and is dissatisfied with the disposition of its Application for Rehearing, and bythis proceeding seeks review as provided by law of Orders Nos. R-1092-A and R-1092-C above referred to.

5. The Jalmat Gas Pool, located in Lea County, New Mexico, was established by Order No. R-520, herein referred to as Exhibit "B". That Order instituted gas prorationing in the Jalmat Gas Pool effective January 1, 1955. While thereafter modified, insofar as here pertinent said Order continued in effect, and proration of natural gas allowables as between the wells in the Jalmat Gas Pool was made pursuant to its provisions subsequent to January 1, 1935, until the effective date of R-1092-A. Such allocation was based 100% upon the acreage dedicated to each well, as is more fully shown by the provisions of said Order.

6. Order No. R-520 was entered by the Oil Conservation Commission of New Mexico in Case No. 673 on the docket of said Commission. Said case was regularly advertised and heard, and all owners or operators interested were afforded an opportunity to present their views with respect to the institution of prorationing and the allocation formula to be used for the distribution of allowable among the various wells in the pool. The company respondents to this review action each participated

in said hearing. No appeal was taken by any party from Order No. R-520, which remained in effect until the action of the Oil Conservation Commission herein complained of.

7. Case No. 1327 came on to be heard before the Oil Conservation Commission of New Mexico on October 18, 1957, upon the application of Texas-Pacific Coal and Oil Company. A copy of said application is attached hereto as Exhibit "E". After hearings were held, the Commission, on January 29, 1958, entered Order No. R-1092-A, a copy of which is attached hereto as Exhibit "A", and made a part hereof. By the terms and provisions of Order No. R-1092-A, the Commission denied the application insofar as it sought the termination of prorationing in the Jalmat Gas Pool in Lea County, New Mexico, but it did change the proration formula in said Pool from the 100% acreage formula set forth in Order No. R-520 to a formula consisting of 25% acreage and 75% acreage times deliverability.

8. Petitioner alleges that Orders Nos. R-1092-A and R-1092-C are unreasonable, unlawful, arbitrary and capricious, are beyond the power of the Commission to enter, and are invalid for the following reasons:

(a) The Application of Texas Pacific Coal & Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. R-520

in Case No. 673 of this Commission entered on the 12th day of August, 1954, and, therefore, should not have been entertained by the Commission and cannot be made the basis of a valid order in Case No. 1327 insofar as the inclusion of deliverability in the proration formula is concerned.

(b) The evidenc eintroduced in this proceeding provides no basis upon which a valid order could be entered by the Commission changing the basis for the allocation of production from the Jalmat Gas Pool from a 100% acreage basis to the basis provided in Order No. R-1092-A for the reason that Order No. R-520 entered by this Commission in Case No. 673 constituted a final determination that deliverability should not be included in the proration formula of the Jalmat Gas Pool. The company respondents hereto were parties to Case No. 673 in which case the inclusion of deliverability in the Jalmat proration formula was considered by the Commission, and Order No. R-520 was entered denying the request for the inclusion of deliverability in said formula. No appeal was taken by the company Respondents hereto from the final decision of the Commission so ordered. On the basis of the record in this case, the Commission is without authority to modify or change the decision so reached in Case No. 673.

(c) The inclusion of deliverability in the Jalmat Gas proration formula as ordered by Order No. R-1092-A is

predicated on a finding by this Commission "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." Petitioner respectfully alleges that this finding of the Commission is contrary to, and wholly without support in, the evidence and is, therefore, invalid and void.

(d) The Oil Conservation Commission in its Finding No. 5 in Order No. R-1092-A found a general correlation between the deliverabilities of the gas wells in the Jalmat Gas Pool and recoverable gas in place under the tracts dedicated to the wells. This Finding was re-affirmed in Order No. R-1092-C, in the Commission's Finding No. 2 which was:

> "(2) That after considering all the evidence presented at the original hearings and the rehearing in this case, the Commission re-affirms 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 the gas wells in the Jalmat Gas Pool and the recoverable 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."

Petitioner alleges that said finding of the Commission is contrary to and without support in the evidence introduced before the Commission and is invalid and void.

(e) The Order of the Commission is invalid in that even though it be assumed that it was 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 gas in place under the tracts dedicated to said wells," such a finding provides no basis authorized by the statutes of New Mexico for modification of the pre-existing acreage formula for allocation of gas produced from the Jalmat Gas Pool.

(f) The Commission used as a basis for its decision to include deliverability in the proration formula of the Jalmat Gas Pool certain factors which are not contemplated or permitted by the statutes of New Mexico in the determination of a proration formula for a gas pool. Finding No. 6 of Order No. R-1092-A found, (1) that the inclusion of a deliverability factor in the Jalmat Proration Formula would result in the production of a greater percentage of pool allowable, and (2) that it would more nearly enable various gas purchasers in the Jalmat Gas Pool to meet the market demand for gas from said pool. Neither of said considerations provides any legal basis upon which the Commission could allocate production from the Jalmat Gas Pool under the statutes of New Mexico. The consideration of such factos rendered the decision of the Commission based thereon invalid and void.

(g) The uncontradicted evidence before the Commission showed that inclusion of a deliverability factor in the proration

formula would result in economic waste in that it would require the expenditure of large sums of money by this Petitioner and other operators in the Jalmat Gas Pool in efforts to increase the deliverability of gas wells in the pool in order to protect their correlative rights, although the ultimate recovery from the various tracts would not be appreciably increased thereby, and although efforts to increase the deliverability of wells in the Jalmat Gas Pool could not prevent the violation of correlative rights which would result from the inclusion of a deliverability factor in the proration formula.

(h) The uncontradicted evidence before the Commission showed that the inclusion of a deliverability factor in the Jalmat Gas Pool proration formula would result in underground waste in that many of the wells in the Jalmat Gas Pool have been completed for ten to twenty years, and that their condition is such that the action required of a prudent operator under a proration formula including a deliverability factor would necessarily result in the underground waste of natural gas, since efforts to increase the deliverability of older wells would result in the loss of some wells.

(i) The uncontradicted evidence before the Oil Conservation Commission showed that there would be greater drainage across adjoining lease lines if the proration formula were amended to include a deliverability factor than there would

be under the straight acreage formula. The evidence introduced by the applicant was directed only to drainage from area to area in the pool, and did not contradict the evidence offered by the Petitoner and other companies that there would be greater drainage across lease lines if the proration formula should be changed to include a deliverability factor.

(j) The evidence introduced before the Oil Conservation Commission showed that the inclusion of a deliverability factor in the proration formula as ordered by Order No. R-1092-A would result in irreparable injury to the correlative rights of Petitoner and would deprive Petitioner of its property without due process of law in that it would permit the production by offset operators of natural gas underlying tracts owned by Petitioner without affording compensating counterdrainage from other adjoining tracts, and would prevent Petitioner from producing the recoverable gas in place in the Jalmat Gas Pool underlying the tracts upon which the wells of this Petitioner are located.

9. All of the matters alleged hereinabove were set forth in Petitioner's Application for Rehearing before the Oil Conservation Commission, as shown by Exhibit "C" attached hereto.

10. The orders of the Commission, review of which is here sought, are unlawful, unreasonable, arbitrary and capricious and, therefore, are invalid and void for the further reason that

the Commission refused to permit this Petitioner and other petitioners opposing the application in Case No. 1327 to present testimony with reference to property rights acquired by them during the existence of Order No. R-520 hereinabove referred to. In particular the Commission refused to permit this and other operators to present evidence as to purchases of producing properties and royalties and loans made upon producing properties and royalties based upon the proration formula existing under Order No. R-520, and likewise refused the opportunity to present proof ofcommunitization of properties which had occurred under the acreage allocation formula with reference to which this Petitioner and other parties in comparable positions sustain irreparable injury as the result of the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool.

11. The formula for a proration of gas in the Jalmat Gas Pool promulgated by Order No. R-1092-A is not a reasonable basis upon which to allocate the production from said pool among the gas wells in the pool in that it fails to recognize or protect the correlative rights of the operators and royalty owners in the pool. On the contrary, said formula will result in economic waste, underground waste, and will violate the correlative rights of this Petitioner and other owners in said pool. By reason thereof, said Order is unlawful, unreasonable and void.

12. The findings of the Commission upon which Orders Nos. R-1092-A and R-1092-C are based are contrary to the evidence presented in said proceeding, are without support in the evidence, and are against the weight of the evidence heard by the Commission. By reason thereof, said orders are arbitrary, capricious and unlawful.

WHEREFORE, Petitioner respectfully prays the Court that;

(1) Orders Nos. R-1092-A and R-1092-C be reviewed by this Court and upon review be adjudicated to be unlawful and erroneous, and void, and that an appropriate order be entered by this Court vacating and holding for naught Orders Nos. R-1092-A and R-1092-C entered by the Oil Conservation Commission of New Mexico in Case No. 1327.

(2) Petitioner have such further other relief as the Court may determine to be proper.

/s/ J. K. Smith
J. K. SMITH
Oil & Gas Building
Fort Worth, Texas

ATWOOD & MALONE

By /s/ Ross L. Malone
Roswell Petroleum Building
Roswell, New Mexico

Attorneys for Petitioner Pan American Petroleum Corporation

E X H I B I T S

TO
PAN AMERICAN PETROLEUM CORPORATION
PETITION FOR REVIEW
OF ACTION OF THE OIL CONSERVATION COMMISSION OF NEW MEXICO

Exhibit	See Page Volume I
A	21
B	15
C*	
D	39
E	16

(*See next page.)

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

APPLICATION OF TEXAS PACIFIC COAL & OIL COMPANY FOR AN ORDER IMMEDIATELY TERMINATING GAS PRORATIONING IN THE JALMAT GAS POOL; OR IN THE ALTERNATIVE, REVISING THE SPECIAL RULES AND REGULATIONS FOR THE JALMAT GAS POOL IN LEA COUNTY, NEW MEXICO.

CASE NO. 1327
Order No. R-1092-A

APPLICATION FOR REHEARING

COMES NOW Pan American Petroleum Corporation, herein referred to as "Applicant", and states to the Commission:

(1) Applicant is a corporation owning and operating oil and gas leases and gas wells within the limits of the Jalmat Gas Pool in Lea County, New Mexico.

(2) Applicant participated in, and presented testimony to the Commission in, the hearings on the Application of Texas Pacific Coal & Oil Company in the above styled and numbered case and as an operator in the Jalmat Gas Pool was affected by Order No. R-1092-A entered by the Commission under date of January 29, 1958.

(3) Applicant believes and, therefore, alleges that Order No. R-1092-A aforesaid was erroneous, illegal and is

invalid and by reason thereof a rehearing is requested in respect to that portion of said Order which provides that effective July 1, 1958, a deliverability factor shall be included in the gas proration formula of the Jalmat Pool and the succeeding prrtions of said Order carrying into effect the decision of the Commission that deliverability shall be included in the proration formula subsequent to July 1, 1958, and as grounds therefor states:

(a) The Application of Texas Pacific Coal & Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. R-520 in Case No. 673 of this Commission entered on the 12th day of August, 1954, and, therefore, should not have been entertained by the Commission and cannot be made the basis of a valid Order in Case No. 1327 insofar as the inclusion of deliverability in the proration formula is concerned.

(b) The evidence introduced in this proceeding provides no basis upon which a valid order could be entered by the Commission changing the basis for the allocation of production from the Jalmat Gas Pool from a 100% acreage basis to the basis provided in Order No. R-1092-A for the reason that Order No. R-520 entered by this Commission in Case No. 673 constituted a final determination that deliverability should not be included in the proration formula of the Jalmat Gas Pool. Texas Pacific

(Exhibit "C")

Coal & Oil Company was a party to Case No. 673 and supported the inclusion of deliverability in the proration formula, which request was considered by the Commission, and Order No. 520 was entered denying the request of said Texas Pacific Coal & Oil Company for the inclusion of deliverability in said formula. No.appeal was taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered. On the basis of the record in this case, the Commission is without authority to modify or change the decision so reached in Case No. 673.

(c) The inclusion of deliverability in the Jalmat Gas proration formula as ordered by Order No. R-1092-A is predicated on a finding by this Commission "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." Applicant respectfully alleges that this finding of the Commission is contrary to, and wholly without support in, the evidence and is, therefore, invalid and void. In further support of the grounds here alleged, Applicant attaches hereto as Exhibit "A" a vertical bar graph depicting the relationship between the recoverable gas in place under the 58 tracts which were the subject of testimony and exhibits presented by this Applicant and other operators before the Commission on December 9, 1957, and the deliverability of the 58 gas wells located on said tracts.

(Exhibit "C")

Said Exhibit is based upon the testimony in the record in this case and clearly demonstrates the total absence of correlation between the deliverabilities of gas wells in the Jalmat Gas Pool and gas in place under the tracts dedicated to said wells. If afforded an opportunity to do so, Applicant will present further evidence in this regard but asserts that on the evidence heard by the Commission it is clearly shown that no such correlation exists.

(d) The Order of the Commission is invalid in that even though it be assumed that as found by the Commission it has been 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", said finding provides no basis authorized by the statutes of New Mexico for modification of the pre-existing acreage formula for proration of gas produced from said pool.

(e) That the Commission has considered factors not permitted by the statutes of New Mexico in arriving at its decision which was the basis of Order No. R-1092-A. It is apparent from said Order that it was predicated in part upon, (1) a finding that the inclusion of a deliverability factor in the Jalmat proration formula would result in the production of a greater percentage of the pool allowable, and (2) that it would more nearly enable various gas purchasers to meet the market

(Exhibit "C")

demand for gas in the Jalmat Gas Pool. Neither of said considerations provides any legal basis for the allocation of production under the statutes of New Mexico.

(f) The Order of the Commission results in economic waste in that it will require the expenditures of hundres of thousands of dollars by the operators in the Jalmat Pool, including this operator, in an effort to increase the deliverability of the gas wells in said pool and thereby to protect their respective correlative rights, although the ultimate recovery of gas from said pool will not be appreciably increased by such expenditure.

(g) The Order of the Commission will result in underground waste in that many of the wells in the Jalmat Gas Pool have been completed for some tent to twenty years and their condition is such that the action required of a prudent operator under the Order of the Commission will necessarily result in the underground waste of natural gas and the abuse of correlative rights of the owners of many of said wells.

(h) Even if it be assumed that the Commission had jurisdiction and authority in this proceeding to change the basis on which production from said pool is allocated as between the operators thereof, such a change could be made only upon establishment by a preponderance of the evidence in this case, either that waste would be reduced or eliminated, or that the

(Exhibit "C")

correlative rights of the operators in the Jalmat Pool would be protected to a greater degree by such a change in the allocation formula. The burden of proof so assumed by Applicant Texas Pacific Coal & Oil Company was not discharged in this case and by reason thereof the Commission's Order is without support in the evidence.

(i) Order No. R-1092-A results in irreparable injury to the correlative rights of Applicant and deprives this Applicant of its property without due process of law in that,

1. It will permit production by offset operators of natural gas underlying the tracts owned by this Applicant without affording compensating counter-drainage from other adjoining tracts, and will prevent this Applicant from producing the recoverable gas in place in the Jalmat Pool underlying the tract upon which the wells of Applicant are located, and

2. Substantial expenditures have been made by this operator and other operators in said pool upon the basis of Order R-520, and in reliance upon the allocation of the production of said pool by this Commission on a 100% acreage basis, the benefits of which are destroyed by said Order.

WHEREFORE, Applicant respectfully prays the Commission that a rehearing be granted in the above styled and numbered case as to that portion of the Order and Decision of the Commission providing for the inclusion of a deliverability factor in the

(Exhibit "C")

allocation formula of the Jalmat Gas Pool subsequent to July 1, 1958.

PAN AMERICAN PETROLEUM CORPORATION

By: /s/ Ross L. Malone
of ATWOOD & MALONE
One of the Attorneys
Roswell Petroleum Building
Roswell, New Mexico

(For Exhibit Referred to above, see Page 36, Volume I.)

(Exhibit "C")

AND, THEREAFTER, to-wit: On the 12th day of June 1958, there was filed in the office of said Clerk, in Said Cause No. 16,215, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now Respondent, Oil Conservation Commission of New Mexico, and for its response to the Petition for Review, states:

1. It admits the allegations of Paragraphs 1, 2, 3, 4, 5, 6, 7 and 9.

2. It denies the general allegations of Paragraph 8 that the Orders complained of are "unreasonable, unlawful, capricious and arbitrary and are beyond the power of the Commission to enter and are invalid."

3. It denies the allegations of Paragraph 8(a) through 8(j), including all legal conclusions set forth therein.

4. It denies the allegation in Paragraph 10 that the Orders complained of are unlawful, unreasonable, arbitrary and capricious and, therefore, are invalid and void. It admits that the testimony referred to in Paragraph 10 was excluded, but in this connection states that said testimony is neither relevant nor material to the issues before the Commission in Case No. 1327.

5. It denies the allegations of Paragraphs 11 and 12.

WHEREFORE, Respondent prays the Court:

1. That the Petition for Review be dismissed.

2. That Orders No. R-1092-A and R-1092-C of the Commission be affirmed.

3. That the Court enter such Order, or further Orders, as it may determine to be proper.

/s/ William J. Cooley

/s/ Oliver E. Payne

Attorneys for Respondent, Oil Conservation Commission of New Mexico

(Service of Pleading certified to.)

AND, THEREAFTER, to-wit: On the 13th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,215, in words and figures as follow, to-wit: a

RESPONSE

Comes now Respondent, Texas Pacific Coal and Oil Company, pursuant to Rule 10(c) of the Rules of Civil Procedure, and hereby adopts the Response herein filed on behalf of the Oil Conservation Commission of New Mexico as its Response in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

TEXAS PACIFIC COAL AND OIL COMPANY

By: /s/ Jack M. Campbell
Campbell & Russell
P. O. Box 721
Roswell, New Mexico

Attorneys for Respondent

(Service of Pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,215, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now the respondent Southern Union Gas Company, a foreign corporation, pursuant to Rule 10(c) of the Rules of Civil Procedure, and hereby adopts the Response herein filed on behalf of the respondent Oil Conservation Commission of New Mexico as its response, in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

WILLIS L. LEA, JR., and A. S. GRENIER
Burt Building, Dallas, Texas
MANUEL A. SANCHEZ
Santa Fe, New Mexico

By /s/ Manuel A. Sanchez

Attorneys for the above named respondent

(Service of Pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,215, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now Respondent, El Paso Natural Gas Company, a Delaware corporation, and for its response to the Petition for Review herein states:

1. It admits the allegations of Paragraphs 1, 2, 3, 4, 5, 6, 7 and 9.

2. It denies the general allegations of Paragraph 8 that the Orders complained of are "unreasonable, unlawful, capricious and arbitrary and are beyond the power of the Commission to enter and are invlaid".

3. It denies the allegations of Paragraphs 8(a) through 8(j) including all legal conclusions set forth therein.

4. It admits that certain testimony referred to in Paragraph 10 was excluded by the Commission, but states that such testimony was properly excluded as it was neither relative nor material in Case No. 1327.

5. It denies the allegations of Paragraphs 11 and 12, and states that the Commission is not empowered to consider evidence referred to therein.

WHEREFORE, Respondent prays the Court:

1. That the Petition for Review be dismissed.

2. That Orders Nos. R-1092-A and R-1092-C of the Commission be affirmed.

3. That the Court enter such Order, or further Orders, as it may determine to be proper.

HARDIE, GRAMBLING, SIMS & GALATZAN
P. O. Box 153, El Paso, Texas

BY: /s/ A. L. Grambling

COWAN AND LEACH
Hobbs, New Mexico

By: /s/ Ray C. Cowan
Attorneys for Respondent,
El Paso Natural Gas Company

(Service of Pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,215, in words and figures as follow, to-wit: a

RESPONSE

Comes now Respondent Permian Basin Pipeline Company, and, pursuant to Rule 10(c) of the Rules of Civil Procedure, hereby adopts the response herein filed on behalf of the Oil Conservation Commission of New Mexico as its response in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

PERMIAN BASIN PIPELINE COMPANY,
Respondent

By /s/ Robert W. Ward
Attorney for Respondent

Robert W. Ward
201 North Love
Lovington, New Mexico

Lawrence I. Shaw
F. Vinson Roach
Patrick J. McCarthy
2223 Dodge Street
Omaha 1, Nebraska

Attorneys for Permian Basin
Pipeline Company, Respondent

(Service of Pleading
certified to.)

AND, THEREAFTER, to-wit: On the dates set forth below, there was filed in the office of said Clerk, in said Cause No. 16,215, instruments identical in words and figures to those filed in Cause No. 16,213 as follow, to-wit:

Instrument	Date Filed	Set Forth in Vol. I Page
Motion for Pre-Trial Conference	July 3, 1958	48
Minutes - Pre-Trial Conference	Sept. 9, 1958	50
Petitioners' Offer of Proof	Sept. 15, 1958	65
Statement of the Case	Sept. 23, 1958	70
Petitioners' Supplemental Offer of Proof	Sept. 23, 1958	80
Motion	June 12, 1959	82
Order	June 12, 1959	83
Stipulation	June 26, 1959	85
Respondents' Offer of Proof	June 26, 1959	86
Requested Findings of Fact and Conclusions of Law	Aug. 21, 1959	89
Motion	Aug. 27, 1959	94
Order	Aug. 27, 1959	95
Certificate	Aug. 28, 1959	96
Motion	Aug. 31, 1959	97
Order	Aug. 31, 1959	98
Certificate	Sept. 3, 1959	99
Requested Findings of Fact and Conclusions of Law of Petitioners Continental Oil Company, et al	Jan. 18, 1960	100

Instrument	Date Filed	Set Forth in Vol. I Page
Decision of the Court	Feb. 17, 1960	115
Judgment	Feb. 17, 1960	120
Motion for Allowance of Appeal	Mar. 14, 1960	121
Order Allowing Appeal	Mar. 14, 1960	122
Notice of Appeal	Mar. 14, 1960	123
Certificate	Mar. 14, 1960	124
Proof of Service	Mar. 22, 1960	125
Motion for Allowance of Cross-Appeal	Mar. 25, 1960	126
Order Granting Cross-Appeal	Mar. 25, 1960	127
Notice of Allowance of Cross-Appeal	Mar. 28, 1960	128
Stipulation	Apr. 12, 1960	130
Order	Apr. 12, 1960	133
Praecipe	Apr. 12, 1960	135
Point Relied Upon by Cross-Appellant	Apr. 21, 1960	137

** *** **

AND, BE IT REMEMBERED, That on the 13th day of May, 1958, there was filed in the office of said Clerk of the District Court of the Fifth Judicial District of the State of New Mexico, within and for the County of Lea, in Cause No. 16,217 on the Civil Docket of said Court, wherein SHELL OIL COMPANY is Petitioner, and concerning the same Orders of and case before the Oil Conservation Commission of the State of New Mexico as is referred to in District Court Cause No. 16,213, herein set forth, in words and figures a pleading Cause No. 16,217 as follow, to-wit:

PETITION FOR REVIEW

Comes now Shell Oil Company and for its petition for review of the action of the Oil Conservation Commission of the State of New Mexico in the above styled and numbered case and in the above Orders, alleges and states:

1. Petitioner is a corporation duly admitted to do business in the State of New Mexico, and is the owner of natural gas wells situate within the exterior boundaries of the Jalmat GasPool located in Lea County, New Mexico.

3. On the 29th day of January, 1958, the Oil Conservation Commission of New Mexico entered its Order No. R-1092-A in Case No. 1327, on the docket of said Commission, changing the gas proration formula applicable to wells in the Jalmat Gas Pool,

which formula had been promulgated by Order No. R-520 of the Oil Conservation Commission entered in Case No. 673 on August 12, 1954. Petitioner was a party to Cause No. 1327 and was affected by Order No. R-1092-A entered therein. Petitioner duly filed an Application for Rehearing directed to said Order No. R-1092-A and after rehearing the Oil Conservation Commission, on the 25th day of April, 1958, promulgated its Order No. R-1092-C reaffirming and refusing to modify the provisions of Order No. R-1092-A. Petitioner was affected by and dissatisfied with the provisions of Order No. R-1092-C, and by this proceeding seeks review as provided by law of Orders Nos. R-1092-A and R-1092-C above referred to.

3. The Jalmat Gas Pool is located in Lea County, New Mexico. After extended hearings, the New Mexico Oil Conservation Commission entered on August 12, 1954, its Order No. R-520 in Case No. 673, a copy of which said Order No. R-520 is marked Exhibit "A", is filed with the Clerk of the District Court of Lea County simultaneously with the filing of this Petition for Review and by reference incorporated herein. Copies of said order are in the possession of all of the parties to this proceeding. Said Order instituted gas prorationing in the Jalmat Gas Pool effective January 1, 1955. The Order provided for the method of allocation of the allowable among the various wells in the Jalmat Gas Pool, and provided that such allocation should be

based 100% upon the acreage dedicated to the particular well. Said case was regularly advertised and heard, and all owners or operators or persons interested were afforded an opportunity to present their views with respect to the institution of prorationing and the allocation formula which was to be adopted for the distribution of production among the various wells in the Pool. No appeal was taken from Order No. R-520, which Order became effective and remained in full and controlling force and effect until the action of the New Mexico Oil Conservation Commission herein complained of.

4. Case No. 1327 came on to be heard before the Oil Conservation Commission of New Mexico on October 18, 1957, upon the application of Texas-Pacific Coal and Oil Company. A copy of said application is attached hereto as Exhibit "B". After hearings were held, the Commission on January 29, 1958, entered Order No. R-1092-A, a copy of which is attached hereto as Exhibit "C" and made a part hereof.

By the terms and provisions of Order No. R-1092-A, the Commission denied the application insofar as it sought the termination of prorationing in the Jalmat Gas Pool in Lea County, New Mexico, but it did change the proration formula in said Pool from the formula set forth in Order No. R-520 which was based 100% upon acreage to a formula of 25% acreage and 75% acreage times deliverability.

5. Petitioner timely filed its application for rehearing before the Oil Conservation Commission of the State of New Mexico, a copy of which application is attached hereto as Exhibit "D" and made a part hereof. The Oil Conservation Commission granted a rehearing in accordance with the provisions of Order No. R-1092-B, a copy of which is attached hereto as Exhibit "E". After rehearing, the Oil Conservation Commission entered Order No. R-1092-C which found that the provisions of Order No. R-1092-A should remain in full force and effect. A copy of said Order No. R-1092-C is attached hereto as Exhibit "F" and made a part hereof.

6. Petitioner alleges that Orders Nos. R-1092-A and R-1092-C are unreasonable, unlawful, capricious and arbitrary and were beyond the power of the Commission to enter and are invalid upon the following grounds, to-wit:

(a) The Oil Conservation Commission in its Finding No. 5 in Order No. R-1092-A found a general correlation between the deliverabilities of the gas wells in the Jalmat Gas Pool and recoverable gas in place under the tracts dedicated to the wells. This Finding was reaffirmed in Order No. R-1092-C, in the Commission's Finding No. 2 which was:

> "(2) 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 and Oil Company has proved by a preponderance of the evidence that there is a general correlation between

5. Petitioner timely filed its application for rehearing before the Oil Conservation Commission of the State of New Mexico, a copy of which application is attached hereto as Exhibit "D" and made a part hereof. The Oil Conservation Commission granted a rehearing in accordance with the provisions of Order No. R-1092-B, a copy of which is attached hereto as Exhibit "E". After rehearing, the Oil Conservation Commission entered Order No. R-1092-C which found that the provisions of Order No. R-1092-A should remain in full force and effect. A copy of said Order No. R-1092-C is attached hereto as Exhibit "F" and made a part hereof.

6. Petitioner alleges that Orders Nos. R-1092-A and R-1092-C are unreasonable, unlawful, capricious and arbitrary and were beyond the power of the Commission to enter and are invalid upon the following grounds, to-wit:

(a) The Oil Conservation Commission in its Finding No. 5 in Order No. R-1092-A found a general correlation between the deliverabilities of the gas wells in the Jalmat Gas Pool and recoverable gas in place under the tracts dedicated to the wells. This Finding was reaffirmed in Order No. R-1092-C, in the Commission's Finding No. 2 which was:

> "(2) 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 and 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 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."

Petitioner alleges that said finding of the Commission is contrary to and without support in the evidence introduced before the Commission and is invalid and void.

(b) The Order of the Commission is invalid in that even though it be assumed that it was proved by a preponderance by the evidence: "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", such a finding provides no basis authorized by the statutes of New Mexico for modification of the pre-existing acreage formula for allocation of gas produced from the Jalmat Gas Pool.

(c) The Commission used as a basis for its decision to include deliverability in the proration formula of the Jalmat Gas Pool, certain factors which are not contemplated or permitted by the statutes of New Mexico in the determination of a proration formula for a gas pool. Finding No. 6 of Order No. R-1092-A found, (1) that the inclusion of a deliverability factor in the Jalmat Proration Formula would result in the production of a greater percentage of the pool allowable, and (2) that it would more nearly enable various gas purchasers in the Jalmat Gas Pool

to meet the market demand for gas from said pool. Neither of said considerations provides any legal basis upon which the Commission could allocate production from the Jalmat Gas Pool under the statutes of New Mexico. The consideration of such factors rendered the decision of the Commission based thereon invalid and void.

(d) The uncontradicted evidence before the Conservation Commission showed that there would be greater drainage across adjoining lease lines if the proration formula were amended to include a deliverability factor than there would be under the straight acreage formula. The evidence introduced by the applicant was directed only to drainage from area to area in the pool, and did not contradict the evidence offered by the Petitioner and other companies that there would be greater drainage across lease lines if the proration formula should be changed to include a deliverability factor.

(e) The evidence introduced before the Oil Conservation Commission showed that the inclusion of a deliverability factor in the proration formula as ordered by Order No. R-1092-A would result in irreparable injury to the correlative rights of Petitioner and would deprive Petitioner of its property without due process of law in that it would permit the production by offset operators of natural gas underlying tracts owned by Petitioner without affording compensating counter-drainage from

other adjoining tracts, and would prevent Petitioner from producing the recoverable gas in place in the Jalmat Gas Pool underlying the tracts upon which the wells of this Petitioner are located.

7. All of the matters alleged hereinabove were set forth in Petitioner's Application for Rehearing before the Oil Conservation Commission, as shown by Exhibit "D" attached hereto.

8. The orders of the Commission, review of which is here sought, are further unlawful, unreasonable, arbitrary and capricious and, therefore, are invalid and void for the reason that the Commission upon rehearing refused to permit this Petitioner and other petitioners opposing the application in Case No. 1327 to present testimony with reference to property rights acquired during the existence of Order No. R-520 hereinabove referred to. In particular, the Commission refused to permit this and other operators to present evidence as to purchases of producing properties androyalties and loans made upon producing properties and royalties based upon the proration formula existing under Order No. R-520, and likewise refused the opportunity to present proof of communitization of properties which had occurred under the acreage allocation formula and the irreparable injury which would result from the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool.

9. The 100% acreage proration formula established in the Jalmat Field by official order in 1954 and prior thereto by custom

was the basis of large expenditures by, and changes in the contractual position of, the operators in that field and should be stable and not changed for the protection of the correlative rights of those operators unless the change is approved by a substantial majority of the operators in the filed and unless it is very clear that the proposed new formula will better protect such correlative rights. Petitioner alleges that the formula approved in said Orders Nos. R-1092-A and R-1092-C is neither approved by the majority of the operators in the field nor clearly superior in the protection of correlative rights to the 100% acreage formula previously in effect.

10. Texas-Pacific Coal and Oil Company was the applicant in Case No. 1327, and El Paso Natural Gas Company, Permian Basin Pipline Company, and Southern Union Gas Company appeared in said case in support of the application, and the above companies together with the Oil Conservation Commission of New Mexico are named as respondents in this Petition in accordance with the statutes of New Mexico.

WHEREFORE, Petitioner respectfully prays the Court as authorized by Section 19(b) Chapter 168 of the Laws of the State of New Mexico, 1949, Section 65-3-22(b), N.M.S.A. 1953, that:

1. Notice of this Petition for Review be served upon respondents in the manner provided for the service of summons in civil proceedings upon the adverse parties.

2. This Petition be set for trial, and upon the hearing thereof that this Court review the action of the Oil Conservation Commission herein complained of.

3. This Court try this action de novo and determine the issues of fact and law presented herein.

4. This Court enter its order vacating Orders Nos. R-1092-A and R-1092-C of the Commission hereinabove referred to.

5. This Court enter such other or further order in lieu of Orders Nos. R-1092-A and R-1092-C as the Court may determine to be proper.

JAMES A. LORE
RICHARD L. HUGHSTON
P. O. Box 1509
Midland, Texas

/s/ Howard Bratton
HERVEY, DOW & HINKLE
P. O. Box 547
Roswell, New Mexico

Attorneys for Petitioner, Shell
Oil Company

E X H I B I T S

TO
SHELL OIL COMPANY
PETITION FOR REVIEW
OF ACTION OF THE OIL CONSERVATION COMMISSION OF NEW MEXICO

Exhibit	See Page Volume I
A	15
B	16
C	21
D*	
E	37
F	39

** *** **

*For Exhibit "D"
see next page.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327

APPLICATION OF TEXAS PACIFIC COAL &
OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

MOTION FOR REHEARING BY SHELL OIL COMPANY

TO THE COMMISSION:

Now comes Shell Oil Company, one of the operators in the Jalmat Gas Pool, who appeared and participated in the hearings of this matter and applies for a rehearing with reference to Order No. R-1092-A, entered in this case on January 29, 1958, on the following grounds, to-wit:

1. The Commission erred in making Finding 6 of the said order for the reason that its authority to regulate production of oil or gas is limited to that necessary to prevent waste and protect correlative rights, and it is without authority to regulate such production for the purpose of meeting a market demand that is greater than the pool's capacity when regulated so as to prevent waste and protect correlative rights.

2. That part of Finding 5 of said order reading: "The applicant has proved that there is a general correlation between deliverability of the gas wells in the Jalmat Gas Pool and the gas in place under the tracts dedicated to said well", is erroneous and without substantial evidence to support it.

The applicant offered not one word of proof that the gas in place under a tract dedicated to a well is the gas being produced by such well or even equivalent to the gas that said well might produce. To the contrary, Mr. Keller, the applicant's reservoir expert, stated that (Tr. (10-17-57) P. 59, 61, 62 and 64 and Tr. (later hearings) p. 61 to 62, 69, 78, 129, 133 and 135) his testimony was based on well figures and well reserves and a material balance approach, and that (Tr. (later hearings) p464) where the volume of gas measured by the material balance equation is located in respect to the lease lands, is not determinable from such a calculation. In his testimony he at no time tried to state where the gas was located. On the contrary, he said (Tr. (later hearings) p. 78) that correlative rights would be fully protected in his opinion if the takes as between two wells bore some reasonable relationship to the reserves of the two wells, and that (Tr. (later hearings) p. 133) he rejected the use of gas in place as a basis for protecting correlative rights because it was impossible to measure the gas in place with the information at hand in the Jalmat field. It is apparent, therefore,

that his whole approach to the matter of correlative rights differs from the statutory definition thereof, which is as follows:

> "(a) The rules, regulations or orders of the Commission shall, so far as it is practicable to do so, afford to the owner of each property in a pool the opportunity to produce his just and equitable share of the oil or gas, or both, in the pool, being in an amount, so far as can be practicably determined, and so far as such can be practicably obtained without waste, substantially in the proportion that the quantity of the recoverable oil or gas, or both, under such property bears to the total recoverable oil or gas, or both, in the pool, and for this purpose to use his just and equitable share of the reservoir energy." (New Mexico Statutes 65-3-14).

He at no time said that any "well reserve" discussed by him was under the tract on which that well was located.

As a matter of fact, it would be impossible to associate the deliverability of a well with the gas in place under the tract on which the well is located without piling inference on inference and making the conclusion so speculative, illogical and unsound that it should be rejected by this Commission. From Mr. Keller's equation that Deliverability = $T \times (P_s^2 - P_w^2)^n \times K \times C_2$ (Applicant's Ex. 7). It is obvious that in associating deliverability with gas in place (this is gas in place in the well's reserve not that under the tract) he assumed that permeability (K) and the well completion factors (C_2) were relatively constant throughout the field and that variations in deliverability represented variation in net thickness of pay; for permeability and well completion factors do not affect the gas in place at all as

testified by Mr. Keller (Tr. (later hearings) p. 71-72), and if either of them varied widely as between wells, the variations in the deliverabilities of the wells would be relatively meaningless in so far as the net thickness of pay (the reserve affecting factor in said equation) is concerned. The way Mr. Keller related the deliverability to reserves was to say it represented net thickness in pay by transposing the said equation thusly:

$$T = \frac{\text{Deliverability}}{(P_s^2 - P_w^2)^n \times K \times C_2}$$

Obviously, in such an equation unless K (permeability) and C_2 (well completion factors) are constant T will vary not only as deliverabilities vary but also as K or C_2 vary. To attribute the reserve of a well to the tract on which it was located, he had further to assume that the quality of the reservoir under all of the tract was constantly that attributable to the well by his comparisons of deliverability. We, therefore, have a case of inference piled upon inference in reaching the conclusion that the deliverability of a well is in general correlation with the gas in place under the tract on which the well is located. Such reasoning is so speculative that it cannot form the basis of a conclusion.

Manning v. John Hancock Mutual Life Ins. Co., 100 U.S. 697, 25 L. Ed. 761;
De Baca v. Kuhn, 161 Pac. (2) 630, 49 N. M. 225;
Lumbermens Mutual Casualty Co. v. Vaughn, 174 SW(2) 1001 (Tex. Civ. App.).

3. The part of Finding 5 of said order reading "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" is erroneous and without substantial evidence to support it because it is based on the false premise set forth in the first part of the said Finding 5.

4. Because the uncontradicted evidence shows that the Jalmat Gas Pool was developed under rules and/or practice whereby proration of production in said field was on a straight acreage basis, the changing of the pool rules to include a deliverability factor is erroneous, there being no evidence that clearly establishes that the change in the rules is necessary to protect the correlative rights of the operators in that pool or to prevent waste. The burden of proof should be much greater where changes in established rules are proposed and in such cases the Commission should not make changes unless the evidence that they are needed to prevent waste or protect the correlative rights of the operators (not to allow a market to be met) is clear and convincing.

5. The inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool violates the correlative rights of the operators and is erroneous.

6. The Application of Texas Pacific Coal & Oil Company in

Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. 520 in Case No. 6731 of this Commission entered on the 12th day of August, 1954, and therefore should not have been entertained by the Commission and cannot be made the basis of a valid Order in Case No. 1327 in so far as the inclusion of deliverability in the proration formula is concerned.

7. The evidence introduced in this proceeding provides no basis upon which a valid order could be entered by the Commission changing the basis for the allocation of production from the Jalmat Gas Pool from a 100% acreage basis to the basis provided in Order No. R-1092-A for the reason that Order No. R-520 entered by this Commission in Case No. 673 constituted a final determination that deliverability should not be included in the proration formula of the Jalmat Gas Pool. Texas Pacific Coal & Oil Company was a party to Case No. 673 and supported the inclusion of deliverability in the proration formula, which request was considered by the Commission, and Order No. 520 was entered denying the request of said Texas Pacific Coal & Oil Company for the inclusion of deliverability in said formula. No appeal was taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered. On the basis of the record in this case, the Commission is without authority to

modify or change the decision so reached in Case No. 673.

8. Even if it were conceded that there was substantial evidence to support Finding 5 of said Order, and we do not so concede, this Commission erred in amending the Jalmat Gas Pool's rules to place a deliverability factor in the proration formula because thereby it has jeopardized its very excellent reputation for fairness, wisdom and common sense. The addition of a deliverability "new deal" in the proration formula of the Jalmat Gas Pool after the pool has been developed on the understanding that proration would be on a straight acreage basis is unfair to those who so developed their properties in the pool. Admittedly, at the time they made their investments they knew that the rules might be changed. However, we believe that they were entitled to assume that the rules would not be changed unless it was clearly shown first, that they resulted in waste or violated correlative rights, and second, that no change based on a violation of correlative rights would be made against the expressed will of the vast majority of operators in the pool who should know better what protects their correlative rights than anyone else. At the hearings on this matter, no issue of waste was raised and the vast majority of the operators, the ones whose correlative rights are involved, opposed the inclusion of deliverability in the proration formula. Furthermore, even it be conceded that there was some proof of some "general"

correlation between the deliverability of a well and the gas in place under the tract on which the well is situated (which correlation we do not admit but deny), the proof thereof was not clear, but based upon inference upon inference. In a case of such doubtful correlation between well deliverability and tract reserve gas, it isn't wise, even if it is legal, to upset existing equities or to override the ideas of the majority of the operators in the pool concerning how best to protect their correlative rights.

This deliverability "new deal" in the Jalmat rules is not a safe step forward but a step backward toward the early proration attempts to interfere with the law of capture only so much as a limited market required by prorating the market demand between the wells on the basis of their relative potentials or deliverabilities or productivity, however it may be phrased. Such a method of proration allowed a high potential or deliverability well on a small tract to produce not only the oil or gas under that tract but under much of the surrounding tracts. The New Mexico Statutes reject the idea of any such method of proration. Obviously, an owner does not have a fair chance to recover the oil or gas under his land where the proration formula contains a potential or deliverability factor and non-marginal wells are allowed to produce at different rates based on their different ptentials or deliverabilities rather than on differences in their

productive acreages.

WHEREFORE your petitioner prays that the Commission grant a rehearing in this case and set aside its Order No. R-1092-A in so far as a deliverability factor is thereby placed in the proration formula for the Jalmat Pool.

SETH, MONTGOMERY, FEDERICI & ANDREWS

By_____

301 Don Gaspar Avenue
Santa Fe, New Mexico

RICHARD L. HUGHSTON
Box 1509, Midland, Texas

ATTORNEYS FOR PETITIONER
SHELL OIL COMPANY

AND, THEREAFTER, to-wit: On the 12th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,217, in words and figures as follows, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now Respondent, Oil Conservation Commission of New Mexico, and for its response to the Petition for Review, states:

1. It admits the allegations of Paragraphs 1, 2, 3, 4, 5, 7 and 10.

2. It denies the general allegations of Paragraph 6 that the Orders complained of are "unreasonable, unlawful, capricious and arbitrary and were beyond the power of the Commission to enter and were invalid."

3. It denies the allegations of Paragraphs 6(a) through 6(e), including all legal conclusions set forth therein.

4. It denies the allegation in Paragraph 8 that the Orders complained of are unlawful, unreasonable, arbitrary and capricious and, therefore, are invalid and void. It admits that the testimoney referred to in Paragraph 8 was excluded, but in this connection states that said testimony is neither relevant nor material to the issues before the Commission in Case No. 1327.

5. It denies the allegations of Paragraph 9.

WHEREFORE, Respondent prays the Court:

1. That the Petition for Review be dismissed.

2. That Orders No. R-1092-A and R-1092-C of the Commission be affirmed.

3. That the Court enter such Order, or further Orders, as it may determine to be proper.

s/ William J. Cooley

s/ Oliver E. Payne

Attorneys for Respondent, Oil Conservation Commission of New Mexico

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 13th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,217, in words and figures as follow, to-wit: a

RESPONSE

Comes now Respondent, Texas Pacific Coal and Oil Company, pursuant to Rule 10(c) of the Rules of Civil Procedure, and hereby adopts the Response herein filed on behalf of the Oil Conservation Commission of New Mexico as its Response in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

TEXAS PACIFIC COAL AND OIL COMPANY

By: /s/ Jack M. Campbell
Campbell & Russell
P. O. Box 721
Roswell, New Mexico

Attorneys for Respondent

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,217, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now the respondent Southern Union Gas Company, a foreign corporation, pursuant to Rule 10(c) of the Rules of Civil Procedure, and hereby adopts the Response herein filed on behalf of the Respondent Oil Conservation Commission of New Mexico as its response, in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

WILLIS L. LEA, JR., and A. S. GRENIER
Burt Building, Dallas, Texas

MANUEL A. SANCHEZ
Santa Fe, New Mexico

By s// Manuel A. Sanchez

Attorneys for the above named Respondent

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,217, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now Respondent, El Paso Natural Gas Company, a Delaware corporation, and for its response to the Petition for Review herein states:

1. It admits the allegations of Paragraphs 1, 2, 3, 4, 5, 7, and 10.

2. It denies the general allegations of Paragraph 6 that the Orders complained of are "unreasonable, unlawful, capricious and arbitrary and were beyond the power of the Commission to enter and were invalid".

3. It denies the allegations of Paragraphs 6(a) through 6(e), including all legal conclusions set forth therein.

4. It denies the allegations of Paragraphs 8 and 9.

WHEREFORE, Respondent prays the Court:

1. That the Petition for Review be dismissed.

2. That Orders Nos. R-1092-A and R-1092-C of the Commission be affirmed.

3. That the Court enter such Order, or further Orders, as it may determine to be proper.

HARDIE, GRAMBLING, SIMS & GALATZAN
P. O. Box 153 - El Paso, Texas

BY: /s/ A. L. Grambling

COWAN AND LEACH
Hobbs, New Mexico

BY: /s/ Ray C. Cowan
Attorneys for Respondent,
El Paso Natural Gas Company

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,217, in words and figures as follow, to-wit: a

RESPONSE

Comes now Respondent Permian Basin Pipeline Company, and, pursuant to Rule 10(c) of the Rules of Civil Procedure, hereby adopts the response herein filed on behalf of the Oil Conservation Commission of New Mexico as its response in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

PERMIAN BASIN PIPELINE COMPANY,
Respondent

By /s/ Robert W. Ward
Attorney for Respondent

Robert W. Ward
201 North Love
Lovington, New Mexico

Lawrence I. Shaw
F. Vinson Roach
Patrick J. McCarthy
2223 Dodge Street
Omaha 1, Nebraska

Attorneys for Permian Basin
Pipeline Company, Respondent

(Service of pleading
certified to.)

AND, THEREAFTER, to-wit: On the dates set forth below, there was filed in the office of said Clerk, in said Cause No. 16,217, instruments identical in words and figures to those filed in Cause No. 16,213 as follow, to-wit:

Instrument	Date Filed	Set Forth in Vol. I Page
Motion for Pre-Trial Conference	July 3, 1958	48
Minutes - Pre-Trial Conference	Sep. 9, 1958	50
Petitioners' Offer of Proof	Sep. 15, 1958	65
Statement of the Case	Sep. 23, 1958	70
Petitioners' Supplemental Offer of Proof	Sep. 23, 1958	80
Motion	June 12, 1959	82
Order	June 12, 1959	83
Stipulation	June 26, 1959	85
Respondents' Offer of Proof	June 26, 1959	86
Requested Findings of Fact and Conclusions of Law	Aug. 21, 1959	89
Motion	Aug. 27, 1959	94
Order	Aug. 27, 1959	95
Certificate	Aug. 28, 1959	96
Motion	Aug. 31, 1959	97
Order	Aug. 31, 1959	98
Certificate	Sep. 3, 1959	99
Requested Findings of Fact and Conclusions of Law of Petitioners Continental Oil Company, et al	Jan. 18, 1960	100

Instrument	Date Filed	Set Forth in Vol. I Page
Decision of the Court	Feb. 17, 1960	115
Judgment	Feb. 17, 1960	120
Motion for Allowance of Appeal	Mar. 14, 1960	121
Order Allowing Appeal	Mar. 14, 1960	122
Notice of Appeal	Mar. 14, 1960	123
Certificate	Mar. 14, 1960	124
Proof of Service	Mar. 22, 1960	125
Motion for Allowance of Cross-Appeal	Mar. 25, 1960	126
Order Granting Cross-Appeal	Mar. 25, 1960	127
Notice of Allowance of Cross-Appeal	Mar. 28, 1960	128
Stipulation	Apr. 12, 1960	130
Order	Apr. 12, 1960	133
Praecipe	Apr. 12, 1960	135
Point Relied Upon by Cross-Appellant	Apr. 21, 1960	137

** *** **

AND, BE IT REMEMBERED, That on the 13th day of May 1958, there was filed in the office of said Clerk of the District Court of the Fifth Judicial District of the State of New Mexico, within and for the County of Lea, in Cause No. 16,218 on the Civil Docket of said Court, wherein THE ATLANTIC REFINING COMPANY is Petitioner (concerning the same Orders of and Case before the Oil Conservation Commission of the State of New Mexico as referred to in Cause No. 16,213 hereinbefore set forth), in words and figures as follow, to-wit: a

PETITION FOR REVIEW

Comes now The Atlantic Refining Company and for its petition for review of the action of the Oil Conservation Commission of the State of New Mexico in the above styled and numbered case and in the above Orders, alleges and states:

1. Petitioner is a corporation duly admitted to do business in the State of New Mexico, and is the owner of natural gas wells situate within the exterior boundaries of the Jalmat Gas Pool located in Lea County, New Mexico.

2. On the 29th day of January, 1958, the Oil Conservation Commission of New Mexico entered its Order No. R-1092-A in Case No. 1327, on the docket of said Commission, changing the gas proration formula applicable to wells in the Jalmat Gas Pool, which formula had been promulgated by Order No. R-520 of the Oil

Conservation Commission entered in Case No. 673 on August 12, 1954. Petitioner was a party to Cause No. 1327 and was affected by Order No. R-1092-A entered therein, Petitioner duly filed an Application for Rehearing directed to said Order No. R-1092-A and after rehearing the Oil Conservation Commission, on the 25th day of April, 1958, promulgated its Order No. R-1092-C reaffirming and refusing to modify the provisions of Order No. R-1092-A. Petitioner was affected by and dissatisfied with the provisions of Order No. R-1092-C, and by this proceeding seeks review as provided by law of Orders Nos. R-1092-A and R-1092-C above referred to.

3. The Jalmat Gas Pool is located in Lea County, New Mexico, After extended hearings, the New Mexico Oil Conservation Commission entered on August 12, 1954, its Order No. R-520 in Case No. 673, a copy of which said Order No. R-520 is marked Exhibit "A", is filed with the Clerk of the District Court of Lea County simultaneously with the filing of this Petition for Review and by reference incorporated herein. Copies of said order are in the possession of all of the parties to this proceedings. Said Order instituted gas prorationing in the Jalmat Gas Pool effective January 1, 1955. The Order provided for the method of allocation of the allowable among the various wells in the Jalmat Gas Pool, and provided that such allocation should be based 100% upon the acreage dedicated to the particular well. Said case was regularly advertised and heard, and all owners or operators or persons interested were

afforded an opportunity to present their views with respect to the institution of prorationing and the allocation formula which was to be adopted for the distribution of production among the various wells in the pool. No appeal was taken from Order No. R-520, which Order became effective and remained in full and controlling force and effect until the action of the New Mexico Oil Conservation Commission herein complained of.

4. Case No. 1327 came on to be heard before the Oil Conservation Commission of New Mexico on October 18, 1957, upon the application of Texas-Pacific Coal and Oil Company. A copy of said application is attached hereto as Exhibit "B". After hearings were held, the Commission on January 29, 1958, entered Order No. R-1092-A, a copy of which is attached hereto as Exhibit "C" and made a part hereof.

By the terms and provisions of Order No. R-1092-A, the Commission denied the application insofar as it sought the termination of prorationing in the Jalmat Gas Pool in Lea County, New Mexico, but it did change the proration formula in said pool from the fomrula set forth in Order No. R-520 which was based 100% upon acreage to a formula of 25% acreage and 75% acreage times deliverability.

5. Petitioner timely filed its application for rehearing before the Oil Conservation Commission of the State of New Mexico, a copy of which application is attached hereto as Exhibit "D" and made a part hereof. The Oil Conservation Commission granted a

rehearing in accordance with the provisions of Order No. R-1092-B, a copy of which is attached hereto as Exhibit "E". After rehearing, the Oil Conservation Commission entered Order No. R-1092-C which found that the provisions of Order No. R-1092-A should remain in full force and effect. A copy of said Order No. R-1092-C is attached hereto as Exhibit "F" and made a part hereof.

6. Petitioner alleges that Orders Nos. R-1092-A and R-1092-C are unreasonable, unlawful, capricious and arbitrary and were beyond the power of the Commission to enter and are invalid upon the following grounds, to-wit :

(a) The application of Texas-Pacific Coal and Oil Company in Case No. 1327 to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. R-520 in Case No. 673 of the Oil Conservation Commission, and, therefore, should not have been entertained by the Commission, and could not be the basis of a valid order in Case No. 1327 insofar as such order changes the basis of allocation of production from the Jalmat Gas Pool from a 100% acreage basis to include a deliverability factor in the proration formula.

(b) Order No. R-520 entered by the Oil Conservation Commission in Case No. 673 constituted a final decision that the proration formula for the Jalmat Gas Pool should be on a 100%

acreage basis. No appeal was taken from the final decision of the Commission so ordered, and the application in Case No. 1327 did not allege and the record in said case does not show any change of conditions in the Jalmat Gas Pool or any waste which would result from retention of the 100% acreage allocation formula. On the basis of the application and the record, the Commission was without authority or jurisdiction to modify or change the proration formula set forth in Order No. R-520.

(c) Texas-Pacific Coal and Oil Company, the applicant in Case No. 1327, was a participant in Case No. 673, and did not appeal from the final decision of the Commission entered in Order No. R-520, and said company was estopped to request a change in the proration formula for the Jalmat Gas Pool in the absence of evidence showing a change in conditions in the pool from the time of entry of Order No. R-520 or evidence showing that waste would result from the retention of the 100% acreage formula. No such allegations were made and no such evidence was introduced, and therefore the Commission was without authority to revise, modify or change Order No. R-520 to provide that the proration formula for the Jalmat Gas Pool should include a deliverability factor.

(d) The Oil Conservation Commission in its Finding No. 5 in Order No. R-1092-A found a general correlation between the deliverabilities of the gas wells in the Jalmat Gas Pool and

recoverable gas in place under the tracts dedicated to the wells.

This Finding was reaffirmed in Order No. R-1092-C, in the Commission's Finding No. 2 which was:

> "(2) 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 and 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 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.

Petitioner alleges that said finding of the Commission is contrary to and without support in the evidence introduced before the Commission and is invalid and void.

(e) The Order of the Commission is invalid in that even though it be assumed that it was proved by a preponderance by the evidence: "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", such a finding provides no basis authorized by the statutes of New Mexico for modification of the pre-existing acreage formula for allocation of gas produced from the Jalmat Gas Pool.

(f) The Commission used as a basis for its decision to include deliverability in the proration formula of the Jalmat Gas Pool, certain factors which are not contemplated or permitted by the statutes of New Mexico in the determination of a proration

formula for a gas pool. Finding No. 6 of Order No. R-1092-A found, (1) that the inclusion of a deliverability factor in the Jalmat Proration Formula would result in the production of a greater percentage of the pool allowable, and (2) that it would more nearly enable various gas purchasers in the Jalmat Gas Pool to meet the market demand for gas from said pool. Neither of said considerations provides any legal basis upon which the Commission could allocate production from the Jalmat Gas Pool under the statutes of New Mexico. The consideration of such factors rendered the decision of the Commission based thereon invalid and void.

(g) The uncontradicted evidence before the Commission showed that inclusion of a deliverability factor in the proration formula would result in economic waste in that it would require the expenditure of large sums of money by this Petitioner and other operators in the Jalmat Gas Pool in efforts to increase the deliverability of gas wells in the pool in order to protect their correlative rights, although the ultimate recovery from the various tracts would not be appreciably increased thereby, if at all, and although efforts to increase the deliverability of wells in the Jalmat Gas Pool could not prevent the violation of correlative rights which would result from the inclusion of a deliverability factor in the proration formula.

(h) The uncontradicted evidence before the Commission

showed that the inclusion of a deliverability factor in the Jalmat Gas Pool proration formula would result in underground waste in that many of the wells in the Jalmat Gas Pool have been completed for ten to twenty years, and that their condition is such that the action required of a prudent operator under a proration formula including a deliverability factor would necessarily result in the underground waste of natural gas, since efforts to increase the deliverability of older wells would result in the loss of some wells.

(i) The uncontradicted evidence before the Conservation Commission showed that there would be greater drainage across adjoining lease lines if the proration formula were amended to include a deliverability factor than there would be under the straight acreage formula. The evidence introduced by the applicant was directed only to drainage from area to area in the pool, and did not contradict the evidence offered by the Petitioner and other companies that there would be greater drainage across lease lines if the proration formula should be changed to include a deliverability factor.

(j) The evidence introduced before the Oil Conservation Commission showed that the inclusion of a deliverability factor in the proration formula as ordered by Order No. R-1092-A would result in irreparable injury to the correlative rights of Petitioner and would deprive Petitioner of its property without

due process of law in that it would permit the production by offset operators of natural gas underlying tracts owned by Petitioner without affording compensating counter-drainage from other adjoining tracts, and would prevent Petitioner from producting the recoverable gas in place in the Jalmat Gas Pool underlying the tracts upon which the wells of this Petitioner are located.

7. All of the matters alleged hereinabove were set forth in Petitioner's Application for Rehearing before the Oil Conservation Commission, as shown by Exhibit "D" attached hereto.

8. The Orders of the Commission, review of which is here sought, are further unlawful, unreasonable, arbitrary and capricious and, therefore, are invalid and void for the reason that the Commission upon rehearing refused to permit this Petitioner and other petitioners opposing the application in Case No. 1327 to present testimony with reference to property rights acquired during the existence of Order No. R-520 hereinabove referred to. In particular, the Commission refused to permit this and other operators to present evidence as to purchases of producing properties and royalties and loans made upon producing properties and royalties based upon the proration formula existing under Order No. R-520, and likewise refused the opportunity to present proof of communitization of properties which had occurred under the acreage allocation formula and the irreparable injury which

would result from the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool.

9. The formula set forth in Order No. R-1092-A which introduces a deliverability factor into the proration formula is not a reasonable basis on which to allocate the production from the Jalmat Gas Pool among the gas wells in the pool in that it fails to recognize or protect the correlative rights of the owners and operators in the pool. The 100% acreage formula for the proration of gas better protects the correlative rights of the operators and owners in the pool. The inclusion of a deliverability factor in the proration formula would result in economic waste, underground waste, and would violate correlative rights including those of this petitioner. Petitioner will introduce evidence in support of the above allegations upon the trial of this cause.

10. Texas-Pacific Coal and Oil Company was the applicant in Case No. 1327, and El Paso Natural Gas Company, Permian Basin Pipeline Company, and Southern Union Gas Company appeared in said case in support of the application, and the above companies together with the Oil Conservation Commission of New Mexico are named as respondents in this Petition in accordance with the statutes of New Mexico.

WHEREFORE, Petitioner respectfully prays the Court as authorized by Section 19(b) Chapter 168 of the Laws of the State

of New Mexico, 1949, Section 65-3-22(b), N.M.S.A. 1953, that:

1. Notice of this Petition for Review be served upon respondents in the manner provided for the service of summons in civil proceedings upon the adverse parties.

2. This Petition be set for trial, and upon the hearing thereof that this Court review the action of the Oil Conservation Commission herein complained of.

3. This Court try this action de novo and determine the issues of fact and law presented herein.

4. This Court enter its order vacating Orders Nos. R-1092-A and R-1092-C of the Commission hereinabove referred to.

5. This Court enter such other or further order in lieu of Orders Nos. R-1092-A and R-1092-C as the Court may determine to be proper.

CHARLES B. ELLARD
A. B. TANCO
P. O. Box 2819
Dallas, Texas

/s/ Howard Bratton
HERVEY, DOW & HINKLE
P. O. Box 547
Roswell, New Mexico

Attorneys for Petitioner, The Atlantic Refining Company

E X H I B I T S

OF
THE ATLANTIC REFINING COMPANY
PETITION FOR REVIEW
OF ACTION OF THE OIL CONSERVATION COMMISSION OF NEW MEXICO

Exhibit	See Page Volume I
A	15
B	16
C	21
D*	
E	37
F	39

** *** **

(*For Exhibit D
see next page.)

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL &
OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO,

APPLICATION FOR REHEARING

Comes now The Atlantic Refining Company and requests a rehearing in the above case with respect to the matters hereinafter referred to which were determined by Order No. R-1092-A of the New Mexico Oil Conservation Commission in connection with the above styled case, and in support thereof respectfully shows:

I.

Applicant owns and operates oil and gas leases and gas wells within the Jalmat Gas Pool in Lea County, New Mexico. Applicant is affected by Order No. R-1092-A, which was entered by the Commission under date of January 29, 1958.

EXHIBIT "D"

II.

Order No. R-1092-A contains two findings, Nos. 5 and 6, which are the basis upon which Finding No. 7 as to deliverability is made, and upon which said Order amends previous orders of the Commission to include a deliverability factor in the proration formula. Paragraph 2 of Order No. R-1092-A amends all orders previously issued by the Commission to provide for an "acreage factor" for allowable purposes. Paragraph 3 of Order No. R-1092-A provides that Order No. R-520 as amended by Order No. R-967 be revised effective July 1, 1958, to include a deliverability factor in the gas proration formula of the Jalmat Gas Pool. Said paragraph provides for the deliverability factor and sets forth how it shall be carried into effect.

III.

Applicant alleges that the Commission was without jurisdiction or authority, and was estopped in equity and justice to entertain the application in regard to the above matters in Order No. R-1092-A, and that Texas Pacific Coal & Oil Company was estopped to apply for an amendment to the proration formula for the Jalmat Gas Pool, and that if the Commission did have jurisdiction and there was no estoppel, the said order, in regard to the above matters, was discriminatory, erroneous, illegal and invalid, and a rehearing is requested in respect to said matters. In support thereof, applicant states:

(Exhibit "B")

1. The application of Texas Pacific Coal & Oil Company in case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool constituted a collateral attack upon Order No. 520 in Case No. 674 of this Commission, entered on the 12th day of August 1954, and the Commission was without jurisdiction to entertain said application, and said application cannot be made the basis of a valid order in Case No. 1327 insofar as the changing of the basis for allocation of production from the Jalmat Gas Pool from a 100% acreage basis to include a deliverability factor in the proration formula.

2. Order No. R-520 entered by this Commission in Case No. 673 constituted a final decision that the proration formula for the Jalmat Gas Pool should be on a 100% acreage basis. No appeal was taken from the final decision of the Commission so ordered, and the Commission cannot now on the basis of the application and record in this cause enter a valid order changing the basis for the allocation of production from the Jalmat Gas Pool.

3. Texas Pacific Coal & Oil Company, the applicant in Case No. 1327, was a participant in Case No. 673, and in said case supported the inclusion of deliverability in the proration formula, which request was considered by the Commission and denied therein. No appeal was taken by Texas Pacffic Coal & Oil

(Exhibit "D")

Company from the final decision of the Commission so ordered and said company is now estopped to request a change in the proration formula for the Jalmat Gas Pool. On the basis of the record in this case, the Commission is without authority to revise, modify or change Order No. R-520 to now provide that the proration formula for the Jalmat Gas Pool shall include a deliverability factor.

4. Order No. R-1092-A is invalid and discriminatory and deprives this applicant of its property without due process of law in violation of the 14th Amendment to the Constitution of the United States and in violation of Article II, Section 18 of the Constitution of the State of New Mexico in that this applicant has acted in reliance on Order No. R-520, and has performed drilling operations, recompletion operations, and has expended substantial sums of money on its properties in the Jalmat Gas Pool after the issuance of said Order, and it has vested property rights therein, which property rights will be impaired by the inclusion of a deliverability factor in the proration formula for the Jalmat Gas Pool.

5. As a result of the aforesaid expenditures and the other actions by this applicant in good faith in reliance upon the existing proration rules in Order No. R-520, the Commission is, as a matter of equity and justice, estopped from amending said proration order to include a deliverability factor, which amendment

(Exhibit "D")

would discriminate against this applicant.

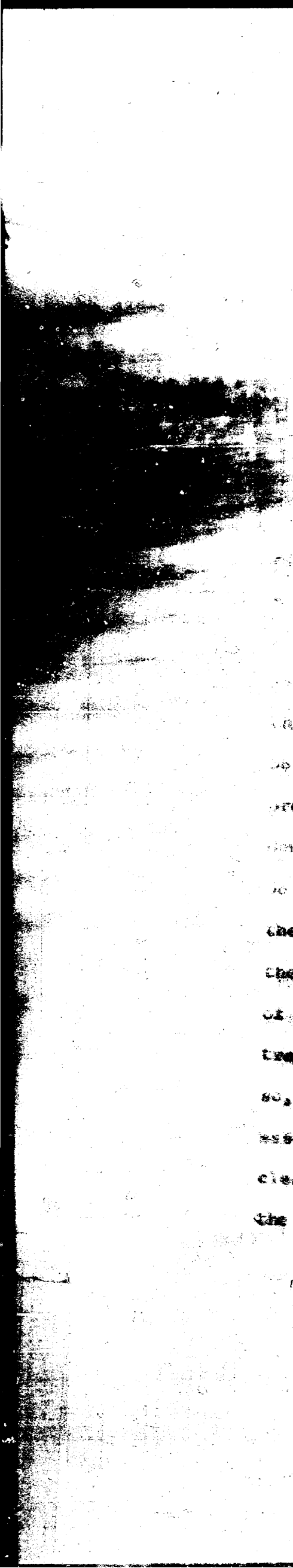
6. Finding No. 5 in Order No. R-1092-A is:

> "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 more equitable allocation of the gas production in said pool than under the present gas proration formula."

Applicant alleges that this finding is contrary to, and wholly without support in the evidence and is therefore erroneous and invalid. In further support in the evidence have alleged, there is attached hereto as Exhibit "A" a vertical bar graph depicting the relationship between the recoverable gas in place under the 58 tracts which were the subject of testimony and exhibits presented by this applicant and other operators before the Commission on December 9, 1957, and the deliverability of the 58 gas wells located on said tracts. Said exhibit is based upon the testimony and the record in this case and clearly demonstrates the total absence of correlation between the deliverabilities of gas wells in the Jalmat Gas Pool and gas in place under the tracts dedicated to said wells. If afforded an opportunity to do so, applicant will present further evidence in this regard but asserts that on the evidence heard by the Commission it is clearly shown that no such correlation exists, and that therefore the entire Finding No. 5 is erroneous and invalid.

7. Even though it is assumed that it has been proved as

(Exhibit "D")



stated in Finding No. 5 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", said Finding provides no basis authorized by the Statutes of New Mexico for modification of the formula prescribed by Order No. R-520 for the proration of gas produced from the Jalmat Gas Pool.

8. The Commission has used as a basis for its decision to include deliverability in the proration formula certain factors which are not contemplated or permitted by the statutes of New Mexico in the determination of a proration formula for a gas pool. Finding No. 6 of said Order No. R-1092-A is:

> "That 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 various gas purchasers in the Jalmat Gas Pool to meet the market demand for gas from said pool."

Neither of said considerations provides any legal basis for the allocation of production among the gas wells in a gas pool.

9. Order No. R-1092-A will result in underground waste since many wells in the Jalmat Gas Pool are old wells and the condition of many of such wells is such that the action required of a prudent operator under Order No. R-1092-A will necessarily result in the underground waste of natural gas.

10. Order No. R-1092-A will result in economic waste in that it will require the expenditure of a large sum of money by this

(Exhibit "D")

applicant to increase the deliverability of its gas wells in an effort to protect its correlative rights, although the ultimate recovery from the tracts owned by this applicant will not be appreciably increased thereby, and although efforts of operators to increase the deliverability of wells in the Jalmat Gas Pool cannot prevent the violation of correlative rights which will result from the inclusion of a deliverability factor in the proration formula.

11. Order No. R-1092-A is invalid in that the burden of proof was upon the applicant in this case, by a preponderance of the evidence, to show a valid reason on a ground authorized by the statutes of New Mexico for the inclusion of deliverability in the proration formula for the Jalmat Gas Pool, and the applicant did not sustain this burden of proof.

12. Order No. R-1092-A results in irreparable injury to the property rights of applicant and to its correlative rights in that it permits drainage from under tracts in the Jalmat Gas Pool owned by this applicant, which drainage is not equalized by counter drainage. This deprives applicant of its property without due process of law in violation of Amendment 14 to the Constitution of the United States and Article II, Section 18 of the Constitution of the State of New Mexico.

WHEREFORE, Applicant respectfully requests the Commission that a rehearing be granted in the above case as to those portions

(Exhibit "D")

of Order No. R-1092-A which amend the previous orders of the Commission to provide for the inclusion of a deliverability factor in the allocation formula of the Jalmat Gas Pool subsequent to July 1, 1958, and that after rehearing the Commission rescind its order in the above respects, and retain the proration formula established by Order No. R-520.

THE ATLANTIC REFINING COMPANY

A. B. TANCO
P. O. Box 2819
Dallas, Texas

/s/ Howard C. Bratton
HERVEY, DOW & HINKLE
P. O. Box 547
Roswell, New Mexico

AND, THEREAFTER, to-wit: On the 12th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,218, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now Respondent, Oil Conservation Commission of New Mexico, and for its response to the Petition for Review, states:

1. It admits the allegations of Paragraphs 1, 2, 3, 4, 5, 7 and 10.

2. It denies the general allegations of Paragraph 6 that the Orders complained of are "unreasonable, unlawful, capricious and arbitrary and were beyond the power of the Commission to enter and were invalid."

3. It denies the allegations of Paragraphs 6(a) through 6(j), including all legal conclusions set forth therein.

4. It denies the allegations of Paragraph 8 that the Orders complained of are unlawful, unreasonable, arbitrary and capricious and, therefore, are invlaid and void. It admits that the testimony referred to in Paragraph 8 was excluded, but in this connection states that said testimony is neither relevant nor material to the issues before the Commission in Case No. 1327.

5. It denies the allegations of Paragraph 9 and specifically denies that the Petitioner may, without limitation, intoduce evidence before the Court upon trial of this cause.

WHEREFORE, Respondent prays the Court:

1. That the Petition for Review be dismissed.

2. That Orders No. R-1092-A and R-1092-C of the Commission be affirmed.

3. That the Court enter such order, or further Orders, as it may determine to be proper.

/s/ William J. Cooley

/s/ Oliver E. Payne

Attorneys for Respondent, Oil Conservation Commission of New Mexico

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 13th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,218, in words and figures as follow, to-wit: a

RESPONSE

Comes now Respondent, Texas Pacific Coal and Oil Company, pursuant to Rule 10(c) of the Rules of Civil Procedure, and hereby adopts the Response herein filed on behalf of the Oil Conservation Commission of New Mexico as its Response in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

TEXAS PACIFIC COAL AND OIL COMPANY

By: /s/ Jack M. Campbell
Campbell & Russell
P. O. Box 721
Roswell, New Mexico

Attorneys for Respondent

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,218, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now the respondent Southern Union Gas Company, a foreign corporation, pursuant to Rule 10(c) of the Rules of Civil Procedure, and hereby adopts the Response herein filed on behalf of the respondent Oil Conservation Commission of New Mexico as its response, in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

WILLIS L. LEA, JR., and A. S. GRENIER
Burt Building, Dallas, Texas

MANUEL A. SANCHEZ
Santa Fe,,New Mexico

By: /s/ Manuel A. Sanchez

Attorneys for the above named Respondent

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,218, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now Respondent, El Paso Natural Gas Company, a Delaware corporation, and for its response to the Petition for Review herein, states:

1. It admits the allegations of Paragraphs 1, 2, 3, 4, 5, 7 and 10.

2. It denies the general allegations of Paragraph 6 that the Orders complained of are "unreasonable, unlawful, capricious and arbitrary and were beyond the power of the Commission to enter and were invalid".

3. It denies the allegations of Paragraphs 6(a) through 6(j), including all legal conclusions set forth therein.

4. It admits that certain testimony referred to in Paragraph 8 was excluded by the Commission, but states that such testimony was properly excluded as it was neither relative nor material in Case No. 1327.

5. It denies the allegations of Paragraph 9 and specifically denies that the Petitioner may, without limitation, introduce evidence before the Court upon trial of this cause.

WHEREFORE, REspondent prays the Court:

1. That the Petition for Review be dismissed.

2. That Orders Nos. R-1092-A and R-1092-C of the Commission be affirmed.

3. That the Court enter such Order, or further Orders, as it may determine to be proper.

HARDIE, GRAMBLING, SIMS & GALATZAN
P. O. Box 153 - El Paso, Texas

By: /s/ A. L. Grambling

COWAN AND LEACH
Hobbs, New Mexico

By: /s/ Ray C. Cowan
Attorneys for Respondent,
El Paso Natural Gas Company

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,218, in words and figures as follow, to-wit: a

RESPONSE

Comes now Respondent Permian Basin Pipeline Company, and, pursuant to Rule 10(c) of the Rules of Civil Procedure, hereby adopts the response herein filed on behalf of the Oil Conservation Commission of New Mexico as its response in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

PERMIAN BASIN PIPELINE COMPANY
Respondent

By /s/ Robert W. Ward
Attorney for Respondent

Robert W. Ward
201 North Love
Lovington, New Mexico

Lawrence I. Shaw
F. Vinson Roach
Patrick J. McCarthy
2223 Dodge Street
Omaha 1, Nebraska

Attorneys for Permian Basin
Pipeline Company, Respondent!

(Service of pleading
certified to.)

AND, THEREAFTER, to-wit: On the dates set forth below, there was filed in the office of said Clerk, in said Cause No. 16,218, instruments, identical in words and figures to those filed in Cause No. 16,213, as follow, to-wit:

Instrument	Date Filed	Set Forth in Vol. I Page
Motion for Pre-Trial Conference	July 3, 1958	48
Minutes - Pre-Trial Conference	Sept. 9, 1958	50
Petitioners' Offer of Proof	Sept. 15, 1958	65
Statement of the Case	Sept. 23, 1958	70
Petitioners' Supplemental Offer of Proof	Sept. 23, 1958	80
Motion	June 12, 1959	82
Order	June 12, 1959	83
Stipulation	June 26, 1959	85
Respondents' Offer of Proof	June 26, 1959	86
Requested Findings of Fact and Conclusions of Law	Aug. 21, 1959	89
Motion	Aug. 27, 1959	94
Order	Aug. 27, 1959	95
Certificate	Aug. 28, 1959	96
Motion	Aug. 31, 1959	97
Order	Aug. 31, 1959	98
Certificate	Sept. 3, 1959	99

Instrument	Date Filed	Set Forth in Vol. I Page
Requested Findings of Fact and Conclusions of Law of Petitioners Continental Oil Company, et al	Jan. 18, 1960	100
Decision of the Court	Feb. 17, 1960	115
Judgment	Feb. 17, 1960	120
Motion for Allowance of Appeal	Mar. 14, 1960	121
Order Allowing Appeal	Mar. 14, 1960	122
Notice of Appeal	Mar. 14, 1960	123
Certificate	Mar. 14, 1960	124
Proof of Service	Mar. 22, 1960	125
Motion for Allowance of Cross-Appeal	Mar. 25, 1960	126
Order Granting Cross-Appeal	Mar. 25, 1960	127
Notice of Allowance of Cross-Appeal	Mar. 28, 1960	128
Stipulation	Apr. 12, 1960	130
Order	Apr. 12, 1960	133
Praecipe	Apr. 12, 1960	135
Point Relied Upon by Cross-Appellant	Apr. 21, 1960	137

** *** **

AND, BE IT REMEMBERED, That on the 13th day of May 1958, there was filed in the office of said Clerk of the District Court of the Fifth Judicial District of the State of New Mexico, within and for the County of Lea, in Cause No. 16,219 on the Civil Docket of said Court, wherein STANDARD OIL COMPANY OF TEXAS is Petitioner (concerning the same Orders of and Case before the Oil Conservation Commission of the State of New Mexico as referred to in Cause No. 16,213 hereinbefore set forth), in words and figures as follow, to-wit: a

PETITION FOR REVIEW

Comes now Standard Oil Company of Texas and for its petition for review of the action of the Oil Conservation Commission of the State of New Mexico in the above styled and numbered case and in the above Orders, alleges and states:

1. Petitioner is a corporation duly admitted to do business in the State of New Mexico, and is the owner of natural gas wells situate within the exterior boundaries of the Jalmat Gas Pool located in Lea County, New Mexico.

2. On the 29th day of January, 1958, the Oil Conservation Commission of New Mexico entered its Order No. R-1092-A in Case No. 1327, on the docket of said Commission, changing the gas proration formula applicable to wells in the Jalmat Gas Pool, which formula had been promulgated by Order No. R-520 of the

Oil Conservation Commission entered in Case No. 673 on August 12, 1954. Petitioner was a party to Cause No. 1327 and was affected by Order No. R-1092-A entered therein. Petitioner duly filed an Application for Rehearing directed to said Order No. R-1092-A and after rehearing the Oil Conservation Commission, on the 25th day of April, 1958, promulgated its Order No. R-1092-C reaffirming and refusing to modify the provisions of Order No. R-1092-A. Petitioner was affected by and dissatisfied with the provisions of Order No. R-1092-C, and by this proceeding seeks review as provided by law of Orders Nos. R-1092-A and R-1092-C above referred to.

3. The Jalmat Gas Pool is located in Lea County, New Mexico. After extended hearings the New Mexico Oil Conservation Commission entered on August 12, 1954, its Order No. R-520 in case No. 673, a copy of which said Order No. R-520 is marked Exhibit "A", is filed with the Clerk of the District Court of Lea County simultaneously with the filing of this Petition for Review and by reference incorporated herein. Copies of said order are in the possession of all of the parties to this proceeding. Said Order instituted gas prorationing in the Jalmat Gas Pool effective January 1, 1955. The Order provided for the method of allocation of the allowable among the various wells in the Jalmat Gas Pool, and provided that such allocation should be based 100% upon the acreage dedicated to the particular well.

Said case was regularly advertised and heard, and all owners or operators or persons interested were afforded an opportunity to present their views with respect to the institution of prorationing and the allocation formula which was to be adopted for the distribution of production among the various wells in the Pool. No appeal was taken from Order No. R-520, which Order became effective and remained in full and controlling force and effect until the action of the New Mexico Oil Conservation Commission herein complained of.

4. Case No. 1327 came on to be heard before the Oil Conservation Commission of New Mexico on October 18, 1957, upon the application of Texas-Pacific Coal and Oil Company. A copy of said application is attached hereto as Exhibit "B". After hearings were held, the Commission on January 29, 1958, entered Order No. R-1092-A, a copy of which is attached hereto as Exhibit "C" and made a part hereof.

By the terms and provisions of Order No. R-1092-A, the Commission denied the application insofar as it sought the termination of prorationing in the Jalmat Gas Pool in Lea County, New Mexico, but it did change the proration formula in said Pool from the formula set forth in Order No. R-520 which was based 100% upon acreage to a formula of 25% acreage and 75% acreages times deliverability.

5. Petitioner timely filed its application for rehearing

before the Oil Conservation Commission of the State of New Mexico, acopy of which application is attached hereto as Exhibit "D" and made a part hereof. The Oil Conservation Commission granted a rehearing in accordance with the provisions of Order No. R-1092-B, a copy of which is attached hereto as Exhibit "E". After rehearing,the Oil Conservation Commission entered Order No. R-1092-C which found that the provisions of Order No. R-1092-A should remain in full force and effect. A copy of said Order No. R-1092-C is attached hereto as Exhibit "F" and made a part hereof.

6. Petitioneralleges that Orders Nos. R-1092-A and R-1092-C are unreasonable, unlawful, capricious and arbitrary and were beyond the power of the Commission to enter and are invalid upon the following grounds, to-wit:

(a) The application of Texas-Pacific Coal and Oil Company in Case No. 1327 to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. R-520 in case No. 673 of the Oil Conservation Commission and, therefore, should not have been entertained by the Commission, and could not be the basis of a valid order in Case No. 1327 insofar as the changing of the basis of allocation of production from the Jalmat Gas Pool from a 100% acreage basis to include a deliverability factor in the proration formula.

(b) Order No. R-520 entered by the Oil Conservation Commission in Case No. 673 constituted a final decision that the proration formula for the Jalmat Gas Pool should be on a 100% acreage basis. No appeal was taken from the final decision of the Commission so ordered, and the application in Case No. 1327 did not allege and the record in said case does not show any change of conditions in the Jalmat Gas Pool or any waste which would result from retention of the 100% acreage allocation formula. On the basis of the application and the record, the Commission was without authority or jurisdiction to modify or change the proration formula set forth in Order No. R-520.

(c) Texas-Pacific Coal and Oil Company, the applicant in Case No. 1327, was a participant in Case No. 673, and did not appeal from the final decision of the Commission entered in Order No. R-520, and said company was estopped to request a change in the proration formula for the Jalmat Gas Pool in the absence of evidence showing a change in conditions in the pool from the time of entry of Order No. R-520 or evidence showing that waste would result from the retention of the 100% acreage formula. No such allegations were made and no such evidence was introduced, and therefore the Commission was without authority to revise, modify or change Order No. R-520 to provide that the proration formula for the Jalmat Gas Pool should include a deliverability factor.

(d) The Oil Conservation Commission in its Finding No. 5 in Order No. R-1092-A found a general correlation between the deliverabilities of the gas wells in the Jalmat Gas Pool and recoverable gas in place under the tracts dedicated to the wells. This Finding was reaffirmed in Order No. R-1092-C, in the Commission's Finding No. 2 which was:

> "(2) 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 and 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 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."

Petitioner alleges that said finding of the Commission is contrary to and without support in the evidence introduced before the Commission and is invalid and void.

(e) The Order of the Commission is invalid in that even though it beassumed that it was proved by a preponderance by the evidence: "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", such a finding provides no basis authorized by the statutes of New Mexico for modification of the pre-existing acreage formula for allocation of gas produced from the Jalmat Gas Pool.

(f) The Commission used as a basis for its decision to include deliverability in the proration formula of the Jalmat Gas Pool, certain factors which are not contemplated or permitted by the statutes of New Mexico in the determination of a proration formula for a gas pool. Finding No. 6 of Order No. R-1092-A found, (1) that the inclusion of a deliverability factor in the Jalmat Proration Formula would result in the production of a greater percentage of pool allowable, and (2) that it would more nearly enable various gas purchasers in the Jalmat Gas Pool to meet the market demand for gas from said pool. Neither of said considerations provides any legal basis upon which the Commission could allocate production from the Jalmat Gas Pool under the statutes of New Mexico. The consideration of such factors rendered the decision of the Commission based thereon invalid and void.

(g) The uncontradicted evidence before the Commission showed that inclusion of a deliverability factor in the proration formula would result in economic waste in that it would require the expenditure of large sums of money by this Petitioner and other operators in the Jalmat Gas Pool in efforts to increase the deliverability of gas wells in the pool in order to protect their correlative rights, although the ultimate recovery from the various tracts would not be appreciably increased thereby, and although efforts to increase the deliverability of wells

in the Jalmat Gas Pool could not prevent the violation of correlative rights which would result from the inclusion of a deliverability factor in the proration formula.

(h) The uncontradicted evidence before the Commission showed that the inclusion of a deliverability factor in the Jalmat Gas Pool proration formula would result in underground waste in that many of the wells in the Jalmat Gas Pool have been completed for ten to twenty years, and that their condition is such that the action required of a prudent operator under a proration formula including a deliverability factor would necessarily result in the underground waste of natural gas, since efforts to increase the deliverability of older wells would result in the loss of some wells.

(i) The uncontradicted evidence before the Conservation Commission showed that there would be greater drainage across adjoining lease lines if the proration formula were amended to include a deliverability factor than there would be under the straight acreage formula. The evidence introduced by the applicant was directed only to drainage from area to area in the pool, and did not contradict the evidence offered by the Petitioner and other companies that there would be greater drainage across lease lines if the proration formula should be changed to include a deliverability factor.

(j) The evidence introduced before the Oil Conservation

Commission showed that the inclusion of a deliverability factor in the proration formula as ordered by Order No. R-1092-A would result in irreparable injury to the correlative rights of Petitioner and would deprive Petitioner of its property without due process of law in that it would permit the production by offset operators of natural gas underlying tracts owned by Petitioner without affording compensating counter-drainage from other adjoining tracts, and would prevent Petitioner from producing the recoverable gas in place in the Jalmat Gas Pool underlying the tracts upon which the wells of this Petitioner are located.

7. All of the matters alleged hereinabove were set forth in Petitioner's Application for Rehearing before the Oil Conservation Commission, as shown by Exhibit "D" attached hereto.

8. The orders of the Commission, review of which is here sought, are further unlawful, unreasonable, arbitrary and capricious and, therefore, are invalid and void for the reason that the Commission upon rehearing refused to permit this Petitioner and other petitioners opposing the application in Case No. 1327 to present testimony with reference to property rights acquired during the existence of Order No. R-520 hereinabove referred to. In particular, the Commission refused to permit this and other operators to present evidence as to purchases of producing properties and royalties and loans made upon producing properties and royalties based upon the proration formula existing under

Order No. R-520, and likewise refused the opportunity to present proof of communitization of properties which had occurred under the acreage allocation formula and the irreparable injury which would result from the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool.

9. The formula set forth in Order No. R-1092-A which introduces a deliverability factor into the proration formula is not a reasonable basis on which to allocate the production from the Jalmat Gas Pool among the gas wells in the pool in that it fails to recognize or protect the correlative rights of the owners and operators in the pool. The 100% acreage formula for the proration of gas better protects the correlative rights of the operators and owners in the pool. The inclusion of a deliverability factor in the proration formula would result in economic waste, underground waste, and would violate correlative rights including those of this petitioner. Petitioner will introduce evidence in support of the above allegations upon the trial of this cause.

10. Texas-Pacific Coal and Oil Company was the applicant in case No. 1327, and El Paso Natural Gas Company, Permian Basin Pipeline Company, and Southern Union Gas Company appeared in said case in support of the application, and the above companies together with the Oil Conservation Commission of New Mexico are named as respondents in this Petition in accordance with the statutes of New Mexico.

WHEREFORE, Petitioner respectfully prays the Court as authorized by Section 19(b) Chapter 168 of the Laws of the State of New Mexico, 1949, Section 65-3-22(b), N.M.S.A. 1953, that:

1. Notice of this Petition for Review be served upon respondents in the manner provided for the service of summons in civil proceedings upon the adverse parties.

2. This Petition be set for trial, and upon the hearing thereof that this Court review the action of the Oil Conservation Commission herein complained of.

3. This Court try this action de novo and determine the issues of fact and law presented herein.

4. This Court enter its order vacating Orders Nos. R-1092-A and R-1092-C of the Commission hereinabove referred to.

5. This Court enter such other or further order in lieu of Orders Nos. R-1092-A and R-1092-C as the Court may determine to be proper.

C. W. PROCTOR
P. O. Box 1249
Houston, Texas

/s/ Howard Bratton
HERVEY, DOW & HINKLE
P. O. Box 547
Roswell, New Mexico

Attorneys for Petitioner, Standard Oil Company of Texas

E X H I B I T S

TO
STANDARD OIL COMPANY OF TEXAS
PETITION FOR REVIEW
OF ACTION OF THE OIL CONSERVATION COMMISSION OF NEW MEXICO

Exhibit	See Page Volume I
A	15
B	16
C	21
D*	37
E	39
F	

** *** **

(*For Exhibit D see next page.)

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL &
OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

APPLICATION FOR REHEARING

Comes Now Standard Oil Company of Texas, a corporation, and states to the Commission:

(1) This Applicant is a corporation owning oil and gas leases and gas wells within the limits of the Jalmat Gas Pool in Lea County, New Mexico.

(2) Applicant participated in the hearings before the Commission on the Application of Texas Pacific Coal & Oil Company in the above styled and numbered case and as an Operator in the Jalmat Gas Pool was affected by Order No. R-1092-A entered by the Commission under date of January 29, 1958.

(3) Applicant believes and therefore alleges that Order No. R-1092-A aforesaid was erroneous, illegal and is invalid and

by reason thereof a rehearing is requested in respect to that portion of said Order which provides that effective July 1, 1958, a deliverability factor shall be included in the gas proration formula of the Jalmat Pool and the succeeding portions of said Order carrying into effect the decision of the Commission that deliverability shall be included in the proration formula subsequent to July 1, 1958, and as grounds therefor states:

(a) The evidence introduced in this proceeding provides no basis upon which a valid order could be entered by the Commission changing the basis for the allocation of production from the Jalmat Gas Pool from a 100% acreage basis to the basis provided in Order No. R-1092-A for the reason that Order No. R-520 entered by this Commission in Case No. 673 constituted a final determination that deliverability should not be included in the proration formula of the Jalmat Gas Pool. Texas Pacific Coal & Oil Company was a part to Case No. 673 and supported the inclusion of deliverability in the proration formula, which request was considered by the Commission, and Order No. 520 was entered denying the request of said Texas Pacific Coal & Oil Company for the inclusion of deliverability in said formula. No appeal was taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered. On the basis of the record in this case, the Commission is without authority to modify or change the decision so reached in Case No. 673.

EXHIBIT "D"

(b) The inclusion of deliverability in the Jalmat Gas proration formula as ordered by Order No. R-1092-A is predicated on a finding by this Commission "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". Applicant respectfully alleges that this finding of the Commission is contrary to, and wholly without support in, the evidence and is therefore invalid and void. In further support of the grounds here alleged, Applicant attaches hereto as Exhibit "A" a vertical bar graph depicting the relationship between the recoverable gas in place under the 58 tracts which were the subject of testimony and exhibits presented by this applicant and other operators before the Commission on December 9, 1957, and the deliverability of the 58 gas wells located on said tracts. Said exhibit is based upon the testimony in the record in this case and clearly demonstrates the total absence of correlation between the deliverabilities of gas wells in the Jalmat Gas Pool and gas in place under the tracts dedicated to said wells. If afforded an opportunity to do so, Applicant will present further evidence in this regard but asserts that on the evidence heard by the Commission it is clearly shown that no such correlation exists.

(c) That the Commission has considered factors not permitted by the statutes of New Mexico in arriving at its

(Exhibit "D")

decision which was the basis of Order No. R-1092-A. It is apparent from said Order that it was predicated in part upon, (1) a finding that the inclusion of a deliverability factor in the Jalmat proration formula would result in the production of a greater percentage of the pool allowable, and (2) that it would more nearly enable various gas purchasers to meet the market demand for gas in the Jalmat Gas Pool. Neither of said considerations provides any legal basis for the allocation of production under the statutes of New Mexico.

(d) The Application of Texas Pacific Coal & Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. 520 in Case No. 6731 of this Commission entered on the 12th day of August, 1954, and therefore should not have been entertained by the Commission and cannot be made the basis of a valid Order in Case No. 1327 insofar as the inclusion of deliverability in the proration formula is concerned.

(e) The order of the Commission is invalid in that even though it be assumed that as found by the Commission it has been 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", said finding provides no basis authorized by the statutes of New Mexico

(Exhibit "D")

for modification of the pre-existing acreage formula for proration of gas produced from said pool.

(f) The order of the Commission results in economic waste in that it will require the expenditure of an excess of One Hundred Thousand Dollars by this applicant to increase the deliverability of its gas wells in an effort to protect its correlative rights, although the ultimate recovery from such wells will not be appreciably increased thereby.

(g) The Order of the Commission will result in underground waste in that many of the wells in the Jalmat Gas Pool have beencompleted for some ten to twenty years and their condition is such that the action required of a prudent operator under the Order of the Commission will necessarily result in the underground waste of natural gas and the abuse of correlative rights of the owners of many of said wells.

(h) The Order of the Commission is invalid in that the Commission would have authority to change its existing proration order for the Jalmat Gas Pool only upon the proof by the Applicant in this case, by a preponderance of the evidence, either that waste would be reduced or eliminated or that correlative rights of the owners in the Jalmat Pool would be protected to a greater degree by the inclusion of deliverability in said proration formula. The burden of proof so assumed by Texas Pacific Coal & Oil Company was not discharged by Applicant.

(Exhibit "D")

(i) Order No. R-1092-A results in irreparable injury to the correlative rights of Applicant and deprives this Applicant of its property without due process of law in this, that, it will permit production by offset operators of natural gas underlying the tracts woned by this Applicant without affording compensating counter-drainage from other adjoining tracts, and will prevent the Applicant from producing the recoverable gas in place in the Jalmat Pool underlying the tract upon which the wells of Applicant are located.

(j) Applicant has, since the entry of Order No. 520 in Case No. 1327, completed wells and reworked wells in the Jalmat Field in reliance upon said order and because allowables were based on a 100% acreage favtor, no effort was made to obtain the greatest possible degree of deliverability. Applicant, therefore, alleges that Order No. R-1092-A is invalid because it results in a gross inequity to this Applicant and that the Commission cannot in good conscience deprive this Applicant of its property by drastically changing the allowable basis after the expenditure of considerable sums of money in reliance on the basis set out in Order No. 520.

WHEREFORE, Applicant respectfully prays the Commission that a rehearing be granted in the above styled and numbered case as to that portion of the Order and Decision of the Commission providing for the inclusion of a deliverability factor in the

(Exhibit "D")

allocation formula of the Jalmat Gas Pool subsequent to July 1, 1958.

STANDARD OIL COMPANY OF TEXAS

By: /s/ C. W. Proctor
C. W. Proctor

A copy of this application has been served on Texas and Pacific Coal and Oil Company by registered mail.

AND, THEREAFTER, to-wit: On the 12th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,219, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now Respondent, Oil Conservation Commission of New Mexico, and for its response to the Petition for Review, states:

1. It admits the allegations of Paragraphs 1, 2, 3, 4, 5, 7 and 10.

2. It denies the general allegations of Paragraph 6 that the Orders complained of are "unreasonable, unlawful, capricious and arbitrary and were beyond the power of the Commission to enter and were invalid."

3. It denies the allegations of Paragraphs 6(a) through 6(j), including all legal conclusions set forth therein.

4. It denies the allegation in Paragraph 8 that the Orders complained of are unlawful, unreasonable, arbitrary and capricious and, therefore, are invalid and void. It admits that the testimony referred to in Paragraph 8 was excluded, but in this connection states that said testimony is neither relevant nor material to the issues before the Commission in Case No. 1327.

5. It denies the allegations of Paragraph 9 and specifically denies that the Petitioner may, without limitation, introduce evidence before the Court upon trial of this cause.

WHEREFORE, Respondent prays the Court:

1. That the Petition for Review be dismissed.

2. That Orders No. R-1092-A and R-1092-C of the Commission be affirmed.

3. That the Court enter such Order, or further Orders, as it may determine to be proper.

/s/ William J. Cooley

/s/ Oliver E. Payne

Attorneys for Respondent, Oil Conservation Commission of New Mexico

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 13th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,219, in words and figures as follow, to-wit: a

RESPONSE

Comes now Respondent, Texas Pacific Coal and Oil Company, pursuant to Rule 10(c) of the Rules of Civil Procedure, and hereby adopts the Response herein filed on behalf of the Oil Conservation Commission of New Mexico as its Response in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

TEXAS PACIFIC COAL AND OIL COMPANY

By: /s/ Jack M. Campbell
Campbell & Russell
P. O. Box 721
Roswell, New Mexico

Attorneys for Respondent

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,219, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now the respondent Southern Union Gas Company, a foreign corporation, pursuant to Rule 10(c) of the Rules of Civil Procedure, and hereby adopts the response herein filed on behalf of the respondent Oil Conservation Commission of New Mexico as its response, in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

WILLIS L. LEA, JR., and A. S. GRENIER
Burt Building, Dallas, Texas

MANUEL A. SANCHEZ
Santa Fe, New Mexico

By /s/ Manuel A. Sanchez

Attorneys for the above named respondent

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,219, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now Respondent, El Paso Natural Gas Company, a Delaware corporation, and for its response to the Petition for Review herein, states:

1. It admits the allegations of Paragraphs 1, 2, 3, 4, 5, 7 and 10.

2. It denies the general allegations of Paragraph 6 that the Orders complained of are "unreasonable, unlawful, capricious and arbitrary and were beyond the power of the Commission to enter and were invalid".

3. It denies the allegations of Paragraphs 6(a) through 6(j), including all legal conclusions set forth therein.

4. It admits that certain testimony referred to in Paragraph 8 was excluded by the Commission, but states that such testimony was properly excluded, as it was neither relative nor material in Case No. 1327.

5. It denies the allegations of Paragraph 9 and specifically denies that the Petitioner may, without limitation, introduce evidence before the Court upon trial of this cause.

WHEREFORE, Respondent prays the Court:

1. That the Petition for Review be dismissed.

2. That Orders Nos. R-1092-A and R-1092-C of the Commission be affirmed.

3. That the Court enter such Order, or further Orders, as it may determine to be proper.

HARDIE, GRAMBLING, SIMS & GALATZAN
P. O. Box 153 - El Paso, Texas

BY: /s/ A. L. Grambling

COWAN & LEACH
Hobbs, New Mexico

BY: /s/ Ray C. Cowan
Attorneys for Respondent,
El Paso Natural Gas Company

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,219, in words and figures as follow, to-wit: a

RESPONSE

Comes now Respondent Permian Basin Pipoline Company, and, pursuant to Rule 10(c) of the Rules of Civil Procedure, hereby adopts the response herein filed on behalf of the Oil Conservation Commission of New Mexico as its response in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

PERMIAN BASIN PIPELINE COMPANY,
REspondent

By /s/ Robert W. Ward
Attorney for Respondent

Robert W. Ward
201 North Love
Lovington, New Mexico

Lawrence I. Shaw
F. Vinson Roach
Patrick J. McCarthy
2223 Dodge Street
Omaha 1, Nebraska

Attorneys for Permian Basin Pipeline
Company, Respondent

(Service of pleading
certified to.)

AND, THEREAFTER, to-wit: On the dates set forth below, there was filed in the office of said Clerk, in said Cause No. 16,219, instruments idential in words and figures to those filed in Cause No. 16,213 as follow, to-wit:

Instrument	Date Filed	Set Forth in Vol. I Page
Motion for Pre-Trial Conference	July 3, 1958	48
Minutes - Pre-Trial Conference	Sept. 9, 1958	50
Petitioners' Offer of Proof	Sept. 15, 1958	65
Statement of the Case	Sept. 23, 1958	70
Petitioners' Supplemental Offer of Proof	Sept. 23, 1958	80
Motion	June 12, 1959	82
Order	June 12, 1959	83
Stipulation	June 26, 1959	85
Respondents' Offer of Proof	June 26, 1959	86
Requested Findings of Fact and Conclusions of Law	Aug. 21, 1959	89
Motion	Aug. 27, 1959	94
Order	Aug. 27, 1959	95
Certificate	Aug. 28, 1959	96
Motion	Aug. 31, 1959	97
Order	Aug. 31, 1959	98
Certificate	Sept. 3, 1959	99

Instrument	Date Filed	Set Forth in Vol. I Page
Requested Findings of Fact and Conclusions of Law of Petitioners Continental Oil Company, et al	Jan. 18, 1960	100
Decision of the Court	Feb. 17, 1960	115
Judgment	Feb. 17, 1960	120
Motion for Allowance of Appeal	Mar. 14, 1960	121
Order Allowing Appeal	Mar. 14, 1960	122
Notice of Appeal	Mar. 14, 1960	123
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Stipulation	Apr. 12, 1960	130
Order	Apr. 12, 1960	133
Praecipe	Apr. 12, 1960	135
Point Relied Upon by Cross-Appellant	Apr. 21, 1960	137

** *** **

AND, BE IT REMEMBERED, That on the 13th day of May 1958, there was filed in the office of said Clerk of the District Court of the Fifth Judicial District of the State of New Mexico, within and for the County of Lea, in Cause No. 16,220 on the Civil Docket of said Court, wherein HUMBLE OIL & REFINING COMPANY is Petitioner (concerning the same Orders of and Case before the Oil Conservation Commission of the State of New Mexico as referred to in Cause No. 16,213 hereinbefore set forth), in words and figures as follow, to-wit: a

PETITION FOR REVIEW

Comes now Humble Oil & Refining Company and for its petition for review of the action of the Oil Conservation Commission of the State of New Mexico in the above styled and numbered case and in the above Orders, alleges and states:

1. Petitioner is a corporation duly admitted to do business in the State of New Mexico, and is the owner of natural gas wells situate within the exterior boundaries of the Jalmat Gas Pool located in Lea County, New Mexico.

2. On the 29th day of January, 1958, the Oil Conservation Commission of New Mexico entered its Order No. R-1092-A in Case No. 1327, on the docket of said Commission, changing the gas proration formula applicable to wells in the Jalmat Gas Pool, which formula had been promulgated by Order No. R-520 of the

Oil Conservation Commission entered in Case No. 673 on August 12, 1954. Petitioner was a party to Cause No. 1327 and was affected by Order No. R-1092-A entered therein. Petitioner duly filed an Application for Rehearing directed to said Order No. R-1092-A and after rehearing the Oil Conservation Commission, on the 25th day of April, 1958, promulgated its Order No. R-1092-C reaffirming and refusing to modify the provisions of Order No. R-1092-A. Petitioner was affected by and dissatisfied with the provisions of Order No. R-1092-C, and by this proceeding seeks review as provided by law of Orders Nos. R-1092-A and R-1092-C above referred to.

3. The Jalmat Gas Pool is located in Lea County, New Mexico. After extended hearings, the New Mexico Oil Conservation Commission entered on August 12, 1954, its Order No. R-520 in Case No. 673, a copy of which said Order No. R-520 is marked Exhibit "A", is filed with the Clerk of the District Court of Lea County simultaneously with the filing of this Petition for Review and by reference incorporated herein. Copes of said order are in the possession of all of the parties to this proceeding. Said Order instituted gas prorationing in the Jalmat Gas Pool effective January 1, 1955. The Order provided for the method of allocation of the allowable among the various wells in the Jalmat Gas Pool, and provided that such allocation should be based 100% upon the acreage dedicated to the particular well.

Saidcase was regularly advertised and heard, and all owners or operators or persons interested were afforded an opportunity to present their views with respect to the institution of prorationing and the allocation formula which was to be adopted for the distribution of production among the various wells in the Pool. No appeal was taken from Order No. R-520, which Order became effective and remained in full and controlling force and effect until the action of the New Mexico Oil Conservation Commission herein complained of.

4. Case No. 1327 came on to be heard before the Oil Conservation Commission of New Mexico on October 18, 1957, upon the application of Texas-Pacific Caol and Oil Company. A copy of said application is attached hereto as Exhibit "B". After hearings were held, the Commission on January 29, 1958, entered Order No. R-1092-A, a copy of which is attached hereto as Exhibit "C" and made a part hereof.

By the terms and provisions of Order No. R-1092-A, the Commission denied the application insofar as it sought the termination of prorationing in the Jalmat Gas Pool In Lea County, New Mexico, but it did change the proration formula in said Pool from the formula set forth in Order No. R-520 which was based 100% upon acreage to a formula of 25% acreage and 75% acreage times deliverability.

5. Petitioner timely filed its application for rehearing before the Oil Conservation Commission of the State of New Mexico,

a copy of which application is attached hereto as Exhibit "D" and made a part hereof. The Oil Conservation Commission granted a rehearing in accordance with the provisions of order No. R-1092-B, a copy of which is attached hereto as Exhibit "E". After rehearing, the Oil Conservation Commission entered Order No. R-1092-C which found that the provisions of Order No. R-1092-A should remain in full force and effect. A copy of said Order No. R-1092-C is attached hereto as Exhibit "F" and made a part hereof.

6. The formula set forth in Order No. R-1092-A which introduces a deliverability factor into the proration formula is not a reasonable basis on which to allocate the production from the Jalmat Gas Pool among the gas wells in the pool in that it fails to recognize or protect the correlative rights of the owners and operators in the pool. The 100% acreage formula for the proration of gas better protects the correlative rights of the operators and owners in the pool. The inclusion of a deliverability factor in the proration formula would result in economic waste and would violate correlative rights including those of this petitioner. Petitioner will introduce evidence in support of the above allegations upon the trial of this cause.

7. Petitioner alleges that Orders Nos. R-1092-A and R-1092-C are unlawful and are contrary tothe preponderance of the evidence and were beyond the power of the Commission to

enter and are invalid upon the following grounds, to-wit:

(a) The Oil Conservation Commission in its Finding No. 5 in Order No. R-1092-A found a general correlation between the deliverabilities of the gas wells in the Jalmat Gas Pool and recoverable gas in place under the tracts dedicated to the wells. This Finding was reaffirmed in Order No. R-1092-C, in the Commission's Finding No. 2 which was:

> "(2) 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 and 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 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."

Petitioner alleges that said finding of the Commission is contrary to the preponderance of the evidence introduced before the Commission and is invalid and void.

(b) The Order of the Commission is invalid in that even though it be assumed that it was proved by a preponderance by the evidence: "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", such a finding provides no basis authorized by the statutes of New Mexico for modification of the pre-existing acreage formula for allocation of gas produced from the Jalmat Gas Pool.

(c) The Commission used as a basis for its decision to include deliverability in the proration formula of the Jalmat Gas Pool, certain factors which are not contemplated or permitted by the statutes of New Mexico in the determination of a proration formula for a gas pool. Finding No. 6 of Order No. R-1092-A found, (1) that the inclusion of a deliverability factor in the Jalmat Proration Formula would result in the production of a greater percentage of the pool allowable, and (2) that it would more nearly enable various gas purchasers in the Jalmat Gas Pool to meet the market demand for gas from said pool. Neither of said considerations provides any legal basis upon which the Commission could allocate production from the Jalmat Gas Pool under the statutes of New Mexico. The consideration of such factors rendered the decision of the Commission based thereon invalid and void.

(d) The uncontradicted evidence before the Commission showed that inclusion of a deliverability factor in the proration formula would result in economic waste in that it would require the expenditure of large sums of money by this Petitioner and other operators in the Jalmat Gas Pool in efforts to increase the deliiverability of gas wells in the pool in order to protect their correlative rights, although the ultimate recovery from the various tracts would not be appreciably increased thereby, and although efforts to increase the

deliverability of wells in the Jalmat Gas Pool could not prevent the violation of correlative rights which would result from the inclusion of a deliverability factor in the proration formula.

(e) The uncontradicted evidence before the Conservation Commission showed that there would be greater drainage across adjoining lease lines if the proration formula were amended to include a deliverability factor than there would be under the straight acreage formula. The evidence introduced by the applicant was directed only to drainage from area to area in the pool, and did not contradict the evidence offered by the Petitioner and other companies that there would be greater drainage across lease lines if the proration formula should be changed to include a deliverability factor.

(f) The evidence introduced before the Oil Conservation Commission showed that the inclusion of a deliverability factor in the proration formula as ordered by Order No. R-1092-A would result in irreparable injury to the correlative rights of Petitioner and would deprive Petitioner of its property without due process of law in that it would permit the production by offset operators of natural gas underlying tracts owned by Petitioner without affording compensating counter-drainage from other adjoining tracts, and would prevent Petitioner from producing the recoverable gas in place in the

Jalmat Gas Pool underlying the tracts upon which the wells of this Petitioner are located.

8. All of the matters alleged hereinabove were set forth in Petitioner's Application for Rehearing before the Oil Conservation Commission, as shown by Exhibit "D" attached hereto.

9. Texas-Pacific Coal and Oil Company was the applicant in Case No. 1327, and El Paso Natural Gas Company, Permian Basin Pipeline Company, and Southern Union Gas Company appeared in said case in support of the application, and the above companies together with the Oil Conservation Commission of New Mexico are named as respondents in this Petition in accordance with the statutes of New Mexico.

WHEREFORE, Petitioner respectfully prays the Court as authorized by Section 19(b) Chapter 168 of the Laws of the State of New Mexico, 1949, Section 65-3-22(b), N.M.S.A. 1953, that:

1. Notice of this Petition for Review be served upon respondents in the manner provided for the service of summons in civil proceedings upon the adverse parties.

2. This petition be set for trial, and upon the hearing thereof that this Court review the action of the Oil Conservation Commission herein complained of.

3. This Court try this action de novo and determine the issues of fact and law presented herein.

4. This Court enter its order vacating Orders Nos. R-1092-A

and R-1092-C of the Commission hereinabove referred to.

5. This Court enter such other or further order in lieu of Orders Nos. R-1092-A and R-1092-C as the Court may determine to be proper.

NELSON JONES
CHARLES E. SHAVER
FRANK L. HEARD, JR.
P. O. Box 2180
Houston, Texas

/s/ Howard Bratton
HERVEY, DOW & HINKLE
P. O. Box 547
Roswell, New Mexico

Attorneys for Petitioner, Humble Oil & Refining Company

E X H I B I T S

TO
HUMBLE OIL & REFINING COMPANY
PETITION FOR REVIEW
OF ACTION OF THE OIL CONSERVATION COMMISSION OF NEW MEXICO

Exhibit	See Page Volume I
A	15
B	16
C	21
D*	
E	37
F	39

** *** **

(*For Exhibit D
see next page.)

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL &
OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

APPLICATION FOR REHEARING

Comes now Humble Oil & Refining Company and requests a rehearing in the above case with respect to the matters hereinafter referred to which were determined by Order No. R-1092-A of the New Mexico Oil Conservation Commission in connection with the above styled case, and in support thereof respectfully shows:

I.

Applicant owns and operates oil and gas leases and gas wells within the Jalmat Gas Pool in Lea County, New Mexico. Applicant is affected by Order No. R-1092-A, which was entered by the Commission under date of January 29, 1958.

EXHIBIT "D"

II.

Order No. R-1092-A contains two findings, Nos. 5 and 6, which are the basis upon which Finding No. 7 as to deliverability is made, and upon which said Order amends previous orders of the Commission to include a deliverability factor in the proration formula. Paragraph 2 of Order No. R-1092-A amends all orders previously issued by the Commission to provide for an "acreage factor" for allowable purposes. Paragraph 3 of Order No. R-1092-A provides that Order No. R-520 as amended by Order No. R-967 be revised effective July 1, 1958, to include a deliverability factor in the gas proration formula of the Jalmat Gas Pool. Said paragraph provides for the deliverability factor and sets forth how it shall be carried into effect.

III.

Applicant alleges that the Commission is without jurisdiction or authority, and is estopped in equity and justice to entertain the application of Texas Pacific Coal & Oil Company in regard to the above matters in Order No. R-1092-A, and that Texas Pacific Coal & Oil Company was estopped to apply for an amendment to the proration formula for the Jalmat Gas Pool, and that if the Commission does have jurisdiction and there was no estoppel, the said order, in regard to the above matters, is discriminatory, erroneous, illegal and invalid, and a rehearing is requested in respect to said matters. In support thereof,

(Exhibit "D")

Applicant states:

1. The application of Texas Pacific Coal & Oil Company in case No. 1327 to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool constituted a collateral attack upon Order No. 520 in Case No. 673 of this Commission, entered on the 12th day of August 1954, and the Commission was without jurisdiction to entertain said application, and said application cannot be made the basis of a valid order in Case No. 1327 insofar as the changing of the basis for allocation of production from the Jalmat Gas Pool from a 100% acreage basis to include a deliverability factor in the proration formula.

2. Order No. R-520 entered by this Commission in Case No.673 constituted a final decision that the proration formula for the Jalmat Gas Pool should be on a 100% acreage basis. No appeal was taken from the final decision of the Commission so ordered, and the Commission cannot now on the basis of the application and record in this cause enter a valid order changing the basis for the allocation of production from the Jalmat Gas Pool.

3. Texas Pacific Coal & Oil Company, the applicant in Case No. 1327, was a participant in Case No. 673, and in said case supported the inclusion of deliverability in the proration formula, which request was considered by the Commission and denied

(Exhibit "D")

therein. No appeal was taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered and said company is now estopped to request a change in the proration formula for the Jalmat Gas Pool. On the basis of the record in this case, the Commission is without authority to revise, modify or change Order No. R-520 to now provide that the proration formula for the Jalmat Gas Pool shall include a deliverability factor.

4. Order No. R-1092-A is invalid and discriminatory and deprives the owners of properties in the Jalmat Gas Pool of their property without due process of law in that the owners of interest in said gas pool have acted in reliance on Order No. R-520 and have expended substantial sums of money on their properties in the Jalmat Gas Pool after the issuance of said Order, and have vested property rights therein, which property rights will be impaired by the inclusion of a deliverability factor in the proration formula for the Jalmat Gas Pool.

5. As a result of the aforesaid expenditures and other actions by the owners in the Jalmat Gas Pool in good faith in reliance upon the existing proration rules in Order No. R-520 the Commission is as a matter of equity and justice estopped from amending said proration order to include a deliverability factor which amendment would discriminate against owners who have acted in reliance upon the existing proration formula.

(Exhibit "D")

6. Finding No. 5 in Order No. R-1092-A is:

> "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 more equitable allocation of the gas production in said pool than under the present gas proration formula."

Applicant alleges that this finding is contrary to, and wholly without support in the evidence and is therefore erroneous and invalid. In further support of the grounds here alleged, there is attached hereto as Exhibit "A" a vertical bar graph depicting the relationship between the recoverable gas in place under the 58 tracts which were the subject of testimony and exhibits presented by this applicant and other operators before the Commission on December 9, 1957, and the deliverability of the 58 gas wells located on said tracts. Said exhibit is based upon the testimony and the record in this case and clearly demonstrates the total absence of correlation between the deliverabilities of gas wells in the Jalmat Gas Pool and gas in place under the tracts dedicated to said wells. If afforded an opportunity to do so, applicant will present further evidence in this regard but asserts that on the evidence heard by the Commission it is clearly shown that no such correlation exists, and that therefore the entire Finding No. 5 is erroneous and invalid.

7. Even though it is assumed that it has been proved as

(Exhibit "D")

stated in Finding No. 5 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", said Finding provides no basis authorized by the statutes of New Mexico for modification of the formula prescribed by Order No. R-520 for the proration of gas produced from the Jalmat Gas Pool.

8. The Commission has used as a basis for its decision to include deliverability in the proration formula certain factors which are not contemplated or permitted by the statutes of New Mexico in the determination of a proration formula for a gas pool. Finding No. 6 of said Order No. R-1092-A is:

> "That 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 various gas purchasers in the Jalmat Gas Pool to meet the market demand for gas from said pool."

Neither of said considerations provides any legal basis for the allocation of production among the gas wells in a gas pool.

9. Order No. R-1092-A will result in underground waste since many wells in the Jalmat Gas Pool are old wells and the condition of many of such wells is such that the action required of a prudent operator under Order No. R-1092-A will necessarily result in the underground waste of natural gas.

10. Order No. R-1092-A will result in economic waste in that it will require the expenditure of a large sum of money by

(Exhibit "D")

this applicant to increase the deliverability of its gas wells in an effort to protect its correlative rights, although the ultimate recovery from the tracts owned by this applicant will not be appreciably increased thereby, and although efforts of operators to increase the deliverability of wells in the Jalmat Gas Pool cannot prevent the violation of correlative rights which will result from the inclusion of a deliverability factor in the proration formula.

11. Order No. R-1092-A is invalid in that the burden of proof was upon the applicant in this case, by a preponderance of the evidence, to show a valid reason on a ground authorized by the statutes of New Mexico for the inclusion of deliverability in the proration formula for the Jalmat Gas Pool, and the applicant did not sustain this burden of proof.

12. Order No. R-1092-A results in irreparable injury to the property rights of applicant and to its correlative rights in that it permits drainage from under tracts in the Jalmat Gas Pool owned by this applicant, which drainage is not equalized by counter drainage. This deprives applicant of its propercy without due process of law in violation of Amendment 14 of the Constitution of the United States and Article II, Section 18 of the Constitution of the State of New Mexico.

WHEREFORE, Applicant respectfully requests the Commission that a rehearing be granted in the above case as to those portions

(Exhibit "D")

of Order No. R-1092-A which amend the previous orders of the Commission to provide for the inclusion of a deliverability factor in the allocation formula of the Jalmat Gas Pool subsequent to July 1, 1958, and that after rehearing the Commission rescind its order in the above respects, and retain the proration formula established by Order No. R-520.

HUMBLE OIL & REFINING COMPANY

By /s/ Howard C. Bratton
Harvey, Dow & Hinkle
P. O. Box 547
Roswell, New Mexico

AND, THERE AFTER, to-wit: On the 12th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,220, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now Respondent, Oil Conservation Commission of New Mexico, and for its response to the Petition for Review, states:

1. It admits the allegations of Paragraphs 1, 2, 3, 4, 5, 8 and 9.

2. It denies the allegations of Paragraph 6 and it further denies that the Petitioner may, without limitation, introduce evidence before the Court.

3. It denies the general allegations of Paragraph 7 that the Orders complained of are "unreasonable, unlawful, capricious and arbitrary and are contrary to the evidence, and were beyond the power of the Commission to enter and were invalid."

4. It denies the allegations of Paragraphs 7(a) through 7(f), including all legal concluaions set forth therein.

WHEREFORE, Respondent prays the Court:

1. That the Petition for Review be dismissed.

2. That Orders No. R-1092-A and R-1092-C of the Commission be affirmed.

3. That the Court enter such Order, or further Orders, as it may determine to be proper.

/s/ William J. Cooley

/s/ Oliver E. Payne

Attorneys for Respondent, Oil Conservation Commission of New Mexico.

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 13th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,220, in words and figures as follow, to-wit: a

RESPONSE

Comes now Respondent, Texas Pacific Coal and Oil Company, pursuant to Rule 10(c) of the Rules of Civil Procedure, and hereby adopts the Response herein filed on behalf of the Oil Conservation Commission of New Mexico as its Response in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

TEXAS PACIFIC COAL AND OIL COMPANY

By: /s/ Jack M. Campbell
Campbell & Russell
P. O. Box 721
Roswell, New Mexico

Attorneys for Respondent

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,220, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now the respondent Southern Union Gas Company, a foreign corporation, pursuant to Rule 10(c) of the Rules of Civil Procedure, and hereby adopts the Response herein filed on behalf of the respondent Oil Conservation Commission of New Mexico as its response, in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

WILLIS L. LEA, JR., and A. S. GRENIER
Burt Building, Dallas, Texas

MANUEL A. SANCHEZ
Santa Fe, New Mexico

By /s/ Manuel A. Sanchez

Attorneys for the above named respondent

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,220, in words and figures as follow, to-wit: a

RESPONSE TO PETITION FOR REVIEW

Comes now Respondent, El Paso Natural Gas Company, a Delaware corporation, and for its response to the Petition for Review herein, states:

1. It admits the allegations of Paragraphs 1, 2, 3, 4, 5, 8 and 9.

2. It denies the allegations of Paragraph 6 and it further denies that the Petitioner may, without limitation, introduce evidence before the Court.

3. It denies the general allegations of Paragraph 7 that the Orders complained of are "unreasonable, unlawful, capricious and arbitrary and are contrary to the evidence, and were beyond the power of the Commission to enter and were invalid."

4. It denies the allegations of Paragraphs 7(a) through 7(f), including all legal conclusions set forth therein.

WHEREFORE, Respondent prays the Court:

1. That the Petition for Review be dismissed.

2. That Orders Nos. R-1092-A and R-1092-C of the Commission be affirmed.

3. That the Court enter such Order, or further Orders, as

it may determine to be proper.

HARDIE, GRAMBLING, SIMS & GALATZAN
P. O. Box 153 - El Paso, Texas

BY: /s/ A. L. Grambling

COWAN AND LEACH
Hobbs, New Mexico

BY: /s/ Ray C. Cowan
Attorneys for Respondent,
El Paso Natural Gas Company

(Service of pleading
certified to.)

AND, THEREAFTER, to-wit: On the 16th day of June 1958, there was filed in the office of said Clerk, in said Cause No. 16,220, in words and figures as follow, to-wit: a

RESPONSE

Comes now Respondent Permian Basin Pipeline Company, and, pursuant to Rule 10(c) of the Rules of Civil Procedure, hereby adopts the response herein filed on behalf of the Oil Conservation Commission of New Mexico as its response in the same manner and to the same extent as though each paragraph thereof was herein fully set out.

PERMIAN BASIN PIPELINE COMPANY
Respondent

By /s/ Robert W. Ward

Robert W. Ward
201 North Love
Lovington, New Mexico

Lawrence I. Shaw
F. Vinson Roach
Patrick J. McCarthy
2223 Dodge Street
Omaha 1, Nebraska

Attorneys for Permian Basin
Pipeline Company, Respondent

(Service of pleading certified to.)

AND, THEREAFTER, to-wit: On the dates set forth below, there was filed in the office of said Clerk, in said Cause No. 16,220, instruments identical in words and figures to those filed in Cause No. 16,213 as follow, to-wit:

Instrument	Date Filed	Set Forth in Vol. I Page
Motion for Pre-Trial Conference	July 3, 1958	48
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Stipulation	Apr. 12, 1960	130
Order	Apr. 12, 1960	133
Praecipe	Apr. 12, 1960	135
Point Relied Upon by Cross-Appellant	Apr. 21, 1960	137

** *** **

AND, THEREAFTER, to-wit: on the 11th day of June 1960, there was filed in the office of said Clerk, in said Causes Nos. 16213, 16214, 16215, 16217, 16218, 16219 and 16220, Consolidated, in words and figures as follow, to-wit: a

MOTION FOR EXTENSION OF TIME
WITHIN WHICH TO FILE TRANSCRIPT ON
APPEAL AND CROSS-APPEAL

COME NOW Continental Oil Company, et al, Petitioners in the District Court and Appellants to the Supreme Court of New Mexico in the appeals consolidated as Cause No. 16213 on the docket of this Court and Oil Conservation Commission of New Mexico, Respondent and Cross-Appellant therein, and move the Court for an extension to August 16, 1960, of the time within which to file the transcript of the record and docket the appeal and the cross-appeal in the above entitled and numbered cause in the Supreme Court of New Mexico, and as grounds therefor state that additional time is required for the completion of the transcript of the record which is not yet ready for filing.

WHEREFORE, the above named parties pray that the Court enter its Order granting an extension of time to August 16, 1960, in which to file the transcript of the record and docket the appeal and cross-appeal in this cause in the Supreme Court of New Mexico.

MERVIN, LOW & KINNEY
Amarillo, New Mexico

MILLIKEN AND FOX

By: /s/ James M. Hilliken
Santa Fe, New Mexico

ATWOOD & MALONE

By: /s/ Pete J. Malone
Roswell Petroleum Building
Roswell, New Mexico

Attorneys for Petitioners and Appellants

/s/ Oliver E. Payne
Oliver E. Payne
Special Assistant Attorney General
P. O. Box 871
Santa Fe, New Mexico

Attorney for Respondent and Cross-Appellant Oil Conservation Commission

(Service on all Counsel of Record certified to.)

AND, THEREAFTER, to-wit: On the 11th day of June 1968, there was filed in the office of said Clerk, in said Causes Nos. 16213, 16214, 16215, 16217, 16218, 16219 and 16220, Consolidated, in words and figures as follow, to-wit: an

ORDER EXTENDING TIME
WITHIN WHICH TO FILE TRANSCRIPT ON
APPEAL AND CROSS-APPEAL

Upon consideration of the Motion for Extension of Time Within Which to File Transcript on Appeal and Cross-Appeal filed herein by Continental Oil Company, et al, Appellants, and Oil Conservation Commission of New Mexico, Cross-Appellant,

IT IS ORDERED that an extension of time to August 16, 1968, be, and it hereby is, granted within which to file the transcript of the record and to docket the appeal and cross-appeal in the above entitled and numbered consolidated cause.

/s/ John P. Wood
District Judge

AND, THEREAFTER, to-wit: On the 2 day of August, 1960, there was filed in the office of said Clerk, in said Causes Nos. 16213, 16214, 16215, 16217, 16218, 16219 and 16220, Consolidated, in words and figures as follow, to-wit: a

WAIVER OF NOTICE

COMES NOW Respondent, Oil Conservation Commission of New Mexico, by its attorney, Oliver E. Payne, and hereby waives the usual five days' notice of intention to apply for an Order Signing and Sealing the Bill of Exceptions herein, and consents that the same may be entered at any time within return date when presented by the attorneys for the Petitioners.

/s/ Oliver E. Payne
OLIVER E. PAYNE
Special Assistant Attorney General
P. O. Box 871
Santa Fe, New Mexico

Attorney for Respondent Oil
Conservation Commission of New Mexico

AND, THEREAFTER, to-wit: On the 2 day of August, 1940, there was filed in the office of said Clerk, in said Causes Nos. 16213, 16214, 16215, 16217, 16218, 16219 and 16220, Consolidated, in words and figures as follow, to-wit: a

WAIVER OF NOTICE

COMES NOW Respondent, El Paso Natural Gas Company, by its attorneys, Hardie, Franklin, Sims & Galatzan and by Ray C. Conyn, and hereby waives the usual five days' notice of intention to apply for an Order Signing and Sealing the Bill of Exceptions herein, and consents that the same may be entered at any time within extension date when presented by the attorneys for the Petitioners.

HARDIE, FRANKLIN, SIMS & GALATZAN
P. O. Box 153 - El Paso, Texas

/s/ [illegible]
RAY C. [illegible], [illegible], New Mexico

Attorneys for Respondent
El Paso Natural Gas Company

AND, THEREAFTER, to-wit: On the 2 day of August, 1960, there was filed in the office of said Clerk, in said Causes Nos. 16213, 16214, 16215, 16217, 16218, 16219 and 16220, Consolidated, in words and figures as follow, to-wit: a

WAIVER OF NOTICE

COMES NOW Respondent, Texas Pacific Coal and Oil Company, by its attorneys, Campbell & Russell, and hereby waives the usual five days' notice of intention to apply for an Order Signing and Sealing the Bill of Exceptions herein, and consents that the same may be entered at any time within return date when presented by the attorneys for the Petitioners.

TEXAS PACIFIC COAL AND OIL COMPANY

By: /s/ Joseph H. Campbell
Campbell & Russell
P. O. Box 721
Roswell, New Mexico

Attorneys for Respondent

AND, THEREAFTER, to-wit: On the 2 day of August, 1940, there was filed in the office of said Clerk, in said Causes Nos. 16213, 16214, 16215, 16217, 16218, 16219, and 16220, Consolidated, in words and figures as follow, to-wit:

WAIVER OF NOTICE

Comes now respondent, Southern Union Gas Company, by its attorneys, Willis L. Lee, Jr. and A. S. Grenier and by Manuel A. Sanchez, and hereby waives the usual five days' notice of intention to apply for an Order Signing and Sealing the Bill of Exceptions herein, and consents that the same may be entered at any time within return date when presented by the attorneys for the Petitioners.

WILLIS L. LEE, JR., and A. S. GRENIER
Burt Building, Dallas, Texas

MANUEL A. SANCHEZ
Santa Fe, New Mexico

By: /s/ Manuel A. Sanchez

Attorneys for the above named respondent

AND, THEREAFTER, to-wit: On the 2 day of August, 1960, there was filed in the office of said Clerk, in said Causes Nos. 16213, 16214, 16215, 16217, 16218, 16219 and 16220, Consolidated, in words and figures as follow, to-wit: a

WAIVER OF NOTICE

COMES NOW Respondent, Permian Basin Pipeline Company, by its attorney, Robert W. Ward, and hereby waives the usual five days' notice of intention to apply for an Order Signing and Sealing the Bill of Exceptions herein, and consents that the same may be entered at any time within return date when presented by the attorneys for the Petitioners.

PERMIAN BASIN PIPELINE COMPANY
Respondent

By: /s/ Robert W. Ward
Attorney for Respondent

Robert W. Ward
301 North Love
Lovington, New Mexico

Lawrence I. Shaw
F. Vincent Smith
Patrick J. McCarthy
2223 Dodge Street
Omaha 1, Nebraska

Attorneys for Permian Basin
Pipeline Company, Respondent

AND, THEREAFTER, to-wit: on the 2 day of August, 1966, there was filed in the office of said Clerk, in said Causes Nos. 16213, 16214, 16215, 16217, 16218, 16219 and 16220, Consolidated, in words and figures as follow, to-wit: a

WAIVER OF NOTICE

Cross Bow Petitioners by their attorneys, Harvey, Dow & Hinkle, Kellahin & Fox and Atwood & Malone, and hereby waive the usual five days' notice of intention to apply for an Order Signing and Sealing the Bill of Exceptions herein, and consent that the same may be entered at any time within return date when presented by the attorneys for Cross-Appellant.

HARVEY, DOW & HINKLE
P. O. Box 547
Roswell, New Mexico

KELLAHIN & FOX
P. O. Box 1713
Santa Fe, New Mexico

ATWOOD & MALONE

By /s/ Jason L. Malone
P. O. Box 547
Roswell, New Mexico

AND, THEREAFTER, to-wit: on the 2 day of August, 1960, there was filed in the office of said Clerk, in said Causes Consolidated, Nos. 16213, 16214, 16215, 16217, 16218, 16219 and 16220, a

TRANSCRIPT OF THE TESTIMONY AND PROCEEDINGS

AND THEREAFTER, on the 2 day of August, 1960, the said Transcriptums by the Judge of said Court, duly settled, signed and sealed as a

BILL OF EXCEPTIONS

in said causes, and as such Bill of Exceptions was subsequently on the 2 day of August, 1960, refiled in the office of said Clerk as such, and as so signed, certified and sealed, is in words and figures as follows, to-wit:

TRANSCRIPT OF RECORD, VOLUME II
AND EXHIBITS REFERRED TO THEREIN

** *** **

IN THE SUPREME COURT OF THE STATE OF NEW MEXICO

Case 1327

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:	For Respondents:
Kellahin & Fox, Santa Fe, N.M.	William J. Cooley, Santa Fe, N.M.
Atwood & Malone, Roswell, N.M.	Oliver E. Payne, Santa Fe, N.M.
Hervey, Dow & Hinkle, Roswell, N.M.	Campbell & Russell, Roswell, N.M.
Harry G. Dippel, Ft. Worth, Tex.	Ray C. Cowan, Hobbs, N.M.
H. D. Bushnell, Tulsa, Okla.	Robert W. Ward, Lovington, N.M.
J. K. Smith, Ft. Worth, Tex.	Manuel A. Sanchez, Santa Fe, N.M.
James A. Lore, Midland, Tex.	Hardie, Grambling, Sims & Galatzan, El Paso, Tex.
Reed A. Elliott, Houston, Tex.	
Walter B. Morgan, Houston, 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

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** *** **

IN THE DISTRICT COURT OF LEA COUNTY

STATE OF NEW MEXICO

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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 restated 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 correlation 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 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, I did 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 sub-parts 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.

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?

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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 deliverability 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 wil. 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 blownto 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 fas 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 hn 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/train of thought, I'm sorry.

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 or 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. MURAY. 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 repated 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 Shows 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.

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

Respondents' Exhibit "5"

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.

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MR. MALONE: That's all.

MR. GALATZAN: No questions, your Honor.

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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 ownrights 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 in 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 no 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 these 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

CASE 1327 Appl. of Texas Pac. Coal & Oil Co. for an order immediately terminating gas prorationing in Jalmat Gas Pool or revising Spec. Pool Rules for Jalmat Gas Pool, Lea County, New Mexico.

MAIN OFFICE OCC

1957 SEP 10 AM 11:34

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF TEXAS PACIFIC COAL & OIL COMPANY FOR AN ORDER IMMEDIATELY TERMINATING GAS PRORATIONING IN THE JALMAT GAS POOL, LEA COUNTY, NEW MEXICO, OR IN THE ALTERNATIVE, FOR AN ORDER IMMEDIATELY CANCELLING ALL ACCUMULATED UNDER-PRODUCTION; REQUIRING PURCHASERS TO INCREASE NOMINATIONS COMMENSURATE WITH ACTUAL TAKES; ESTABLISHING DELIVERABILITY AS A FACTOR IN THE PRORATION FORMULA; ESTABLISHING MAXIMUM TAKES AS TO WELLS IN THE POOL; AND SUCH OTHER ORDERS AS WILL IMMEDIATELY BRING THE POOL INTO BALANCE AND MAINTAIN SUCH BALANCE WITHOUT WASTE AND WITHOUT ABUSE OF CORRELATIVE RIGHTS.

CASE NO. _____

APPLICATION

Comes now applicant, Texas Pacific Coal & Oil Company, by its attorneys, Campbell & Russell, and states:

1. Applicant is the owner of 41.75 non-marginal gas units and 6.71 marginal gas units within the limits of the Jalmat Gas Pool, Lea County, New Mexico. All of said units involve leases from the State of New Mexico.

2. There are 389.13 gas units in the Jalmat Gas Pool and El Paso Natural Gas Company is connected to and purchases from 336.23 of said gas units, being approximately 86% of the total gas units in the field. El Paso Natural Gas Company has exclusive control over the rate of takes from each of applicant's wells in the pool.

3. On January 1, 1954, the Oil Conservation Commission of New Mexico instituted gas prorationing in the then-defined limits of the pool, and for a period of 2½ years, until the last six months of 1956, allowables and production within the pool were

maintained in reasonable balance. During the last six months of 1956, El Paso Natural Gas Company took from applicant'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 carry over into the first proration period of 1957.

4. The Oil Conservation Commission, at the request of certain gas purchasers, has to date failed to balance production at the end of each proration period as provided in the rules governing gas prorationing in the Jalmat Pool.

5. Many of the gas wells in the Jalmat Gas Pool have been and are now unable to produce the allowable assigned to them and there is now accumulated under-production in said pool which cannot be made up before the end of the current proration period.

6. During the year 1957, El Paso Natural Gas Company, by reason of over-production accumulated to wells on which it failed to supplement its nominations and due to the failure to balance production at the end of 1956 and at the end of the first six months of 1957, has drastically reduced its takes from some non-marginal wells of applicant with the result that marginal wells in the Jalmat Gas Pool are in some instances being permitted to produce more gas than non-marginal wells, which results in drainage of gas from applicant's properties and a loss of gas reserves.

7. If the El Paso Natural Gas Company is required by reason of present rules governing gas prorationing in the Jalmat Gas Pool to continue to restrict production from applicant's non-marginal wells, or to shut-in said wells, applicant will continue to suffer drainage from its properties.

8. Certain of applicant's wells, even if shut-in during the balance 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, the result will be a negative allowable for the entire pool during a portion of the next proration period.

9. That during the period of gas prorationing, El Paso Natural Gas Company has consistently run gas from wells with high deliverability with the result that the method of prorationing, as now established, has meant that, during the year 1956, 40% of

the wells in the pool produced 60% of the gas at an average rate of 303,725 MCF per unit, which was 58,090 MCF per unit in excess of the allowables.

10. El Paso Natural Gas Company has failed to keep individual wells of applicant in reasonable balance with each other.

11. The continuation of gas prorationing in this pool will result in drainage of applicant's properties and abuse of its correlative rights, and will render impossible the 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 will result in economic loss to applicant and the State of New Mexico as royalty owner.

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 accumulated under-production and redistributing such under-production to over-produced wells in the Jalmat Gas Pool; and requiring gas purchasers to nominate a sufficient amount of gas from the pool 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 the Commission to issue such further order or orders as will bring the pool immediately into balance and maintain such balance without waste and without abuse of applicant's or others' correlative rights.

Respectfully submitted,

CAMPBELL & RUSSELL

Jack M. Campbell

Jack M. Campbell

JMC:mb

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092

APPLICATION OF TEXAS PACIFIC COAL
AND OIL COMPANY FOR AN ORDER
IMMEDIATELY TERMINATING GAS
PRORATIONING IN THE JALMAT GAS POOL;
OR IN THE ALTERNATIVE REVISING THE
SPECIAL POOL RULES FOR THE JALMAT GAS
POOL IN LEA COUNTY, NEW MEXICO.

INTERIM ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 17, 1957, and again at 9 o'clock a.m. on November 14, 1957, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 27th day of November, 1957, the Commission, a quorum being present, having considered the application, and the evidence thus far adduced and being fully advised in the premises,

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 it was not possible for the Commission to hear Case No. 1327 to its conclusion at the last hearing of said case and that the case should be continued until 9 o'clock a.m. on December 9, 1957.

(3) That the applicant proposes that the Commission grant an interim exception to the Special Rules and Regulations for the Jalmat Gas Pool to the effect that if any well in the Jalmat Gas Pool had an overproduced status at the beginning of any month during the current gas proration period less than:

(a) the well's current allowable for said month, plus

(b) the well's share of the allowable redistributed as a result of the cancellation of underproduction on December 31, 1957,

then said well shall be considered to have been in balance during said month.

(4) That the proposed interim relief should be granted.

IT IS THEREFORE ORDERED:

(1) That Case No. 1327 be continued until 9 o'clock a.m. on December 9, 1957.

(2) That if any well in the Jalmat Gas Pool had an overproduced status, at the beginning of any month during the current gas proration period (July 1 - December 31, 1957), which was less than:

(a) the well's current allowable for said month, plus

(b) the well's share of the allowable redistributed as a result of the cancellation of underproduction on December 31, 1957,

then said well shall be considered to have been in balance during said month.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

MURRAY E. MORGAN, Member

A. L. PORTER, Jr., Member & Secretary

ir/

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL &
OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 18, 1957, at 9 o'clock a.m. on November 14, 1957, and again at 9 o'clock a.m. on December 9, 1957, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 29th day of January, 1958, the Commission, a quorum being present, having considered the application, and the evidence adduced and being fully advised in the premises,

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 the applicant, Texas Pacific Coal & Oil Company, seeks an order in the subject case for the immediate termination of gas prorationing in the Jalmat Gas Pool, Lea County, New Mexico, or in the alternative, an order for the immediate cancellation of all underproduction accumulated to wells in the Jalmat Gas Pool as of July 1, 1957, and further, to require the gas purchasers in said pool to nominate a sufficient amount of gas from the pool to permit the wells from which said purchasers are able to take gas to have an allowable equal to their actual production, and further for the establishment of a proration formula in the Jalmat Gas Pool whereby the allowables would be assigned 75 percent on the basis of deliverability times acreage and 25 per cent on the basis of acreage alone; and further, for the establishment of a maximum amount of gas which may be taken from any well in the Jalmat Gas Pool during a specified period of time.

(3) That it is necessary to continue the proration of gas production from the Jalmat Gas Pool in order to prevent waste and protect correlative rights.

(4) That all underage which accrued to wells in the Jalmat Gas Pool prior to July 1, 1957, and which was not produced prior to January 1, 1958, will be cancelled and redistributed as of that date in accordance with the Special Rules and Regulations for the Jalmat Gas Pool as set forth in Order No. R-520 as amended by Order No. R-967, and that the applicant has failed to prove the necessity for any additional relief in this regard.

(5) 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.

(6) That 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 in the Jalmat Gas Pool to meet the market demand for gas from said pool.

(7) That the allowable gas production in the Jalmat Gas Pool should be allocated to the non-marginal wells in said pool in accordance with a proration formula based on seventy-five percent (75%) acreage times deliverability plus twenty-five percent (25%) acreage only.

(8) That the applicant has failed to prove the necessity for establishing a limitation on the amount of gas which may be taken from wells in the Jalmat Gas Pool in addition to the limitations presently imposed by the Special Rules and Regulations for the Jalmat Gas Pool.

(9) That the application of Texas Pacific Coal and Oil Company in the subject case should be denied in all respects except that the Special Rules and Regulations for the Jalmat Gas Pool should be amended to provide for a deliverability factor in the gas proration formula.

IT IS THEREFORE ORDERED:

(1) That the application of Texas Pacific Coal and Oil Company in Case No. 1327 be and the same is hereby denied in all respects except that portion of the application concerning the inclusion of a deliverability factor in the gas proration formula for the Jalmat Gas Pool.

(2) That all orders heretofore issued by the Commission creating non-standard gas proration units in the Jalmat Gas Pool, which orders provide in substance that the unit well be granted an allowable in the proportion that the acreage dedicated to the

well bears to a standard gas proration unit in the Jalmat Gas Pool, be and the same are hereby amended, effective July 1, 1958, to read as follows: That the unit be assigned an "Acreage Factor" for allowable purposes to be determined by dividing the acreage dedicated to the well by 160 acres.

(3) That Rule 5, Rule 6, and Rule 12 of the Special Rules and Regulations for the Jalmat Gas Pool as set forth in Order No. R-520 and as amended by Order No. R-967, be and the same are hereby revised, effective July 1, 1958, to read as follows:

SPECIAL RULES AND REGULATIONS FOR THE JALMAT GAS POOL

RULE 5. (a) (first paragraph) No change

(second paragraph) Revise to read as follows:

A non-standard gas proration unit shall be assigned an "Acreage Factor" for proration purposes to be determined by dividing the acreage in the non-standard gas proration unit by 160 acres. Any gas proration unit containing between 632 and 648 acres shall be considered to contain 640 acres for the purpose of computing allowables.

(third paragraph) No change

(b) No change.

RULE 6. (a) The Commission, after notice and hearing, shall consider the nominations of the gas purchasers from the Jalmat Gas Pool and other relevent data in fixing the allowable production for the pool.

(b) The monthly allowable allocation to the Jalmat Gas Pool shall be divided and allocated among the wells in the Pool which are entitled to an allowable in the manner hereinafter set forth.

A marginal well shall be assigned an allowable equal to its maximum production during any month of the preceding gas proration period.

The pool allowable remaining after deducting the total allowable assigned to marginal wells shall be allocated among the non-marginal wells in the pool as follows:

(1) Twenty-five percent (25%) of the remaining pool allowable shall be allocated among the non-marginal wells in the pool in the proportion that each well's "Acreage Factor" bears to the total "Acreage Factor" for all non-marginal wells in the pool.

(2) Seventy-five percent (75%) of the remaining pool allowable shall be allocated among the non-marginal wells in the pool in the proportion that each well's "AD Factor" bears to the total "AD Factor" for all non-marginal wells in the pool.

A well's "Acreage Factor" shall be determined by dividing the acreage assigned to the well by 160 acres. The "Acreage Factor" shall be determined to the nearest one-hundredth of a unit.

A well's "AD Factor" shall be determined by multiplying the well's "Acreage Factor" by its "Calculated Deliverability" (expressed in MCF per day). The "AD Factor" shall be computed to the nearest whole unit. In those instances where there is more than one well on a proration unit the "Calculated Deliverability" for the unit shall be determined by averaging the "Calculated Deliverabilities" of all the wells on the unit.

(c) 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. The results of such tests shall determine a well's "Calculated Deliverability." Deliverability tests taken during 1958 shall be used in calculating allowables for wells in the Jalmat Gas Pool until July 1, 1959. Subsequent annual deliverability tests shall be used for each twelve-month period thereafter.

(d) No well shall be assigned an allowable until an approved deliverability test has been filed with the Commission.

(e) The Secretary of the Commission shall have authority to exempt marginal wells from the requirement of taking an annual deliverability test in those instances where the deliverability of the well is of such low volume as to have no significance in the determination of the well's allowable.

(f) Retests and tests taken after recompletion or workover shall be taken in the same manner as provided in subparagraph (c) above, and any change in the well's "Calculated Deliverability" resulting therefrom shall become effective;

(1) On the date of reconnection after workover, such date to be determined from Form C-104 as filed by the operator; or

(2) A date 45 days prior to the date upon which a well's deliverability and shut-in pressure test is reported to the Commission on Form C-122-C; or

(3) A date 45 days prior to the receipt and approval of Form C-104 by the Commission's office (Box 2045, Hobbs, New Mexico);

(Form C-104 shall specify the exact nature of the workover or remedial work; if the nature of the work cannot be explained on Form C-104, in that event, Form C-103 shall also be filed in accordance with Rule 1106 of the Commission's Statewide Rules and Regulations. Form C-128 (Well Location and Acreage Dedication Plat) shall be submitted by the operator at any time there is a change in the acreage dedicated to said well);

RULE 12. Allowables to newly completed gas wells shall commence:

(a) On the date of connection to a gas transportation facility, such date to be determined from an affidavit furnished to the Commission (Box 2045, Hobbs, New Mexico) by the purchaser;

(b) the latest filing date of Form C-104, C-110 or C-128; or

(c) a date 45 days prior to the date upon which the well's deliverability and shut-in pressure test is reported to the Commission on Form C-122-C;

whichever date is later.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

MURRAY E. MORGAN, Member

A. L. PORTER, Jr., Member & Secretary

ir/

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-B

APPLICATION OF TEXAS PACIFIC COAL
& OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION FOR REHEARING

BY THE COMMISSION:

This cause came on for consideration for a rehearing in Case No. 1327, Order No. R-1092-A, dated January 29, 1958, upon the petition of Skelly Oil Company, Cities Service Oil Company, The Texas Company, Sun Oil Company, Humble Oil & Refining Company, The Atlantic Refining Company, Continental Oil Company, Samedan Oil Corporation, Shell Oil Company, Sinclair Oil & Gas Company, Amarada Petroleum Corporation, Standard Oil Company of Texas, Tidewater Oil Company, and Pan-American Petroleum Corporation.

NOW, on this 19th day of February, 1958, the Commission, a quorum being present, having considered the petitions for rehearing,

HEREBY ORDERS:

That the above-styled cause be reopened and a rehearing be held at 9 o'clock a.m. on March 25, 1958, at Mabry Hall, State Capitol, Santa Fe, New Mexico.

IT IS FURTHER ORDERED:

That the testimony on rehearing shall be limited to new evidence on the issues raised in the petitions for rehearing.

IT IS FURTHER ORDERED:

That Order No. R-1092-A shall remain in full force and effect pending the issuance of any further order in this case.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Edwin L. Mechem, Chairman

Murray E. Morgan, Member

A. L. Porter, Jr., Member & Secretary

ir/

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-C

APPLICATION OF TEXAS PACIFIC COAL
& OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 18, 1957, November 14, 1957, and again on December 9, 1957, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," and this cause came on for rehearing before the Commission, upon the petition of Skelly Oil Company et al., at 9 o'clock a.m. on March 25, 1958, at Santa Fe, New Mexico.

NOW, on this 25th day of April, 1958, the Commission, a quorum being present, having considered the application, the petitions for rehearing, and the testimony and evidence adduced at the original hearings and the subsequent rehearing, and being fully advised in the premises,

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 hearings and the rehearing in this case, the Commission reaffirms its finding that Texas Pacific Coal and 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 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.

(3) That the provisions of Order No. 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.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

MURRAY E. MORGAN, Member

A. L. PORTER, Jr., Member & Secretary

ir/

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

January 30, 1958

COPY

Mr. Ross Malone
P.O. Box 867
Roswell, New Mexico

Dear Mr. Malone:

On behalf of The Operators, we enclose two copies of Order R-1092-A issued January 29, 1958, by the Oil Conservation Commission in Case 1327, which was last heard on December 9th.

Yours very truly,

A. L. Porter, Jr.
Secretary - Director

bp
Encls.

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

January 30, 1958

COPY

Mr. Jack Campbell
Campbell & Russell
P.O. Box 721
Roswell, New Mexico

Dear Mr. Campbell:

On behalf of your client, Texas Pacific Coal & Oil Company, we enclose two copies of Order R-1092-A issued January 29, 1958, by the Oil Conservation Commission in Case 1327, which was last heard on December 9th.

Very truly yours,

A. L. Porter, Jr.
Secretary - Director

bp
Encls.

The Ohio Oil Co.

MAIN OFFICE OCC
NOV 14 AM 8:22

Legal Department

W. Hume Everett
Division Attorney

Thomas K. McElroy
J. O. Terrell Couch
Warren B. Leach, Jr.
Attorneys

P. O. Box 3128
Houston, Texas

November 13, 1957

Re: Case 1327 - Application of Texas Pacific Coal and Oil Company pertaining to gas proration in the Jalmat Gas Pool

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.

Gentlemen:

I have just sent a telegram attempting to clarify an incorrect statement which appears on page 13 of the Transcript of Proceedings in the above styled case on October 17, 1957.

A typewritten statement is enclosed in triplicate. If it is possible, I would appreciate having the enclosed statement included in the record of the case, since the statement more fully sets out the pertinent facts and will avoid the possibility of a misunderstanding of the record in the case.

One additional copy of the statement is enclosed. I will appreciate it if you will see that the additional copy is handed to Mr. Jack Campbell in the event this reaches you before the conclusion of the hearing. As you will observe, a copy is being sent to Mr. Campbell at his Roswell office, but I am sure time will not permit its receipt prior to the hearing.

Very truly yours,

J. O. Terrell Couch

TC:MK
Enc.4

cc w/enc. - Mr. Jack Campbell
Attorney at Law
J. P. White Building
Roswell, New Mexico

MAIN OFFICE OCC
1957 NOV 25 AM 8:22

STATEMENT OF THE OHIO OIL COMPANY

RE: CASE 1327 - APPLICATION OF TEXAS PACIFIC COAL AND OIL COMPANY PERTAINING TO GAS PRORATION IN THE JALMAT GAS POOL

NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

Gentlemen:

The Transcript of Proceedings in the above styled case on October 17, 1957, contains at page 13 an incorrect statement of the status of the 600 acre gas proration unit operated by The Ohio Oil Company in the Jalmat Gas Pool.

According to the official gas proration schedule promulgated by this Commission, the entire 600 acre unit was overproduced as of June 1, 1957 in the total amount of 350,603 MCF of gas. Apparently the overproduction as of June 1, 1957 is the volume which the witness referred to and which is erroneously reported on page 13 of the Transcript as follows: "Ohio Oil Company had three and three-quarters units [evidently the 600 acre unit referred to above] overproduced at the rate of three hundred fifty-six million."

The witness had previously testified concerning Texas Pacific Exhibit No. 1 regarding the status of units in the Jalmat Gas Pool for the year 1956. To fully clarify the record as to the status of The Ohio's production, we refer to the records of the Commission and specifically to the gas proration schedules for the periods in question.

On behalf of The Ohio Oil Company I request that this statement be incorporated in the record of the above identified case.

Respectfully submitted,

THE OHIO OIL COMPANY

By J. Terrell Couch
J. T. Terrell Couch

No. 31-57

DOCKET: REGULAR HEARING OCTOBER 17, 1957

Oil Conservation Commission 9 a.m., Mabry Hall, State Capitol, Santa Fe, NM

ALLOWABLE: (1) Consideration of the oil allowable for November 1957.

(2) Consideration of the allowable production of gas for November, 1957, from the six prorated pools in Lea County, New Mexico; also consideration of the allowable production of gas from the six prorated pools in San Juan and Rio Arriba Counties, New Mexico, for November, 1957.

NEW CASES

CASE 1273: In the matter of the hearing called by the Oil Conservation Commission to permit Magnolia Petroleum Company to appear and show cause why it should not be required to purchase 100% of the oil authorized to be produced from the wells from which it purchases in the State of New Mexico.

CASE 1299: In the matter of the hearing ordered by Paragraph (2) of Order R-1037-A to permit Gulf Oil Corporation to appear and show cause why it should not be required to purchase 100% of the oil authorized to be produced from the wells from which it purchases in the State of New Mexico.

CASE 1323: Application of the Oil Conservation Commission upon its own motion for an order revising Rule 803 of the Commission Rules and Regulations. Applicant, in the above-styled cause, seeks an order revising Rule 803 of the Commission Rules and Regulations concerning the authorization of liquid hydrocarbon production from gas wells and to eliminate the necessity of individually listing each of said wells on the oil proration schedule.

CASE 1324: Application of Graridge Corporation for an order authorizing capacity production for its pilot water flood project in the Caprock-Queen Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order authorizing capacity production of all its wells in its pilot water flood project authorized by Order R-972 in Section 31, Township 12 South, Range 32 East, Caprock-Queen Pool, Lea County, New Mexico.

CASE 1325: Application of Amerada Petroleum Corporation for an order amending Order R-991 insofar as said order pertains to the Bagley-Upper Pennsylvanian Gas Pool in Lea County, New Mexico, to extend the horizontal limits of said pool, and to provide for standard drilling units of 320 acres. Applicant, in the above-styled cause, seeks an order extending the Bagley-Upper Pennsylvanian Gas Pool to include the W/2 SW/4 of Section 2; N/2, SE/4 and N/2 SW/4 of Section 3; N/2 and N/2 SE/4 of Section 4, all in Township 12 South, Range 33 East; the S/2 and S/2 N/2 of Section 33; S/2 and S/2 N/2 of Section 34, all in Township 11 South, Range 33 East, Lea County, New Mexico. Applicant further requests the establishment of 320-acre spacing and drilling units in the Bagley-Upper Pennsylvanian Gas Pool and

such other rules and regulations as the Commission may deem necessary for the purposes herein stated.

CASE 1326: Application of Southern California Production Corporation for an order promulgating special pool rules for the Teas Pool in the Potash-Oil Area in Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order promulgating special pool rules for the Teas Pool in the Potash-Oil Area in Lea County, New Mexico, to provide a casing program for wells drilled in said pool in lieu of the Shallow-zone Casing Requirements set forth in Order R-111-A.

CASE 1327: Application of Texas Pacific Coal and Oil Company for an order immediately terminating gas prorationing in the Jalmat Gas Pool; or in the alternative, revising the Special Pool Rules for the Jalmat Gas Pool in Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order immediately terminating gas prorationing in the Jalmat Gas Pool, or in the alternative, an order immediately cancelling all accumulated underproduction and redistributing such underproduction to overproduced wells in the Jalmat Gas Pool, and requiring gas purchasers to nominate a sufficient amount of gas from the pool 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 the Commission to issue such further order or orders as will bring the pool immediately into balance and maintain such balance without waste and without abuse of applicant's or others correlative rights.

CASE 1328: Southeastern New Mexico nomenclature case calling for an order for the abolishment, deletion and extension of existing pools in Lea, Chaves, and Eddy Counties, New Mexico.

(a) Abolish the Premier Pool described as:

TOWNSHIP 17 SOUTH, RANGE 30 EAST
Section 22: S/2
Section 23: S/2 & SW/4 NW/4
Section 24: S/2
All of Sections 25, 26, 27, 28, 33, 34, 35 & 36

TOWNSHIP 17 SOUTH, RANGE 31 EAST
Section 19: S/2
Section 20: S/2
All of Sections 29 & 30
Section 31: N/2

(b) Delete portions of the Square Lake Pool described as:

TOWNSHIP 17 SOUTH, RANGE 31 EAST	
Section 3:	NW/4
Section 4:	N/2
Section 5:	N/2
Section 6:	N/2

(c) Extend the Grayburg-Jackson Pool to include:

TOWNSHIP 17 SOUTH, RANGE 30 EAST	
Section 22:	S/2
Section 23:	S/2
Section 24:	S/2
All of Sections 25, 26, 27, 28, 33, 34, 35 & 36	

TOWNSHIP 17 SOUTH, RANGE 31 EAST	
Section 3:	NW/4
Section 4:	N/2
Section 5:	N/2
Section 6:	N/2
Section 19:	S/2
Section 20:	S/2
All of Sections 29 & 30	
Section 31:	N/2

(d) Extend the East Anderson Ranch-Pennsylvanian Pool to include:

TOWNSHIP 16 SOUTH, RANGE 33 EAST	
Section 3:	Lots 15 & 16, S/2
Section 4:	E/2 SE/4

(e) Extend the Artesia Pool to include:

TOWNSHIP 18 SOUTH, RANGE 27 EAST	
Section 26:	NW/4

(f) Extend the Atoka-Grayburg Pool to include:

TOWNSHIP 18 SOUTH, RANGE 26 EAST	
Section 12:	S/2

TOWNSHIP 18 SOUTH, RANGE 27 EAST	
Section 7:	SW/4

(g) Extend the Blinebry Gas Pool to include:

TOWNSHIP 22 SOUTH, RANGE 37 EAST	
Section 16:	SE/4

(h) Extend the Caprock-Queen Pool to include:

TOWNSHIP 13 SOUTH, RANGE 32 EAST	
Section 30:	SE/4

TOWNSHIP 14 SOUTH, RANGE 31 EAST
Section 17: NE/4 SW/4

(i) Extend the Caudill-Wolfcamp Pool to include:

TOWNSHIP 15 SOUTH, RANGE 36 EAST
Section 9: SE/4
Section 16: E/2

(j) Extend the Cave Pool to include:

TOWNSHIP 16 SOUTH, RANGE 29 EAST
Section 31: S/2 S/2
Section 33: S/2 & NE/4

TOWNSHIP 17 SOUTH, RANGE 28 EAST
Section 1: NE/4

TOWNSHIP 17 SOUTH, RANGE 29 EAST
Section 6: N/2

(k) Extend the Dayton-San Andres Pool to include:

TOWNSHIP 18 SOUTH, RANGE 26 EAST
Section 27: SE/4 SE/4
Section 34: E/2 NE/4
Section 35: NW/4

(l) Extend the Four Lakes-Pennsylvanian Pool to include:

TOWNSHIP 12 SOUTH, RANGE 34 EAST
Section 2: NW/4

(m) Extend the Gladiola Pool to include:

TOWNSHIP 12 SOUTH, RANGE 37 EAST
Section 13: NE/4

(n) Extend the Gladiola Wolfcamp Pool to include:

TOWNSHIP 12 SOUTH, RANGE 37 EAST
Section 27: E/2

(o) Extend the Grayburg-Keely Pool to include:

TOWNSHIP 17 SOUTH, RANGE 29 EAST
Section 14: S/2 SW/4

(p) Extend the King-Devonian Pool to include:

TOWNSHIP 13 SOUTH, RANGE 37 EAST
Section 26: S/2 SE/4

(q) Extend the North Mason-Delaware Pool to include:

TOWNSHIP 26 SOUTH, RANGE 32 EAST	
Section 18:	S/2

(r) Extend the Square Lake Pool to include:

TOWNSHIP 16 SOUTH, RANGE 30 EAST	
Section 29:	NE/4

(s) Extend the Teague-Grayburg Pool to include:

TOWNSHIP 23 SOUTH, RANGE 37 EAST	
Section 21:	SW/4

(t) Extend the Young Pool to include:

TOWNSHIP 18 SOUTH, RANGE 32 EAST	
Section 20:	S/2 S/2

CASE 1329: Northwestern New Mexico nomenclature case calling for an order creating a new pool and extending the vertical and horizontal limits of existing pools in San Juan and Rio Arriba Counties, New Mexico.

(a) Create a new oil pool for Gallup production, designated as the Horseshoe-Gallup Oil Pool, and described as:

TOWNSHIP 30 NORTH, RANGE 16 WEST	
Section 3:	W/2 W/2
Section 4:	E/2 and SE/4 NW/4
Section 9:	W/2 NE/4, NE/4 NE/4, E/2 SW/4 and NW/4 SE/4

(b) Extend the vertical limits of the Otero-Graneros Pool to include the Dakota formation and change the name of said pool accordingly to the Otero Graneros-Dakota Pool.

(c) Extend the horizontal limits of the Otero Graneros-Dakota Pool to include:

TOWNSHIP 25 NORTH, RANGE 5 WEST	
Section 26:	SW/4
Section 27:	S/2

(d) Extend the Aztec-Pictured Cliffs Pool to include:

TOWNSHIP 28 NORTH, RANGE 9 WEST	
All of Sections 23 & 27	

(e) Extend the Tapacito-Pictured Cliffs Pool to include:

TOWNSHIP 25 NORTH, RANGE 3 WEST	
Section 10:	N/2
Section 11:	W/2

TOWNSHIP 26 NORTH, RANGE 3 WEST
Section 28: E/2

TOWNSHIP 27 NORTH, RANGE 5 WEST
Section 26: S/2

(f) Extend the South Blanco-Pictured Cliffs Pool to include:

TOWNSHIP 24 NORTH, RANGE 2 WEST
Section 20: All
Section 21: S/2

TOWNSHIP 25 NORTH, RANGE 3 WEST
All of Sections 28 & 29
Section 32: N/2
Section 33: N/2

TOWNSHIP 25 NORTH, RANGE 5 WEST
Section 34: N/2

TOWNSHIP 28 NORTH, RANGE 9 WEST
Section 26: All
Section 34: N/2

(g) Extend the Otero-Chacra Pool to include:

TOWNSHIP 25 NORTH, RANGE 5 WEST
Section 18: All
Section 34: N/2

(h) Extend the Bisti-Lower Gallup Oil Pool to include:

TOWNSHIP 25 NORTH, RANGE 11 WEST
Section 24: SW/4

TOWNSHIP 26 NORTH, RANGE 13 WEST
Section 20: SE/4

(i) Extend the Verde-Lower Gallup Oil Pool to include:

TOWNSHIP 31 NORTH, RANGE 15 WEST
Section 31: NE/4

CASE 1330: Application of Northwest Production Corporation for an order for the extension of the South Blanco-Pictured Cliffs Pool in Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks an order extending the South Blanco-Pictured Cliffs Pool to include the following area:

TOWNSHIP 25 NORTH, RANGE 4 WEST
All of Sections 5 & 6
Section 7: E/2
All of Section 8

TOWNSHIP 26 NORTH, RANGE 4 WEST
All of Sections 29, 30, 31 & 32

CONTINUED CASE

CASE 1292: Application of John H. Trigg for an order authorizing a pilot program for the injection of gas into the Caprock-Queen Pool, Chaves County, New Mexico, for purposes of pressure maintenance, and further, authorizing the transfer of allowables for the injection well to other wells on the same basic lease, and further, to exempt certain of his wells from gas-oil ratio penalties. Applicant, in the above-styled cause, seeks an order authorizing the injection of gas into the Caprock-Queen Pool through his Federal Trigg No. 10-9 Well located in the NW/4 SE/4 of Section 9, Township 14 South, Range 31 East, Chaves County, New Mexico. Applicant further requests that the allowables assigned to the injection well be transferred to another well or wells on the same basic lease, and further, that during the period of the pilot program all wells in Section 9, which are on the same lease as the injection well, be exempt from gas-oil ratio penalties.

ir/

DEARNLEY-MEIER AND ASSOCIATES
INCORPORATED

605 SIMMS BUILDING,
ALBUQUERQUE, NEW MEXICO
Telephone 3-6691

MAIN OFFICE OCC
NM 8:23

106 BOKUM BUILDING
SANTA FE, NEW MEXICO
Telephone 2-1869

November 19, 1957

Bobby Postlewaite
Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Dear Bobby:

Would you please send me one copy of the first portion of case 1327 as I will need it for the preparation of the 15th & 16th hearing.

Thanks alot

ADA

Given To Joe
11-20-57 BP

STATEMENT of Ben R. Howell
~~TESTIMONY OF P. NORMAN WOODRUFF~~

EL PASO NATURAL GAS COMPANY

From the date that proration commenced in Lea County, El Paso Natural Gas Company each year has nominated and has actually taken from the gas pools in Lea County, New Mexico, volumes of gas in excess of its total contractual obligations to the producers in those pools. Today, each pool is out of balance with some wells underproduced and other wells overproduced. In each pool three factors have contributed to the accumulation of underproduction for some wells and overproduction for other wells. One factor is the inability of certain wells to deliver at the times production is required and the ability of other wells to deliver large volumes at the times of peak demand. The second factor is the omission of deliverability or producing capacity of the wells from the allocation formula. The third factor is that during 1955, 1956 and 1957 other gas purchasers in the same pools have nominated and taken lower average quantities of gas than El Paso Natural Gas Company.

The record of prior hearings contains a full statement concerning El Paso's operations. In common with other natural gas pipelines, El Paso's demands from its customers fluctuate with weather conditions and other factors beyond El Paso's control. El Paso's supply from the Permian Basin

area is predominantly dependent upon residue gas from plants processing casinghead gas produced incident to the production of oil. The prevention of waste requires marketing of all residue as it becomes available with gas from gas wells supplementing the supply of residue gas. The volumes of residue gas available to El Paso are determined not by El Paso's needs, but by the oil allowables established by this Commission and by the Texas Railroad Commission. When oil allowables are high, residue gas from the tailgates of gasoline plants will load the pipeline. When oil wells are shut in, either because of proration, mechanical difficulty or any other reason, or when gasoline plants are out of operation for any reason, El Paso's requirements from the Permian Basin area principally must be obtained from gas wells in the prorated gas pools of Lea County. The volumes of gas obtained by El Paso from gas wells in Texas is minor. In normal operations the greatest volume of residue gas becomes available shortly after the first day of the month and tapers off to a marked degree at the end of the month. Consequently, the production of gas from gas wells tends to become concentrated into short periods of peak demand or short supply.

In order to prevent waste of casinghead gas, it is necessary to produce gas from gas wells under field conditions which require high deliverability wells to produce the major portion into the gathering lines because the low delivery wells are incapable of producing such gas.

The fact that the nominations of other purchasers per unit have been smaller than El Paso's has resulted in the allowable given to El Paso's wells

being less than El Paso's market demand. For example, if El Paso nominates one million cubic feet per unit per day and another purchaser nominates one-half million cubic feet per unit per day for an equal number of units, the allowable based upon straight acreage would be three-quarters of a million for each unit giving wells connected to El Paso's system less than its requirements and giving the other purchaser's connections more than its requirement. When the market demand is met, El Paso's wells become overproduced, and the other purchaser's connected wells become underproduced. When peak demands and short supply impose the necessity of producing large quantities quickly, this unbalanced condition is aggravated. During the former hearings, El Paso and other pipeline companies pointed out this inevitable result when the deliverability factor is omitted.

This unbalanced condition has been further complicated by carrying forward instead of cancelling underproduction. El Paso is not critical of companies whose problems resulted in carrying forward this underproduction or of the Commission for granting extensions of the cancellation date. However, the result in the Jalmat Pool was as of July 1, 1957 an accumulated underproduction of 8.6 billion cubic feet, and an accumulated overproduction of 8.6 billion cubic feet. The cancellation of underproduction and the redistribution of the underproduction to the non marginal wells will help to relieve this situation. El Paso urges the Commission to cancel at the beginning of the next proration period all underproduction subject to cancellation under existing rules and to redistribute this underproduction to the non marginal wells in each pool.

Many wells in the Jalmat Pool could be classified as marginal wells. These wells are physically incapable of delivering the average monthly allowable. Failure to classify these wells as marginal wells results in granting to these wells an allowable impossible to make. The weak well is not penalized by classification as a marginal well. On the contrary, the marginal well is permitted to produce all it can produce, and in effect, is freed from any restriction of proration. The owner of the marginal well is not hurt by proper classification, and the owners of non marginal wells are benefited because the demand which cannot be met by the marginal well is properly allocated to the wells capable of delivering this demand under field conditions. El Paso urges the Commission to make prompt classification of all marginal wells, and thus avoid unrealistic allocations.

Finally, El Paso again urges the Commission to recognize the necessity of considering deliverability as a part of the allocation formula. In many instances difference in deliverability reflects the difference between an old, partially depleted well and a new well with inital flush production. Usually the differences reflect a real relationship between the existing recoverable reserves in place attributable to the wells. An allocation formula based solely upon acreage will result, and we consider has resulted, in injury to correlative rights. When the straight acreage allocation formula is used, experience has proven that wells incapable of increasing their production to meet peak demand conditions will continue to become underproduced and the

good wells will continue to be overproduced. This will cause and has caused the market demand to be satisfied from other sources. When the wells connected to El Paso's system in Lea County are overproduced and in danger of shut in, the only solution for El Paso is to obtain from the San Juan Basin or other sources the additional volumes required for its market. The Lea County operator is not helped by transferring market demand elsewhere. The unbalanced condition within each pool in Lea County needs to be corrected for the benefit of all. During 1957 while El Paso has had to restrict its purchases in Lea County in order that overproduced wells might come in balance in accordance with the Commission's rules, it has been necessary to take additional volumes from the San Juan Basin. The San Juan Basin has also had to take most of the swing required to meet our market demand. We find that we have been able to take the varying market demands without severely overproducing wells in the San Juan Basin where we have been unable to do so in the Lea County area. This is to be attributed to the fact that deliverability is considered in the allocation formula for the gas wells in the San Juan Basin.

El Paso earnestly recommends a continued study and the adoption of a formula recognizing the realities of producing and marketing gas from gas wells. El Paso will gladly cooperate in furnishing all information in its possession to achieve a result more equitable to all parties.

12-5-57
BP

INTERIM ORDER IN CASE 1327 MAILED TO:

Ben Howell, El Paso Natural Gas, Box 1492, El Paso
Jack Osborne, Permian Basin Pipeline Co., Omaha
Harry Dipple, Continental, Ft. Worth
John Kelly, Roswell
George Selinger, Skelly Oil Co., Box 1650, Tulsa
Layton Webb, Sinclair Oil & Gas, Box 1470, Midland
Ross Malone, Atwood & Malone, Box 867, Roswell
Clarence Hinkle, Box 547, Roswell
Pat McCarthy, Permian
Granville Dutton, Sun Oil Co., Dallas
William G. Webb, Southern Union Gas, Dallas
Jason Kellahin, Box 597, Santa Fe

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

November 29, 1957

COPY

Mr. Jack Campbell
Campbell & Russell
P.O. Box 721
Roswell, New Mexico

Dear Sir:

On behalf of your client, Texas Pacific Coal & Oil Company, we enclose two copies of Interim Order R-1092 issued November 27, 1957, by the Oil Conservation Commission in Case 1327, which was heard on October 17th and November 14th.

Very truly yours,

A. L. Porter, Jr.
Secretary - Director

bp
Encls.

CLASS OF SERVICE
This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION
TELEGRAM

W. P. MARSHALL, PRESIDENT

1201

SYMBOLS
DL = Day Letter
NL = Night Letter
LT = International Letter Telegram

The filing time shown in the date line on domestic telegrams is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

LA220 SSE332

1957 NOV 15 PM 6 26

L SNA206 NL PD=SANTA FE NMEX 15=

NEW MEXICO OIL CONVERSATION COMMISSION

ATTN MR A L PORTER JR= STATE CAPITOL BLDG

SANTA FE NMEX=

TIDEWATER OIL COMPANY CONCURS WITH SKELLY IN STATEMENTS MADE BY MR. SELINGER IN CASE 1327 DURING THE REGULAR OCTOBER HEARING AND OPPOSE THE INCORPORATION OF A DELIVERABILITY FACTOR IN ALLOCATION OF GASWELL ALLOWABLES IN THE JALMAT GAS POOL=

TIDEWATER OIL CO R N MILLER AREA ENGINEER

HOBBS NEW MEXICO...

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

CLASS OF SERVICE
This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION
TELEGRAM

W. P. MARSHALL, PRESIDENT

1201

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DL = Day Letter
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LA219 SSA644

L SNA207 NL PD=SANTA FE NMEX 15= 1957 NOV 15 PM 6 23

NEW MEXICO OIL CONSERVATION COMMISSION

ATTN A L PORTER JR= CAPITOL BLDG SANTA FE NMEX=

YOUR ATTENTION IS DIRECTED TO MR SELINGER'S STATEMENT INCLUDED IN THE TRANSCRIPT OF OCTOBER HEARING PERSUANT TO CASE 1327. THIS STATEMENT FULLY OUTLINES SKELLY POSITION IN THIS CASE=

SKELLY OIL CO JOE D RAMEY DISTRICT PETROLEUM ENGINEER...

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

MAIN OFFICE OCC

1957 OCT 7 AM 8:12

ROYALTY HOLDING COMPANY

1411 Liberty Bank Building Phone FO 5-8463

OKLAHOMA CITY 2, OKLAHOMA

October 4, 1957

Oil Conservation Commission
Mabry Hall, Capitol Building
Santa Fe, New Mexico

Gentlemen:

Please send us a copy of the Application of Texas Pacific Coal and Oil Company, Case #1327, immediately.

If there are any charges for copy, we will send a check by return mail.

mailed 10-7-57 BP

Very truly yours,

ROYALTY HOLDING COMPANY

John J. Fox, Jr.
Vice-President

DEARNLEY-MEIER AND ASSOCIATES
INCORPORATED

605 SIMMS BUILDING
ALBUQUERQUE, NEW MEXICO
Telephone 3-6691

106 BOKUM BUILDING
SANTA FE, NEW MEXICO
Telephone 2-1869

November 23, 1957

Mr. A. L. Porter, Director,
Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Dear Pete:

I am enclosing a partial transcript of testimony covering the Re-Direct Examination of Mr. Keller in case 1327.

I had to rush this out for an attorney in the case and thought maybe the commission could use this extra copy that I had made.

Sincerely

Ada

DEARNLEY-MEIER AND ASSOCIATES
INCORPORATED

605 SIMMS BUILDING
ALBUQUERQUE, NEW MEXICO
Telephone 3-6691

106 BOKUM BUILDING
SANTA FE, NEW MEXICO
Telephone 2-1869

January 20, 1958

Bobby Postlewaite
Oil Conservation Commission
P. O.Box 871
Santa Fe, New Mexico

Dear Bobby:

Would you please forward to me a copy of the September hearing in case 1327 consisting of some 83 pages.

mailed 1-21-58 BP

Thank you.

ADA

FORM 470 2-57

PAN AMERICAN PETROLEUM CORPORATION

AM OFFICE OCC
1957 DEC 11 AM 8:16

Roswell, New Mexico
December 10, 1957

File: S-200-341 x 986.510.1

Subject: Core Analysis
C. Myers B-11

New Mexico OilConservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.

Gentlemen:

Enclosed is a copy of the core analysis made on cores from Pan American Petroleum Corporation's C. Myers B-11, Jalmat Field, Lea County, New Mexico. This analysis was requested in connection with NMOCC Case No. 1327.

Yours very truly,

PAN AMERICAN PETROLEUM CORPORATION

C. L. Kelley
District Superintendent

Attachments

Mailing List -
Operators, Jalmat Gas Pool

AMERADA PET
BOX 706
EUNICE NEW MEXICO

ARGO OIL CORP
1728 MILAN BLDG
SAN ANTONIO 5 TEXAS

ATLANTIC REFINING
Box 1610
Midland, Texas

CARPER DRLG CO
CARPER BLDG
ARTESIA NEW MEXICO

CITIES SERVICE
HOBBS NEW MEXICO

CONE J R
1706 GREAT PLAINS LIFE BLDG
LUBBOCK TEXAS

CONTINENTAL OIL
BOX 68
EUNICE NEW MEXICO

DALPORT OIL CORP
930 FIDELITY UNION LIFE BLDG
DALLAS TEXAS

EL PASO NAT GAS
BOX 1492
EL PASO TEXAS

A R EPPENAUER
2009 TRANSIT TOWER
SAN ANTONIO TEXAS

GACKLE ALBERT
BOX 2076
HOBBS NEW MEXICO

GULF OIL CORP
P O DRAWER 2100
HOUSTON 1 TEXAS

HAMILTON DOME LTD
BOX 1581
JAL NEW MEXICO

HAYNES VT DRLG
1725 NORTH GRANT
ODESSA TEXAS

HUMBLE OIL
BOX 2180
HOUSTON TEXAS

HUSKY OIL CO
900 V AND J TOWER
MIDLAND TEXAS

JAL OIL CO INC
P O BOX 1744
MIDLAND TEXAS

KELLY JOHN M
BOX 5671
ROSWELL NEW MEXICO

KING WARREN DYE
BOX 1505
MIDLAND TEXAS

LATE OIL CO
BOX 670
SAN ANGELO TEXAS

LEONARD OIL CO
BOX 708
ROSWELL NEW MEXICO

LOWE RALPH
BOX 832
MIDLAND TEXAS

OH OO OIL CO
PO OO BOX 2107
HOBBS NEW MEXICO

OLSEN OILS INCORPORATED
2811 LIBERTY BANK BLDG
OKLAHOMA CITY OKLA

PAN AMERICAN
BOX 68
HOBBS NEW MEXICO

PHILLIPS PET CO
BOX 2105
HOBBS NEW MEXICO

RESLER SHELDON
302 CARPER BLDG
ARTESIA NEW MEXICO

RODMAN E G
BOX 3908
ODESSA TEXAS

RODMAN NOEL OIL
BOX 3826
ODESSA TEXAS

SAMEDAN OIL CORP
Box 2137
Hobbs, N. M.

SCHERMERHORN OIL
BOX 875
HOBBS NEW MEXICO

SCOTT CLARA T TR
TRUST DEPT FIRST NATL BANK IN DALLAS
DALLAS TEXAS

SHELL OIL CO
BOX 845
ROSWELL NEW MEXICO

SIMON JULIAN E
BOX 2076
HOBBS NEW MEXICO

SINCLAIR OIL GAS

P.O. Box 809
Roswell, N.M.

520 E BROADWAY
HOBBS NEW MEXICO

SKELLY OIL CO
HOBBS NEW MEXICO

SOU CAL PET CORP
BOX 1071
MIDLAND TEXAS

SUN OIL CO
P O BOX 288
DALLAS TEXAS

SUNRAY MID CONT
1103 WILCO BLDG
MIDLAND TEXAS

TEXAS CO THE
BOX 352
MIDLAND TEXAS

T P COAL AND OIL
P O BOX 1688
HOBBS NEW MEXICO

THOMPSON AND CONE
1706 GREAT PLAINS LIFE BLDG
LUBBOCK TEXAS

THREE STATES NAT
BOX 168
JAL NEW MEXICO

TIDEWATER OIL CO
BOX 547
HOBBS NEW MEXICO

WEIER DRILLING CO
BOX 715
MONAHANS TEXAS

WESTERN NAT GAS
823
MIDLAND TEXAS

~~HOBBS NEW MEXICO~~

ANDERSON PRICHARD
BOX 196
MIDLAND TEXAS

MAGNOLIA PETROLEUM COMPANY
BOX 900
DALLAS 21 TEXAS

KENWOOD OIL CO
BOX 875
HOBBS NEW MEXICO

OHIO OIL CO
P O BOX 2107
HOBBS NEW MEXICO

[redacted]: Reporting March 25, 1958

15-[redacted]

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

April 28, 1958

COPY

Mr. Jack Campbell
Campbell & Russell
P.O. Box 721
Roswell, New Mexico

Dear Mr. Campbell;

On behalf of your client, Texas Pacific Coal & Oil Company, we enclose two copies of Order R-1092-C issued April 25, 1958, by the Oil Conservation Commission in Case 1327, which was last heard on March 25, 1958:

Very truly yours,

A. L. Porter, Jr.
Secretary - Director

bp
Encls.

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

April 28, 1958

COPY

Mr. Ross Malone
Atwood & Malone
P.O. Box 867
Roswell, New Mexico

Dear Mr. Malone:

On behalf of your clients, The Operators in the Jalmat Gas Pool, we enclose two copies of Order R-1092-C issued April 25, 1958, by the Oil Conservation Commission in Case 1327, which was last heard on March 25, 1958.

Very truly yours,

A. L. Poter, Jr.
Secretary - Director

bp
Encls.

Case file No. 1327

SUN OIL COMPANY

SOUTHWEST DIVISION
RIO GRANDE NATIONAL BUILDING
DALLAS 2, TEXAS

S. M. GLADNEY
MANAGER
T. F. HILL
ASSISTANT MANAGER

A. J. RHEA
SUPT OPERATING DEPT

April 3, 1958

Mr. A. L. Porter, Jr.
Secretary-Director
New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Porter:

Enclosed are three copies of Sun Oil Company's closing statement made in the Jalmat rehearing, Case No. 1327, Order No. R-1092-A. A copy of this statement is being furnished to counsels for Texas and Pacific Coal and Oil Company and El Paso Natural Gas Company.

Yours very truly,

Granville Dutton

Granville Dutton

GD:k
cc - Mr. Jack Campbell
Mr. B. R. Howell

JALMAT REHEARING
CASE NO. 1327, ORDER NO. R-1092-A
ARGUMENT AND CLOSING STATEMENT OF SUN OIL COMPANY
March 27, 1958

The New Mexico Conservation Statutes are among the most modern and enlightened in this nation. Nowhere are the enlightened aspects of these Statutes better revealed than with respect to the allocation provisions. The establishment of the proportional relationship between allowable and the hydrocarbons "under each property" recognizes the ownership of the in-place hydrocarbons by each property owner.

You have heard of discrepancies in the various engineers' testimony on points involved in this case. However, one point upon which all engineers who answered the question did agree was that, neglecting coincidences, the recoverable gas in-place under a tract is not proportional to the deliverability of the well to which that tract is assigned. It is not consisteht with good engineering or good logic to contend that the addition of a non-proportional factor, i.e., deliverability, to a universally recognized proportional factor, i.e., acreage, could bring the allowable more nearly in proportion to the gas in-place.

With respect to the purchasers' claim that acreage allocation has resulted in a shift of gas allowable from the Jalmat Pool to the San Juan Basin, I am reminded of a story by one of my law school professors. He told me that the old adage, "No man can make evidence for himself", was as wrong as it could be. In fact, he stated that if ever I were involved in an accident at an intersection I should immediately jump out of my car and shout at the other driver, "Why did you run that red light?". In reply to my question as to if I should not first study the intersection to see if a traffic signal were

installed, he told me that if I didn't get rid of my engineering ideas, I would never make a lawyer. Perhaps he was right.

As you gentlemen no doubt realize, this hearing involves much more than gas proration in the Jalmat Pool. The immediate future of proration and conservation is at stake.

Is allocation to be based upon coincidental circumstances? This, to me, is deliverability allocation.

Are your efforts and ours to be restricted to refighting the old battle of the potential formula, the proponents of which based their arguments on the outmoded concept that since the christmas tree is the only thing above ground -- the only thing we can see, feel and hear -- we must allocate on the basis of what is occuring within that tree? This is deliverability allocation.

Are we again to see an arbitrary, manipulatable factor introduced into allocation -- a factor that will encourage a man to seek that which he does not own, that is, his neighbors' gas? This is deliverability allocation.

Or, on the other hand, are we to be free to seek the attainment of a worthy goal -- that of conservation without confiscation?

Are we to be free to take advantage of the tremendous technical strides in the oil industry that have eliminated us from basing our entire knowledge of a reservoir upon what occurs at the mouth of the well?

Are we to be free to advance the scientific aspects of proration in order to realize at the earliest time the maximum recovery along with maximum protection of correlative rights? These involve allocation upon the

statutory basis of gas in-place "under such property".

I have extolled the many virtues of the New Mexico Conservation Statutes. I would like to close with one more compliment.

The last sentence of Article 65-3-20 specifically gives you the authority to "...enter such new order or decision after rehearing as may be required under the circumstances". Gentlemen, if your judgment dictates that a change from acreage allocation should be effected in Jalmat, let me urge you to avail yourself of the wise breadth of this provision to make such a change a forward step -- a step toward the ultimate in proration, that of allocation on the basis of the gas in-place "under each property". Factors in addition to acreage which on a sound and practical engineering basis are both directly related to gas in-place under a given tract and are capable of uniform interpretation are available. The use of such additional factors would represent a step forward toward ideal proration -- the use of deliverability would represent a step backward toward inequitable production resulting in the taking of one man's property and giving it to another under color of law.

LEIBROCK, LANDRETH & CAMPBELL
CONSULTING PETROLEUM ENGINEERS
SUITE 207, MIDLAND NATIONAL BANK BUILDING
P. O. BOX 91 TELEPHONE MU 2-7500
MIDLAND, TEXAS

ROBERT M. LEIBROCK
GEORGE H. LANDRETH
ROY E. CAMPBELL

March 31, 1958

Mr. Elvis A. Utz, Gas Engineer
New Mexico Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Dear Mr. Utz:

In accordance with your request of last week, we are transmitting herewith a copy of the basic reservoir data used in calculating recoverable gas in place for the 58 tracts studied in the Jalmat Gas Pool, Lea County, New Mexico.

Should you have any question concerning the source of the basic data or the procedure followed in calculating gas in place, we would be pleased to discuss them with you at your convenience.

Yours very truly,

LEIBROCK, LANDRETH & CAMPBELL

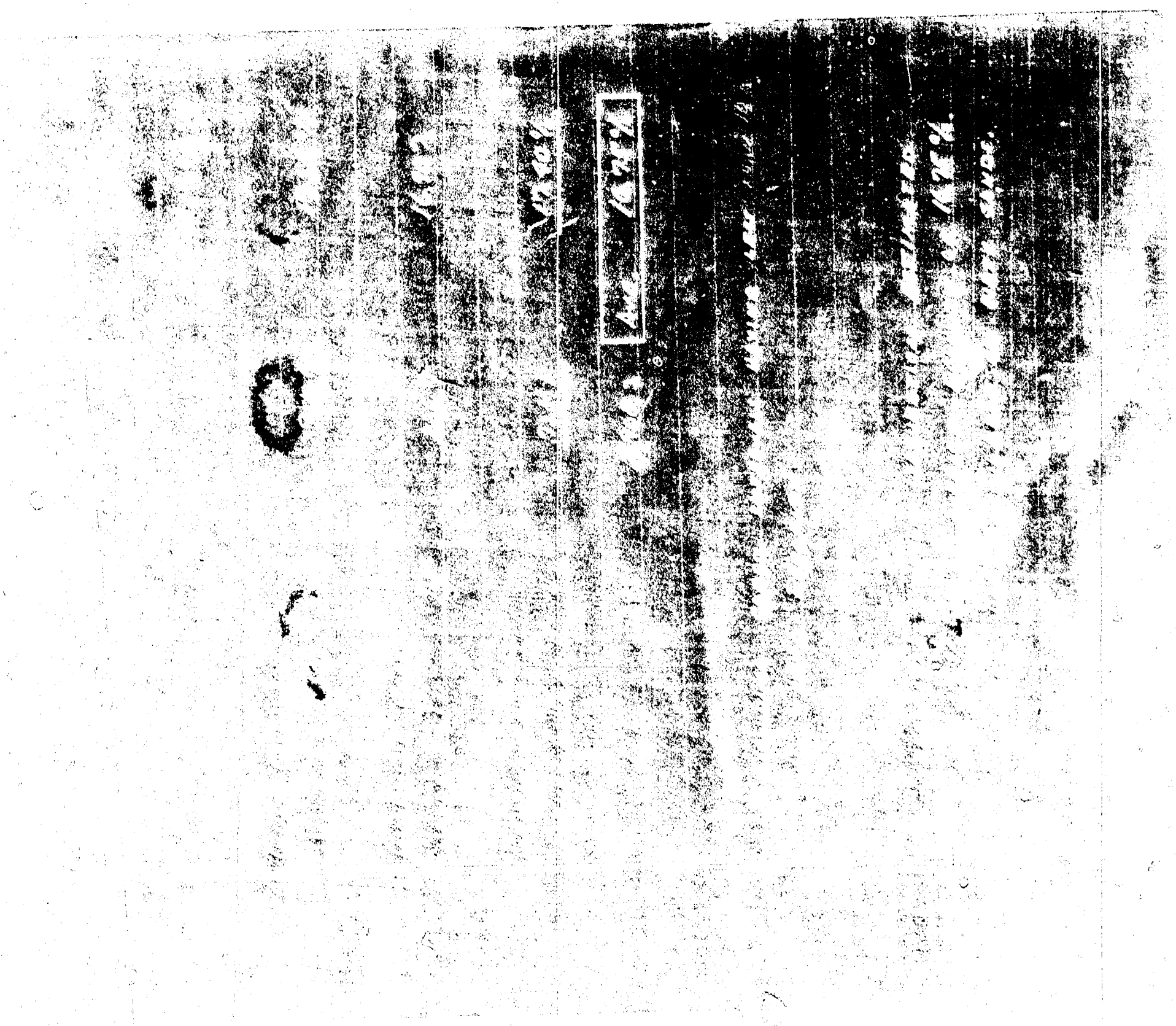
Robert M. Leibrock

Robert M. Leibrock

RML:wr

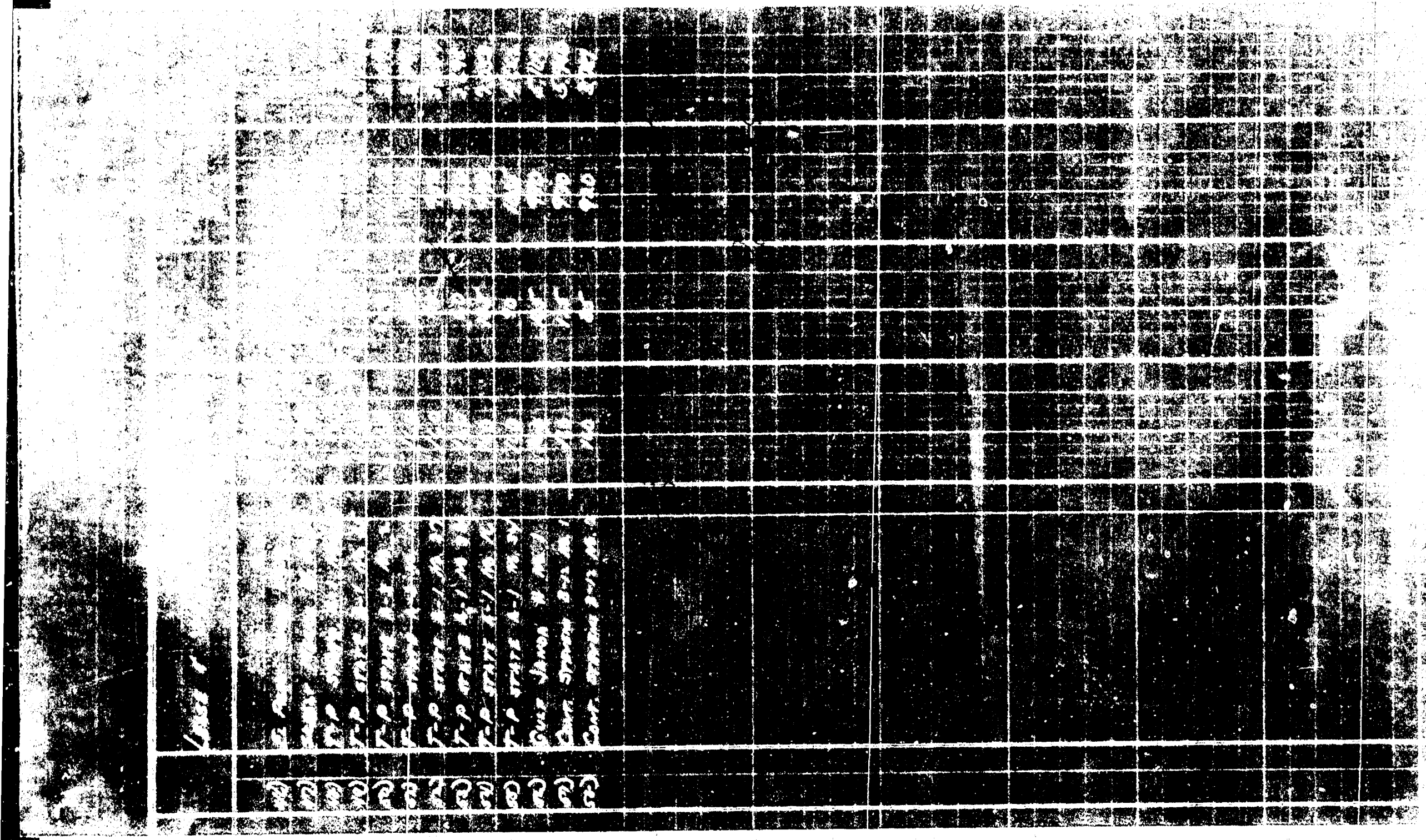
Enclosures

Copy to:
Mr. Ross Malone
Atwood & Malone
Roswell Petroleum Building
Roswell, New Mexico



SUMMARY OF CALCULATIONS OF RECOVERABLE GAS IN PLACE
PORTION OF JALMAT GAS POOL, LEA COUNTY, N. M.

	LEASE & WELL NO.	NET ACRES	NET PAY, Ft.	BOTTOM HOLE PRESSURE psig	[illegible] MMCF
1)	GACKLE - KING No. 1	160	145	945	81
2)	CONT. - STEVENS B-18 No. 1	160	141	945	140
3)	CONT. - STEVENS B-18 No. 2	160	94	960	87
4)	T-P - STATE A-1 No. 20	160	125	990	90
5)	T-P - STATE A-1 No. 28	160	125	1010	98
6)	EL PASO - SHELL - STATE No. 2	160	115	1000	89
7)	T-P - STATE A-1 No. 21	160	120	970	92
8)	T-P - STATE A-1 No. 13	160	125	1015	100
9)	T-P - STATE A-1 No. 25	160	120	990	97
10)	CONT. STEVENS B-14 No. 1	160	125	1000	100
11)	T-P - STATE A-1 No. 31	160	100	935	[illegible]
12)	T-P STATE A-1 No. 33	160	90	800	[illegible]
13)	CONT. STEVENS B-15 No. 2	160	85	800	[illegible]
14)	WESTERN NAT. - MATKINS No. 1	160	105	860	[illegible]
15)	GACKLE - SINCLAIR-STATE No. 1	160	100	1030	[illegible]
16)	GACKLE - SINCLAIR - STATE No. 2	160	115	800	[illegible]
17)	T-P STATE A-1 No. 26	160	125	990	[illegible]
18)	T-P STATE A-1 No. 24	160	125	1015	[illegible]
19)	T-P STATE A-1 No. 23	160	125	1000	[illegible]
20)	T-P STATE A-1 No. 22	160	125	1010	[illegible]
21)	GULF, JANDA G No. 1	160	90	1000	[illegible]
22)	GULF, HOLT B No. 2	80	191	950	[illegible]
23)	GACKLE COWDEN C No. 4	316	119	910	[illegible]
24)	SAMEDAN HUGHES B No. 1	160	81	1025	[illegible]
25)	WESTERN NAT. BLINEBRY A No. 2	160	109	1005	[illegible]
26)	GACKLE, COWDEN B No. 1	120	81	1007	[illegible]
27)	CONT. LYNN B-25 No. 2	160	160	920	[illegible]
28)	CONT. LYNN B-26 No. 1	160	141	925	[illegible]
29)	CONT. LYNN B-26 No. 2	160	145	900	[illegible]
30)	CONT. LYNN B-26 No. 3	160	81	900	[illegible]
31)	CONT. LYNN B-26 No. 4	160	139	970	[illegible]
32)	GULF MANDA C No. 1	40	145	903	[illegible]
33)	WESTERN NAT. COMBEST C No. 1	320	122	919	[illegible]
34)	CONT. STEVENS A-35 No. 1	120	109	921	[illegible]
35)	AMERADA STATE LMT No. 2	160	100	900	[illegible]
36)	AMERADA STATE LMT No. 3	160	135	1000	[illegible]
37)	CITIES SERVICE STATE Q No. 1	40	134	800	[illegible]
38)	P. LOWE - SHELL STATE No. 2	40	152	905	[illegible]
39)	SKELLY - MEXCO D No. 1	40	148	945	[illegible]
40)	SKELLY - KING C No. 1	160	68	960	[illegible]
41)	OLSEN OIL CO. - KING No. 1 M/D	160	105	975	[illegible]
42)	TIDEWATER KING No. 1	160	118	960	[illegible]
43)	OLSEN OIL CO. - KING No. 1	[illegible]	[illegible]	[illegible]	[illegible]
44)	GULF JANDA I No. 1	[illegible]	[illegible]	925	[illegible]
45)	GULF JANDA I [illegible]	[illegible]	[illegible]	925	[illegible]



JASON W. KELLAHIN
ROBERT E. FOX

NEW MEXICO OIL CONSERVATION COMMISSION
RECEIVED
1958 FEB 17 PM 3:37

KELLAHIN AND FOX
ATTORNEYS AT LAW
54½ EAST SAN FRANCISCO STREET
POST OFFICE BOX 1713
SANTA FE, NEW MEXICO

TELEPHONES
3-9396
2-2266

February 17, 1958

Oil Conservation Commission
State of New Mexico
P. O. Box 871
Santa Fe, New Mexico

Gentlemen:

Enclosed are three copies of the application of Samedan Oil Corporation for a rehearing in Case No. 1327, seeking reconsideration of Order No. R-1092-A as said Order pertains to the inclusion of a deliverability factor in the proration formula for the Jalmat Gas Pool, Lea County, New Mexico.

Please acknowledge receipt of this application on the attached copy of this letter and return it to me.

Very truly yours,

Jason W. Kellahin

Jason W. Kellahin

JWK:j
enc - 3

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

CASE NO. 1327
Order No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL & OIL COMPANY FOR AN ORDER IMMEDIATELY TERMININATING GAS PRORATIONING IN THE JALMAT GAS POOL; OR IN THE ALTERNATIVE, REVISING THE SPECIAL RULES AND REGULATIONS FOR THE JALMAT GAS POOL IN LEA COUNTY, NEW MEXICO.

APPLICATION FOR REHEARING

Comes now SAMEDAN OIL CORPORATION, a Delaware corporation duly authorized to transact business in the State of New Mexico, hereinafter sometimes referred to as "applicant", and applies for a rehearing in the above entitled and numbered case and in support thereof would show the New Mexico Oil Conservation Commission, hereinafter referred to as "Commission", the following:

1. That this applicant owns and operates oil and gas leases and gas wells in Southeastern New Mexico and is an operator in the defined limits of the Jalmat Gas Pool in Lea County, New Mexico.

2. That this applicant participated in the hearings on the application of Texas Pacific Coal & Oil Company in the above designated case and as an operator in the Jalmat Gas Pool is affected by Order No. R-1092-A entered by the Commission under date of January 29, 1958.

3. That this applicant believes and therefore states the fact to be that Order No. R-1092-A is erroneous, illegal and is invalid, and that by reason thereof a rehearing is requested in

respect to that portion of said Order which provides that effective July 1, 1956, a deliverability factor shall be included in the gas proration formula of the Jalmat Gas Pool and the succeeding portions of said Order carrying into effect the decision of the Commission that deliverability shall be included in the proration formula subsequent to July 1, 1958, and as grounds therefore states:

a) That the application of Texas Pacific Coal & Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack on Order No. R-520 in Case No. 673 of this Commission, entered on the 12th day of August, 1954, and therefore should not have been entertained by the Commission and cannot be made the basis of a valid order in Case No. 1327 in so far as the inclusion of deliverability in the proration formula is concerned.

b) That said Order No. R-1092-A, in so far as it attempts to revise and change the existing allocation formula for the Jalmat Gas Pool as provided in Commission Order No. R-520, as amended, and particularly paragraph (3) of said Order No. R-1092-A in so far as it purports to revise Rule 6 of the Special Rules and Regulations for the Jalmat Gas Pool is so vague, indefinite and uncertain as to leave this applicant without notice as to the effect of said order, and that by reason of said vague, indefinite and uncertain provisions, said order No. R-1092-A is invalid and void.

c) That the evidence introduced in Case No. 1327 provides no basis upon which a valid order could be entered by the Commission changing the basis for the allocation of production from 100% acreage basis to the basis provided in Order No. R-1092-A

for the Jalmat Gas Pool for the reason that Order No. R-520 in Case No. 673 constitutes a final determination that deliverability should not be included in the proration formula of the Jalmat Gas Pool. The applicant Texas Pacific Coal & Oil Company and this applicant, Samedan Oil Corporation, were parties to and actively participated in hearings in Case No. 673 in which the inclusion of deliverability as a factor in the proration formula was presented to and considered by the Commission, and Order No. R-520 was entered denying the inclusion of deliverability in said formula. No appeal was taken from this final determination by the Commission in Case No. 673 and on the basis of the record in this case, No. 1327, the Commission is without authority to modify or change the decision so reached in Case No. 673.

d) That the inclusion of deliverability as a factor in the Jalmat Gas Pool proration formula as provided by Order No. R-1092-A is predicated on a finding by the Commission "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." This finding is contrary to and wholly without support in the evidence and is therefore invalid and void, and this applicant alleges the fact to be that no such correlation exists, as shown by the evidence received by the Commission.

e) That even though it be assumed that the finding 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" is true, said finding provides no basis authorized by statute for modification of the pre-existing acreage formula for proration of gas produced from said pool.

f) That in entering said Order No. R-1092-A, the Commission made none of the findings required by statute in support of inclusion of a deliverability factor in the formula for the proration of gas production in the Jalmat Gas Pool, and instead based its Order No. R-1092-A on (1) a finding that the inclusion of a deliverability factor in the proration formula would result in the production of a greater percentage of the pool allowable, and (2) that such inclusion of a deliverability factor would more nearly enable various gas purchasers to meet the market demand for gas in the Jalmat Gas Pool. Neither of said considerations provides any legal basis for the allocation of production or institution of a proration formula under the statutes of New Mexico.

g) That Order No. R-1092-A will result in economic waste in that it will require the expenditure of large sums of money by the operators in said pool to increase the deliverability of gas wells in an effort to protect themselves against drainage, without any appreciable increase in the ultimate recovery of gas from the pool.

h) That Order No. R-1092-A will result in underground waste in that many of the wells in the Jalmat Gas Pool have been completed for many years and their condition is such that the action required in reworking wells will necessarily result in underground waste of natural gas, or an abuse of correlative rights of the owners of said wells, or both.

i) That the Order No. R-1092-A is invalid in that the Commission would have authority to change its existing proration order for the Jalmat Gas Pool only upon proof by the applicant in this case, Texas Pacific Coal & Oil Company, by a preponderance of the evidence, that either (1) waste would be reduced or eliminated, or (2) correlative rights of the owners in the

Jalmat Gas Pool would be protected to a greater degree by the inclusion of deliverability as a factor in said proration formula. The burden of proof so assumed by Texas Pacific Coal & Oil Company as such applicant was not discharged by it.

j) That Order No. R-1092-A fails to protect the correlative rights of operators within the Jalmat Gas Pool, but instead impairs the correlative rights of operators in the pool in that it will permit production of gas underlying offsetting tracts without affording compensating counter-drainage, and without affording each operator the opportunity to produce his just and equitable share of the gas underlying his lands, as required by law.

k) That Order No. R-1092-A is unreasonable, arbitrary and discriminatory and the effect of said order is to confiscate and deprive this applicant of its property without due process of law contrary to and in violation of the Fourteenth Amendment to the Constitution of the United States and of Article II, Section 18 of the Constitution of the State of New Mexico.

WHEREFORE, applicant Samedan Oil Corporation prays that this application for rehearing be granted for the purpose of reconsidering that portion of Order No. R-1092-A providing for the inclusion of a deliverability factor in the allocation formula of the Jalmat Gas Pool effective July 1, 1958, and that after notice as required by law, and upon rehearing, the Commission modify said Order R-1092-A by striking and removing therefrom each and every erroneous and invalid finding referred to hereinabove and each and every provision of said order relating to the inclusion of a deliverability factor in the gas proration formula for the Jalmat Gas Pool, and in lieu thereof, enter its order denying the application of Texas Pacific Coal & Oil Company in Case No. 1327 in its entirety.

Respectfully submitted,

SAMEDAN OIL CORPORATION

By: Jason W. Kellahin

KELLAHIN AND FOX
Attorneys for Applicant
P. O. Box 1713
Santa Fe, New Mexico

GENERAL OFFICES
120 BROADWAY NEW YORK

AMERADA PETROLEUM CORPORATION

BEACON BUILDING
P. O. BOX 2040
TULSA 2, OKLA.

ROBERT J. STANTON
GENERAL COUNSEL
JOHN S. MILLER
ASSISTANT GENERAL COUNSEL

LEGAL DEPARTMENT

H. D. BUSHNELL
HAROLD J. FISHER
ROBERT T. JAMES
ROBERT E. LEE
JAMES C. McWILLIAMS
VIRGIL C. MORELLE
ARDEN E. ROSS
ATTORNEYS

RECEIVED
FEB 17 1958
OIL CONSERVATION COMM.
SANTA FE, N. MEX.

February 15, 1958

Oil Conservation Commission
State of New Mexico
P. O. Box 871
Santa Fe, New Mexico

Re: Application of Amerada Petroleum Corporation for Rehearing in Case No. 1327

Gentlemen:

Enclosed in triplicate is Application for Rehearing in captioned case of Amerada Petroleum Corporation, mailed this date for filing.

Very truly yours,

H. D. BUSHNELL

HDB:FC
Encl.

cc: Texas Pacific Coal & Oil Company
P.O.Box 2110
Fort Worth, Texas

BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL &
OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

APPLICATION FOR RE-HEARING

Comes now Amerada Petroleum Corporation, a corporation, and states to the Commission:

(1) This Applicant is a corporation owning and operating oil and gas leases and gas wells within the limits of the Jalmat Gas Pool in Lea County, New Mexico.

(2) Applicant participated in and presented testimony to the Commission in hearings on the Application of Texas Pacific Coal & Oil Company in the above styled and numbered case and as an Operator in the Jalmat Gas Pool was affected by Order No. R-1092-A entered by the Commission under date of January 29, 1958.

(3) Applicant believes and therefore alleges that Order No. R-1092-A aforesaid was erroneous, illegal and is invalid and by reason thereof a re-hearing is requested in respect to that portion of said Order which provides that effective July 1, 1958, a deliverability factor shall be included in the gas proration formula of the Jalmat Pool and the succeeding portions of said Order carrying into effect the decision of the Commission that deliverability shall be included in the proration formula subsequent to July 1, 1958, and as grounds therefor states:

(a) The Application of Texas Pacific Coal & Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. R-520 in Case No. 673 of this Commission, entered on the 12th day of August 1954, and therefore should not have been entertained by the Commission and cannot be made the basis of a valid Order in Case No. 1327 insofar as the inclusion of deliverability in the proration formula is concerned.

(b) The evidence introduced in this proceeding provides no basis upon which a valid order could be entered by the Commission changing the basis for the allocation of production from the Jalmat Gas Pool from a 100% acreage basis to the basis as provided in Order No. R-1092-A of the Commission for the reason that Order No. R-520 entered by this Commission in Case No. 673 constituted a final determination that deliverability should not be included in the proration formula of the Jalmat Gas Pool. Texas Pacific Coal & Oil Company was a party to Case No. 673 and supported the inclusion of deliverability in the proration formula, which request was considered by the Commission, and Order No. R-520 was entered denying the request of said Texas Pacific Coal & Oil Company for the inclusion of deliverability in said formula. No appeal was taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered. On the basis of the record in this case, the Commission is without authority to modify or change the decision so reached in Case No. 673.

(c) The inclusion of deliverability in the Jalmat Gas proration formula as ordered by Order No. R-1092-A is predicated on a finding by this Commission "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." Applicant respectfully alleges that this finding of the Commission is contrary to and wholly without support in the evidence and is therefore invalid and void. In further support of the grounds here alleged, Applicant attaches hereto as Exhibit "A" a vertical bar graph depicting the relationship between the reconverable gas in place under the 58 tracts, which were the subject of testimony and exhibits presented by this applicant and other operators before the Commission on December 9, 1957, and the deliverabilities of the gas wells located on said tracts. Said exhibit is based upon the testimony in the record in this case and clearly demonstrates the total absence of correlation between the deliverabilities of gas wells in the Jalmat Gas Pool and gas in place under the tracts dedicated to said wells. If afforded an opportunity to do so, Applicant will present further evidence in this regard but asserts that on the evidence heard by the Commission it is clearly shown that no such correlation exists.

(d) The order of the Commission is invalid in that even though it be assumed that as found by the Commission it has been 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" said finding provides no basis authorized by the statutes of New Mexico for modification of the pre-existing acreage formula for proration of gas produced from said pool.

(e) That the Commission has considered factors not permitted by the statutes of New Mexico in arriving at its decision which was the basis of Order No. R-1092-A. It is apparent that said Order was predicated in part upon, (1) a finding that the inclusion of a deliverability factor in the Jalmat proration formula would result in the production of a greater percentage of the pool allowable and, (2) that it would more nearly enable various gas purchasers to meet the market demand for gas in the Jalmat Gas Pool. Neither of said considerations provides any legal basis for the allocation of production under the statutes of New Mexico.

(f) The Order of the Commission results in economic waste in that it will require the expenditure of an excess of $30,000.00 by this Applicant to increase the deliverability of its gas wells in an effort to protect its correlative rights, although the ultimate recovery from the tracts operated by this applicant will not be appreciably increased thereby.

(g) The Order of the Commission will result in underground waste in that many of the wells in the Jalmat Gas Pool have been completed for some ten to twenty years and their condition is such that the action required of a prudent operator under the Order of the Commission will necessarily result in the underground waste of natural gas and the abuse of correlative rights of the owners of many of said wells.

(h) The Order of the Commission is invalid in that the Commission would have authority to change its existing proration order for the Jalmat Gas Pool only upon the proof by the Applicant in this case, by a preponderance of the evidence, either that waste would be reduced or eliminated or that correlative rights of the owners in the Jalmat Pool would be protected to a greater degree by the inclusion of deliverability in said proration formula. The burden of proof so assumed by Texas Pacific Coal & Oil Company was not discharged by Applicant.

(i) Order No. R-1092-A results in irreperable injury to the correlative rights of this Applicant and deprives this Applicant of its property without due process of law in that it will permit production by offset operators of natural gas underlying the tracts owned by this Applicant without affording compensating counter-drainage from other adjoiningtracts, and will prevent this Applicant from producing the recoverable gas in place in the Jalmat Pool underlying the tract upon which the wells of Applicant are located.

(j) That Order No. R-1092-A discriminates against, and confiscates the vested property rights of, this Applicant who in good faith, and in reliance to Order No. 520, incurred costs to recomplete and to rework wells in the Jalmat Pool on the basis of the acreage proration formula provided for in Order No. R-520.

WHEREFORE, Applicant respectfully prays the Commission that a re-hearing be granted in the above styled and numbered cane as to that portion of the Order and Decision of the Commission providing for the inclusion of a deliverability factor in the allocation formula of the Jalmat Gas Pool subsequent to July 1,1958.

AMERADA PETROLEUM CORPORATION

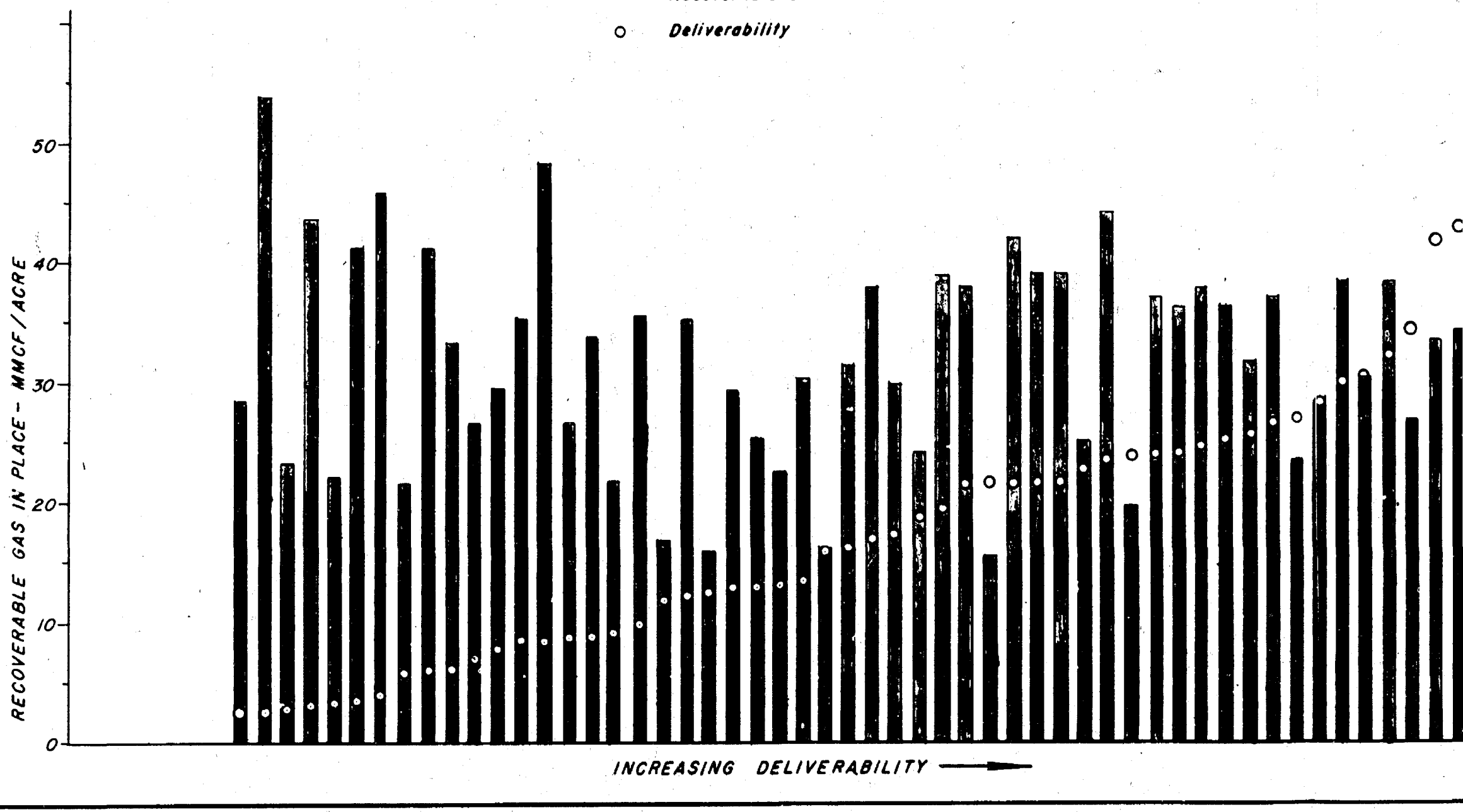
By H. D. Bushnell

H. D. Bushnell
Attorney for Applicant.

EXHIBIT SHOWING ABSENCE OF CORRELATION BETWEEN DELIVERABILITY & RECOVERABLE GAS IN PLACE

FOR 58 WELL AREA

JALMAT FIELD, LEA COUNTY, NEW MEXICO



SINCLAIR OIL & GAS COMPANY

PETROLEUM LIFE BUILDING

MIDLAND, TEXAS

LEGAL DEPARTMENT

February 15, 1958

Oil Conservation Commission
State of New Mexico
P. O. Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.

Re: Case No. 1327, Order No. R-1092-A

Application of Texas Pacific Coal and Oil Company for an order immediately terminating gas prorationing in the Jalmat Gas Pool; or in the alternative, revising the special rules and regulations for the Jalmat Gas Pool in Lea County, New Mexico.

Gentlemen:

Enclosed is application of Sinclair Oil & Gas Company for rehearing in the above case.

Yours very truly,

Layton A. Webb

Layton A. Webb
Division Attorney

LAW/id
Encls.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

APPLICATION OF TEXAS PACIFIC COAL AND OIL COMPANY FOR AN ORDER IMMEDIATELY TERMINATING GAS PRORATIONING IN THE JALMAT GAS POOL; OR IN THE ALTERNATIVE, REVISING THE SPECIAL RULES AND REGULATIONS FOR THE JALMAT GAS POOL IN LEA COUNTY, NEW MEXICO.

CASE NO. 1327
ORDER NO. R-1092-A

APPLICATION FOR RE-HEARING

SINCLAIR OIL & GAS COMPANY, a Maine corporation with offices at Midland, Texas, hereby requests that a re-hearing in the above styled and numbered case be granted and in support thereof shows:

1.

That Applicant Sinclair Oil & Gas Company is a corporation duly incorporated and existing under the laws of the State of Maine, with a valid and subsisting permit to do business in the State of New Mexico.

2.

That Applicant owns and operates oil and gas leases and gas wells within the limits of the Jalmat Gas Pool in Lea County, New Mexico.

3.

That Applicant participated in and presented testimony to the Commission in the hearings on the application of Texas Pacific Coal and Oil Company in the above styled and numbered case and that as an operator in the Jalmat Gas Pool it is affected by Order No. R-1092-A entered by the Commission under date of January 29, 1958.

4.

That Applicant believes and therefore alleges that Order No. R-1092-A aforesaid was erroneous and illegal and

is invalid in respect to that portion of said order which provides that effective July 1, 1958 a deliverability factor shall be included in the gas proration formula of the Jalmat Gas Pool and the succeeding portions of said order carrying into effect the decision of the Commission that deliverability shall be included in the proration formula subsequent to July 1, 1958, and as grounds therefor states:

(a) The application of Texas Pacific Coal and Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. R-520 in Case No. 6731 of this Commission, entered on the 12th day of August, 1954, and therefore should not have been entertained by the Commission and cannot be made the basis of a valid order in Case No. 1327 insofar as the inclusion of deliverability in the proration formula is concerned.

(b) The evidence introduced in this proceeding provides no basis upon which a valid order could be entered by the Commission changing the basis for the allocation of production from the Jalmat Gas Pool from a 100% acreage basis to the basis provided in Order No. R-1092-A for the reason that Order No. R-520 entered by this Commission in Case No. 673 constituted a final determination that deliverability should not be included in the proration formula of the Jalmat Gas Pool. Texas Pacific Coal and Oil Company was a party in Case No. 673 and supported the inclusion of deliverability in the proration formula, which request was considered by the Commission, and Order No. R-520 was entered denying the request of said Texas Pacific Coal and Oil Company for the inclusion of deliverability in said formula. No appeal was taken by Texas Pacific Coal and Oil Company from the final decision of the Commission so ordered. On the basis of the record in this case, the Commission is without authority to modify or change the decision so reached in Case No. 673.

(c) The order of the Commission is invalid in that it disturbs and injures vested property rights of this applicant. Subsequent to August 12, 1954 this applicant, in reliance upon Order No. R-520 entered by this Commission on that date, has completed four wells in the Jalmat Gas Pool and in so doing has expended considerable sums of money. To the extent that Order No. R-1092-A attempts to change or modify the basis for the allocation of production from these wells in the Jalmat Gas Pool from that provided in Order No. R-520, it irreparably damages this applicant's property rights which became vested under Order No. R-520 and is, therefore, unlawful and invalid. In addition, the evidence in this case shows that the Jalmat Gas Pool is almost completely developed and in its intermediate stage of depletion. To change the basis of the allocation of production at this time, after large sums of money have been expended on the basis of a predicted ultimate recovery of gas under the existing formula, is inequitable and unjust.

(d) The inclusion of deliverability in the Jalmat Gas Pool proration formula as ordered by Order No. R-1092-A is predicated on a finding by this Commission "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". Applicant respectfully alleges that this finding of the Commission is contrary to, and wholly without support in, the evidence and is therefore invalid and void. In further support of the grounds here alleged, Applicant attaches hereto as Exhibit "A" a vertical bar graph depicting the relationship between the recoverable gas in place under the 58 tracts which were the subject of testimony and exhibits presented by this applicant and other operators before the Commission on December 9, 1957, and the deliverability of the 58 gas wells located on said tracts. Said exhibit is based upon the

testimony in the record in this case and clearly demonstrates the total absence of correlation between the deliverabilities of gas wells in the Jalmat Gas Pool and gas in place under the tracts dedicated to said wells. If afforded an opportunity to do so, Applicant will present further evidence in this regard but asserts that on the evidence heard by the Commission it is clearly shown that no such correlation exists.

(e) The order of the Commission is invalid in that even though it be assumed that as found by the Commission it has been 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" said finding provides no basis authorized by the statutes of New Mexico for modification of the pre-existing acreage formula for proration of gas produced from said pool.

(f) That the Commission has considered factors not permitted by the statutes of New Mexico in arriving at its decision which was the basis of Order No. R-1092-A. It is apparent from said order that it was predicated in part upon, (1) a finding that the inclusion of a deliverability factor in the Jalmat proration formula would result in the production of a greater percentage of the pool allowable, and (2) that it would more nearly enable various gas purchasers to meet the market demand for gas in the Jalmat Gas Pool. Neither of said considerations provides any legal basis for the allocation of production under the statutes of New Mexico.

(g) The order of the Commission results in economic waste in that it will require the expenditure of more than Sixty Thousand Dollars ($60,000.00) by this applicant to increase the deliverability of its gas wells if it is to protect its correlative rights, although the ultimate recovery from the tracts operated by this applicant will not be appreciably increased thereby.

(h) The order of the Commission will result in underground waste in that many of the wells in the Jalmat Gas Pool have been completed for some ten to twenty years and their condition is such that the action required of a prudent operator under the order of the Commission will necessarily result in the underground waste of natural gas and the abuse of correlative rights of the owners of many of said wells.

(i) Order No. R-1092-A results in irreparable injury to the correlative rights of applicant and deprives this applicant of its property without due process of law in that it will permit production by offset operators of natural gas underlying the tracts owned by this applicant without affording compensating counter-drainage from other adjoining tracts, and will prevent this applicant from producing the recoverable gas in place in the Jalmat Pool underlying the tract upon which the wells of applicant are located.

(j) In the alternative and not waiving but still insisting upon the grounds asserted in sub-paragraphs (a) to (i) inclusive above, this applicant alleges that the order of the Commission is invalid in that the Commission would have authority to change its existing proration order for the Jalmat Gas Pool only upon the proof by the Applicant Texas Pacific Coal and Oil Company in this case, by a preponderance of the evidence, either that waste would be reduced or eliminated or that correlative rights of the owners in the Jalmat Pool would be protected to a greater degree by the inclusion of deliverability in said proration formula. The burden of proof so assumed by Texas Pacific Coal and Oil Company was not discharged by it.

WHEREFORE, Applicant prays the Commission that a re-hearing be granted in the above styled and numbered case as to that portion of the Order and decision of the Commission providing for the inclusion of a deliverability factor in the

allocation formula of the Jalmat Gas Pool subsequent to July 1, 1958.

Layton A. Webb
P. O. Box 1470
Midland, Texas

ATTORNEY FOR APPLICANT
SINCLAIR OIL & GAS COMPANY

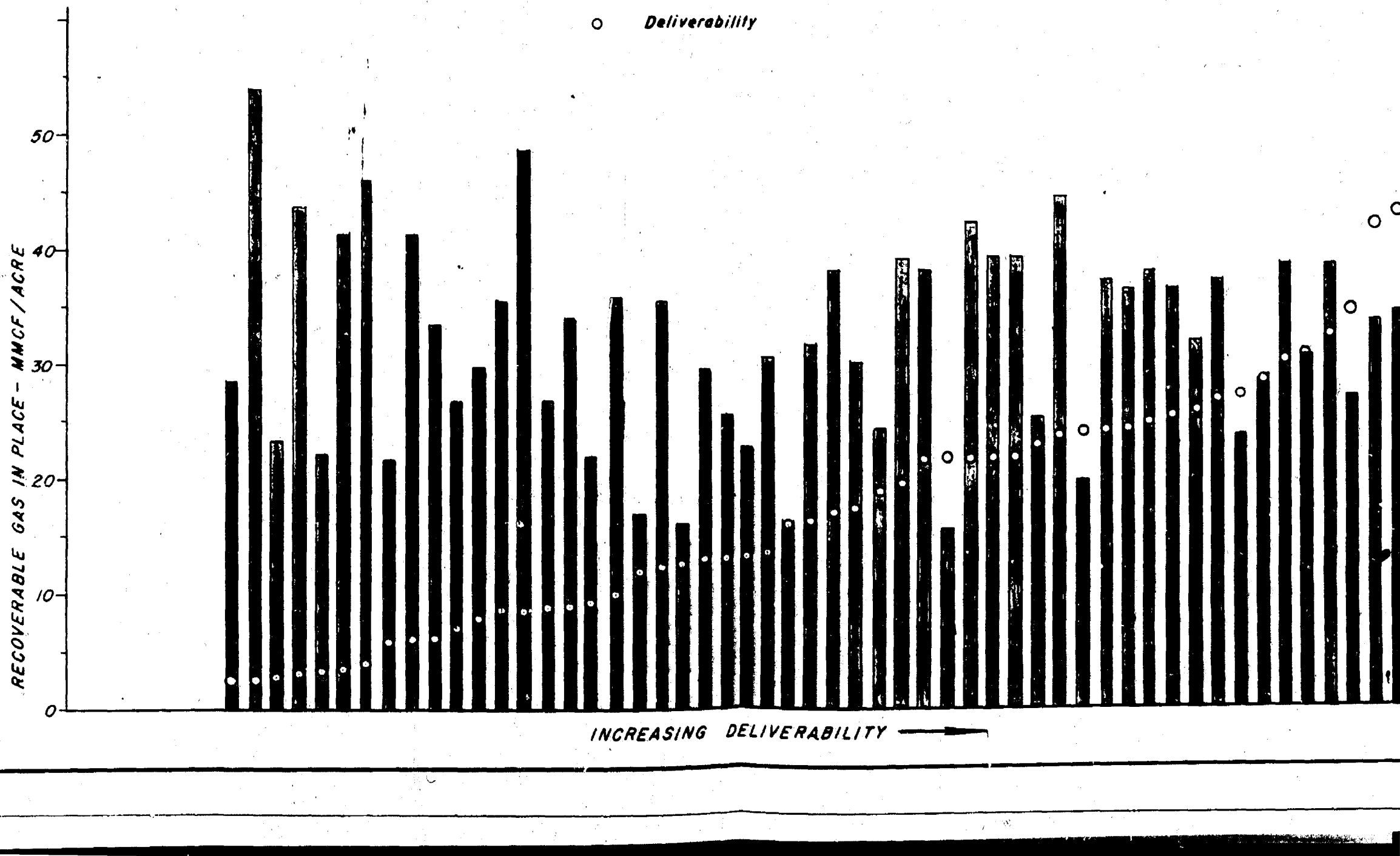
A true and correct copy of the above and foregoing application for re-hearing has this 15th day of February, 1958, been forwarded by registered mail to Jack M. Campbell, attorney of record for Texas Pacific Coal and Oil Company, the appellant in the above styled and numbered case.

Layton A. Webb

EXHIBIT SHOWING ABSENCE OF CORRELATION BETWEEN DELIVERABILITY & RECOVERABLE GAS IN PLACE

FOR 58 WELL AREA

JALMAT FIELD, LEA COUNTY, NEW MEXICO



JASON W. KELLAHIN
ROBERT E. FOX

KELLAHIN AND FOX
ATTORNEYS AT LAW
54½ EAST SAN FRANCISCO STREET
POST OFFICE BOX 1713
SANTA FE, NEW MEXICO

TELEPHONES
3-9396
2-2266

February 17, 1958

Oil Conservation Commission
State of New Mexico
P. O. Box 871
Santa Fe, New Mexico

Gentlemen:

Enclosed are three copies of the application of Continental Oil Company for a rehearing in Case No. 1327, seeking reconsideration of Order No. R-1092-A as said Order pertains to the inclusion of a deliverability factor in the proration formula for the Jalmat Gas Pool, Lea County, New Mexico.

Please acknowledge receipt of this application on the attached copy of this letter and return it to me.

Very truly yours,

Jason W. Kellahin

Jason W. Kellahin

JWK:j
enc -3

cc: Mr. Harry G. Dippel

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL
& OIL COMPANY FOR AN ORDER IM-
MEDIATELY TERMININATING GAS
PRORATIONING IN THE JALMAT GAS
POOL; OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND
REGULATIONS FOR THE JALMAT GAS
POOL IN LEA COUNTY, NEW MEXICO.

APPLICATION FOR REHEARING

TO THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO:

COMES NOW CONTINENTAL OIL COMPANY, a Delaware Corporation, duly authorized to transact business in the State of New Mexico, hereinafter sometimes referred to as "applicant", and applies for a rehearing in the above entitled and numbered case and in support thereof would respectfully show unto the New Mexico Oil Conservation Commission, hereinafter referred to as "Commission", the following:

1. This applicant owns and operates oil and gas leases and gas wells within the limits of the Jalmat Gas Pool in Lea County, New Mexico.

2. This applicant participated in and presented testimony to the Commission in the hearing on the application of Texas Pacific Coal & Oil Company in the above styled and numbered case and as an operator in the Jalmat Gas Pool was affected by Order No. R-1092-A entered by the Commission under date of January 29, 1958.

3. This applicant believes and therefore alleges that Order No. R-1092-A aforesaid was erroneous, illegal and is invalid and by reason thereof a rehearing is requested in respect to that portion of said Order No. R-1092-A which provides that effective July 1, 1958, a deliverability factor shall be included in the gas proration formula of the Jalmat Gas Pool and the succeeding portions of said Order carrying into effect the decision of the Commission that deliverability shall be included in the proration formula subsequent to July 1, 1958, and as grounds therefor states:

a) That the application of Texas Pacific Coal & Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. R-520 in Case No. 673 of this Commission entered on the 12th day of August, 1954, and therefore should not have been entertained by the Commission and cannot be made the basis of a valid Order in Case No. 1327 in so far as the inclusion of deliverability in the proration formula is concerned.

b) That the evidence introduced in this proceeding provides no basis upon which a valid order could be entered by the Commission changing the basis for the allocation of production from the Jalmat Gas Pool from a 100% acreage basis to the basis provided in Order No. R-1092-A for the reason that Order No. R-520 entered by this Commission in Case No. 673 constituted a final determination that deliverability should not be included in the proration formula of the Jalmat Gas Pool. Texas Pacific Coal & Oil Company was a party to and actively participated in the hearing in Case No. 673 in which the inclusion of deliverability as a factor in the proration formula was vigorously advocated and considered by the Commission, and Order No. R-520

was entered denying the request for the inclusion of deliverability in said formula. No appeal was taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered in said Case No. 673. On the basis of the record in this case, the Commission is without authority to modify or change the decision so reached in Case No. 673.

c) That the inclusion of deliverability as a factor in the Jalmat Gas Pool proration formula as ordered by the Commission in Order No. R-1092-A is predicated on a finding by this Commission "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". This applicant respectfully alleges that this finding of the Commission is contrary to and wholly without support in the evidence and is therefore invalid and void. In further support of the grounds here alleged there is attached hereto as Exhibit "A" a vertical bar graph depicting the relationship between the recoverable gas in place under the fifty-eight tracts which were the subject of testimony and exhibits presented by this applicant and other operators at the hearing in this case before the Commission on December 9, 1957, and the deliverability of the fifty-eight gas wells located on said tracts. Said exhibit is based upon evidence in the record in this case and clearly demonstrates the total absence of correlation between the deliverabilities of gas wells in the Jalmat Gas Pool and gas in place under the tracts dedicated to said wells. If afforded an opportunity to do so, this applicant will present further evidence in this regard but asserts that on the evidence received by the Commission at the December 9, 1957 hearing in this case it is clearly shown that no such correlation exists.

d) That Order No. R-1092-A is invalid in that even though it be assumed, as found by the Commission, it has been proved "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", said finding provides no basis authorized by the statutes of New Mexico for modification of the pre-existing acreage formula for proration of gas produced from said pool.

e) That the Commission has considered factors not permitted by the statutes of New Mexico in arriving at its decision which was the basis of Order No. R-1092-A. It is apparent from said Order that it was predicated in part upon (1) a finding that the inclusion of a deliverability factor in the Jalmat Gas Pool proration formula would result in the production of a greater percentage of the pool allowable, and (2) that such inclusion of a deliverability factor would more nearly enable various gas purchasers to meet the market demand for gas in the Jalmat Gas Pool. Neither of said considerations provides any legal basis for the allocation of production under the statutes of New Mexico.

f) That Order No. R-1092-A results in economic waste in that it will require the expenditure of an excess of Four Hundred Thousand Dollars ($400,000.00) by this applicant to increase the deliverability of the gas wells operated by it in this pool in an effort to protect its correlative rights, although the ultimate recovery from the tracts operated by this applicant will not be appreciably increased thereby.

g) That Order No. R-1092-A will result in underground waste in that many of the wells in the Jalmat Gas Pool have been completed for some ten to twenty years and their condition is such that the action required of a prudent operator

under Order No. R-1092-A will necessarily result in underground waste of natural gas and abuse of correlative rights of the owners of many of said wells.

h) That the Order No. R-1092-A is invalid in that the Commission would have authority to change its existing proration order for the Jalmat Gas Pool only upon proof by the applicant in this case, Texas Pacific Coal & Oil Company, by a preponderance of the evidence, that either (1) waste would be reduced or eliminated, or (2) correlative rights of the owners in the Jalmat Gas Pool would be protected to a greater degree by the inclusion of deliverability as a factor in said proration formula. The burden of proof so assumed by Texas Pacific Coal & Oil Company as such applicant was not discharged by it.

i) That Order No. R-1092-A results in irreparable injury to the correlative rights of this applicant and deprives this applicant of its property without due process of law in that it will permit production by offset operators of natural gas underlying the tracts owned and/or operated by this applicant without affording compensating counter-drainage from other adjoining tracts, and will prevent this applicant from producing the recoverable gas in place in the Jalmat Gas Pool underlying the respective tracts upon which the wells operated by this applicant are located.

j) That Order No. R-1092-A is unreasonable, arbitrary and discriminatory and the effect of said order is to confiscate and deprive this applicant of its property without due process of law contrary to and in violation of the Fourteenth Amendment to the Constitution of the United States and of Article II, Section 18 of the Constitution of the State of New Mexico. Under the provisions of Order No. R-520, as amended, and in reliance upon said order, this applicant has performed drilling operations

recompletion operations, and has expended large sums of money on its properties in the Jalmat Gas Pool, acquiring vested property rights therein prior to the issuance of Order No. R-1092-A, which property rights will be impaired by said Order No. R-1092-A.

k) That as a result of the aforesaid expenditures and other actions taken by this applicant in drilling operations, recompletion operations, and other actions taken in good faith and in reliance upon the existing proration rules as set forth in Order No. R-520, as amended, the Commission is as a matter of equity and justice, estopped from amending said Order No. R-520,as amended, to include a deliverability factor in the allocation formula, which amendment would discriminate against this applicant.

l) That Order No. R-1092-A, as regards the findings and provisions therein which purport to revise and change the existing allocation formula for the Jalmat Gas Pool as set forth and provided for in Order No. R-520 as amended by Order No. R-967, is so vague, indefinite and uncertain as to render said Order No. R-1092-A invalid and void, and particularly is this true as regards paragraph (3) of said Order insofar as it purports to revise, effective July 1, 1958, Rule 6 of the Special Rules and Regulations For The Jalmat Gas Pool.

WHEREFORE, applicant Continental Oil Company prays that this application for rehearing be granted for the purpose of reconsidering that portion of Order No. R-1092-A providing for the inclusion of a deliverability factor in the allocation formula of the Jalmat Gas Pool effective July 1, 1958, and that after notice as required by law, and upon rehearing, the Commission modify said Order R-1092-A by striking and removing

therefrom each and every erroneous and invalid finding referred to hereinabove and each and every provision of said order relating to the inclusion of a deliverability factor in the gas proration formula for the Jalmat Gas Pool, and in lieu thereof, enter its order denying the application of Texas Pacific Coal & Oil Company in Case No. 1327 in its entirety.

Respectfully submitted,

CONTINENTAL OIL COMPANY

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ATWOOD & MALONE

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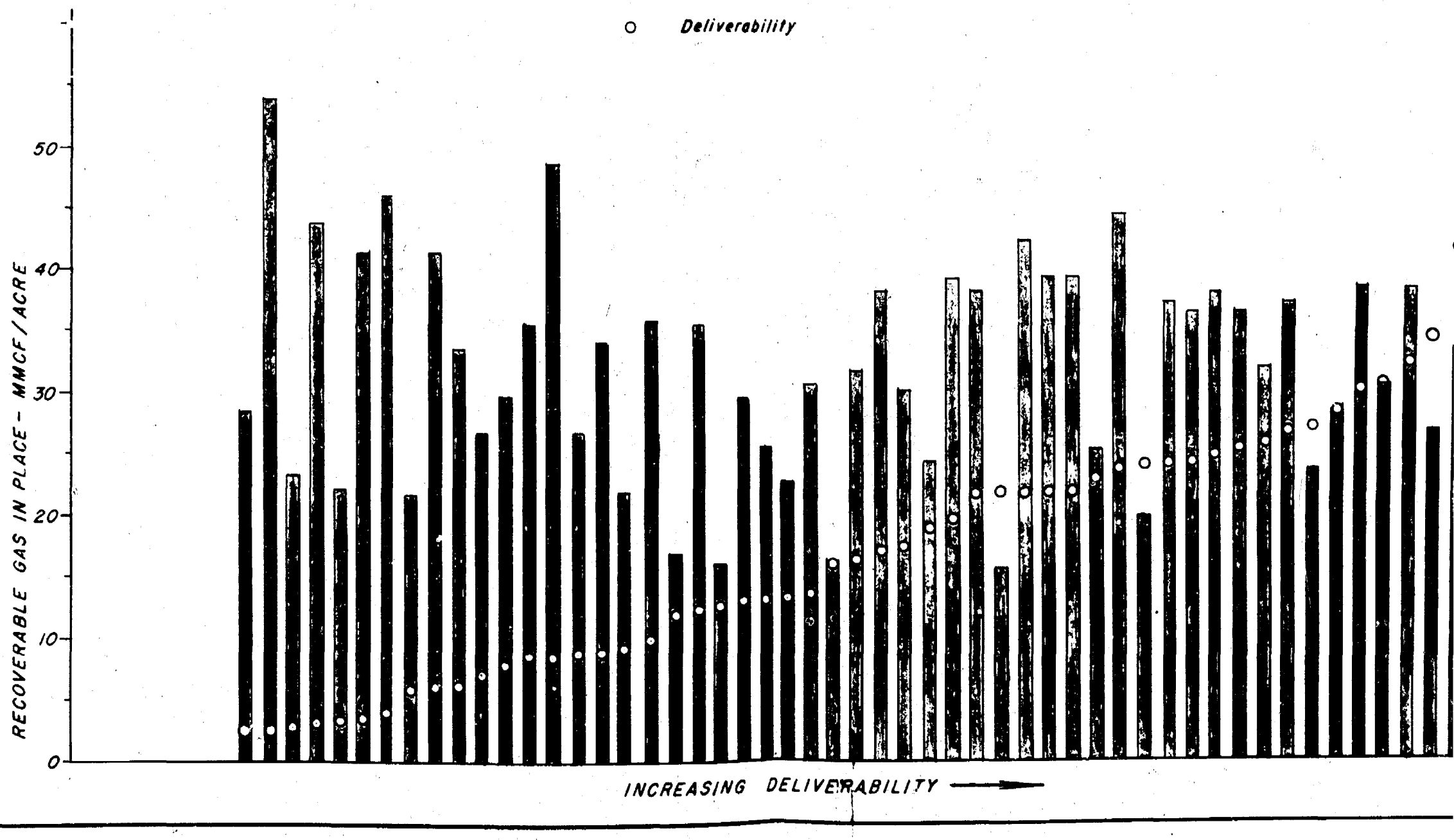
EXHIBIT SHOWING ABSENCE OF CORRELATION BETWEEN DELIVERABILITY & RECOVERABLE GAS IN PLACE

FOR 58 WELL AREA

JALMAT FIELD, LEA COUNTY, NEW MEXICO



BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL &
OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

APPLICATION FOR RE-HEARING

Comes now Standard Oil Company of Texas, a corporation, and states to the Commission:

(1) This Applicant is a corporation owning oil and gas leases and gas wells within the limits of the Jalmat Gas Pool in Lea County, New Mexico.

(2) Applicant participated in the hearings before the Commission on the Application of Texas Pacific Coal & Oil Company in the above styled and numbered case and as an Operator in the Jalmat Gas Pool was affected by Order No. R-1092-A entered by the Commission under date of January 29, 1958.

(3) Applicant believes and therefore alleges that Order No. R-1092-A aforesaid was erroneous, illegal and is invalid and by reason thereof a re-hearing is requested in respect to that portion of said Order which provides that effective July 1, 1958, a deliverability factor shall be included in the gas proration formula of the Jalmat Pool and the succeeding portions of said Order carrying into effect the decision of the Commission that deliverability shall be included in the proration formula subsequent to July 1, 1958, and as grounds therefor states:

(a) The evidence introduced in this proceeding provides no basis upon which a valid order could be entered by the Commission changing the basis for the allocation of production from the Jalmat Gas Pool from a 100% acreage basis to the basis provided in Order No. R-1092-A for the reason that Order No. R-520 entered by this Commission in Case No. 673 constituted a final determination that deliverability should not be included in the proration formula of the Jalmat Gas Pool. Texas Pacific Coal & Oil Company was a party to Case No. 673 and supported the inclusion of deliverability in the proration formula, which request was considered

by the Commission, and Order No. 520 was entered denying the request of said Texas Pacific Coal & Oil Company for the inclusion of deliverability in said formula. No appeal was taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered. On the basis of the record in this case, the Commission is without authority to modify or change the decision so reached in Case No. 673.

(b) The inclusion of deliverability in the Jalmat Gas proration formula as ordered by Order No. R-1092-A is predicated on a finding by this Commission "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". Applicant respectfully alleges that this finding of the Commission is contrary to, and wholly without support in, the evidence and is therefore invalid and void. In further support of the grounds here alleged, Applicant attaches hereto as Exhibit "A" a vertical bar graph depicting the relationship between the recoverable gas in place under the 58 tracts which were the subject of testimony and exhibits presented by this applicant and other operators before the Commission on December 9, 1957, and the deliverability of the 58 gas wells located on said tracts. Said exhibit is based upon the testimony in the record in this case and clearly demonstrates the total absence of correlation between the deliverabilities of gas wells in the Jalmat Gas Pool and gas in place under the tracts dedicated to said wells. If afforded an opportunity to do so, Applicant will present further evidence in this regard but asserts that on the evidence heard by the Commission it is clearly shown that no such correlation exists.

(c) That the Commission has considered factors not permitted by the statutes of New Mexico in arriving at its decision which was the basis of Order No. R-1092-A. It is apparent from said Order that it was predicated in part upon, (1) a finding that the inclusion of a deliverability factor in the Jalmat proration formula would result in the production of a greater percentage of the pool allowable, and (2) that it would more nearly enable various gas purchasers to meet the market demand for gas in the Jalmat Gas Pool. Neither of said considerations provides any legal basis for the allocation of production under the statutes of New Mexico.

(d) The Application of Texas Pacific Coal & Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in

the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. 520 in Case No. 6731 of this Commission entered on the 12th day of August, 1954, and therefore should not have been entertained by the Commission and cannot be made the basis of a valid Order in Case No. 1327 insofar as the inclusion of deliverability in the proration formula is concerned.

(e) The order of the Commission is invalid in that even though it be assumed that as found by the Commission it has been 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" said finding provides no basis authorized by the statutes of New Mexico for modification of the pre-existing acreage formula for proration of gas produced from said pool.

(f) The order of the Commission results in economic waste in that it will require the expenditure of an excess of One Hundred Thousand Dollars by this applicant to increase the deliverability of its gas wells in an effort to protect its correlative rights, although the ultimate recovery from such wells will not be appreciably increased thereby.

(g) The Order of the Commission will result in underground waste in that many of the wells in the Jalmat Gas Pool have been completed for some ten to twenty years and their condition is such that the action required of a prudent operator under the Order of the Commission will necessarily result in the underground waste of natural gas and the abuse of correlative rights of the owners of many of said wells.

(h) The Order of the Commission is invalid in that the Commission would have authority to change its existing proration order for the Jalmat Gas Pool only upon the proof by the Applicant in this case, by a preponderance of the evidence, either that waste would be reduced or eliminated or that correlative rights of the owners in the Jalmat Pool would be protected to a greater degree by the inclusion of deliverability in said proration formula. The burden of proof so assumed by Texas Pacific Coal & Oil Company was not discharged by Applicant.

(i) Order No. R-1092-A results in irreparable injury to the correlative rights of Applicant and deprives this Applicant of its property without due process of law in this, that, it will permit production by offset operators of natural gas underlying the tracts owned by this Applicant without affording compensating counter-drainage from other adjoining tracts, and will prevent this

Applicant from producing the recoverable gas in place in the Jalmat Pool underlying the tract upon which the wells of Applicant are located.

(j) Applicant has, since the entry of Order No. 520 in Case No. 1327, completed wells and re-worked wells in the Jalmat Field in reliance upon said order and because allowables were based on a 100% acreage factor, no effort was made to obtain the greatest possible degree of deliverability. Applicant, therefore, alleges that Order No. R-1092-A is invalid because it results in a gross inequity to this Applicant and that the Commission cannot in good conscience deprive this Applicant of its property by drastically changing the allowable basis after the expenditure of considerable sums of money in reliance on the basis set out in Order No. 520.

WHEREFORE, Applicant respectfully prays the Commission that a re-hearing be granted in the above styled and numbered case as to that portion of the Order and Decision of the Commission providing for the inclusion of a deliverability factor in the allocation formula of the Jalmat Gas Pool subsequent to July 1, 1958.

STANDARD OIL COMPANY OF TEXAS

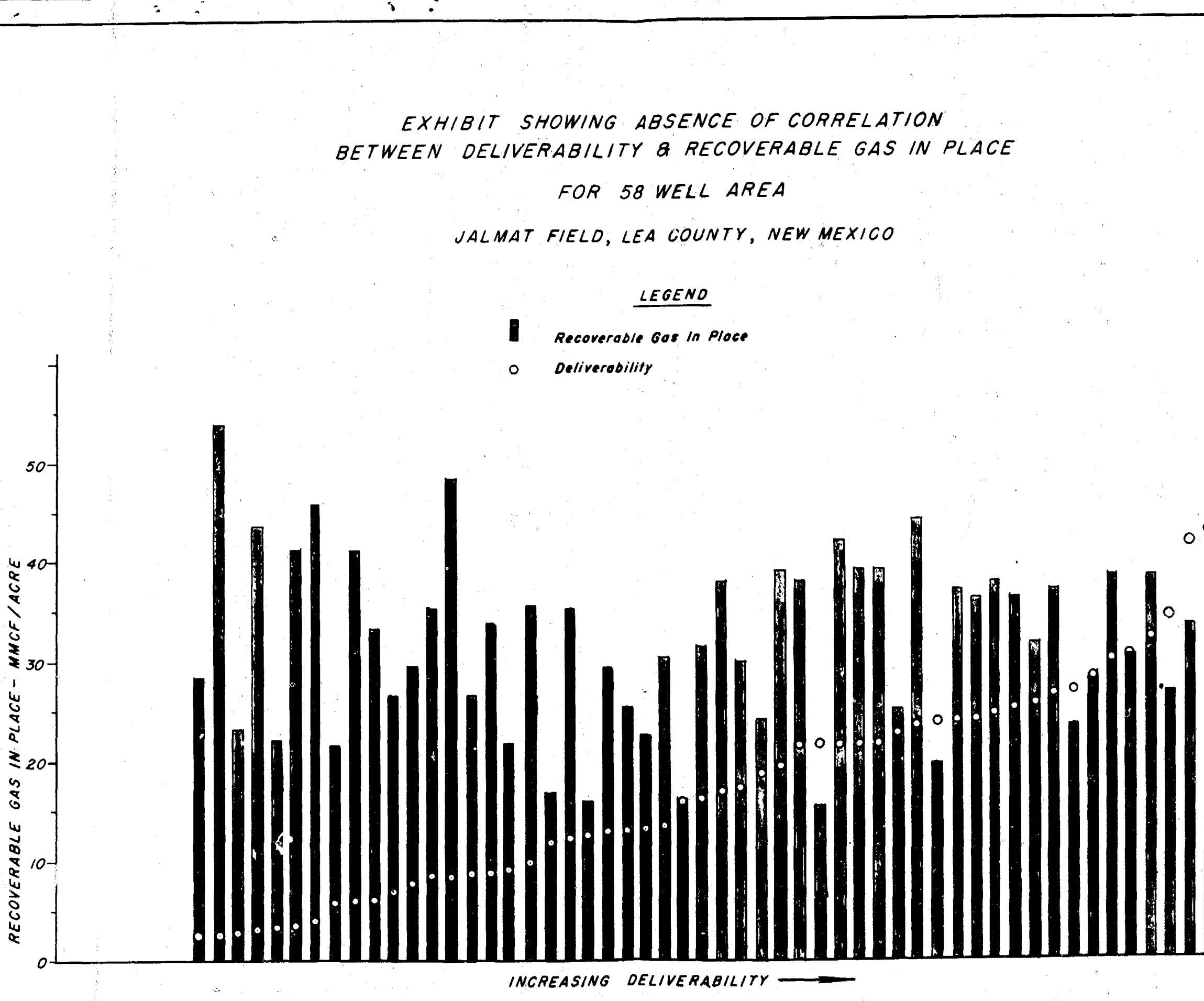
By: C W Proctor
C. W. Proctor

A copy of this application has been served on Texas and Pacific Coal and Oil Company by registered mail.

EXHIBIT SHOWING ABSENCE OF CORRELATION BETWEEN DELIVERABILITY & RECOVERABLE GAS IN PLACE

FOR 58 WELL AREA

JALMAT FIELD, LEA COUNTY, NEW MEXICO



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OIL CONSERVATION COMM.
SANTA FE, N. MEX.
1958 FEB 22 PM 2:22

February 17, 1958

RE: Case 1327
Jalmat

New Mexico Oil Conservation Commission
State Capitol
Santa Fe, New Mexico

Gentlemen:

Please find herewith a Motion for Rehearing in the above case submitted on behalf of Shell Oil Company.

Very truly yours,

OS:ms
Enc.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327

APPLICATION OF TEXAS PACIFIC COAL &
OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL: OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

MOTION FOR REHEARING BY SHELL OIL COMPANY

TO THE COMMISSION:

Now comes Shell Oil Company, one of the operators in the Jalmat Gas Pool, who appeared and participated in the hearings of this matter and applies for a re-hearing with reference to Order No. R-1092-A, entered in this case on January 29, 1958, on the following grounds, to-wit:

1. The Commission erred in making Finding 6 of the said order for the reason that its authority to regulate production of oil or gas is limited to that necessary to prevent waste and protect correlative rights, and it is without authority to regulate such production for the purpose of meeting a market demand that is greater than the pool's capacity when regulated so as to prevent waste and protect correlative rights.

2. That part of Finding 5 of said order reading: "The applicant has proved that there is a general correlation between deliverability of the gas wells in the Jalmat Gas Pool and the gas in place under the tracts dedicated to said well", is erroneous and without substantial evidence to support it.

The applicant offered not one word of proof that the gas in place under a tract dedicated to a well is the gas being produced by such well or even equivalent to the gas that said well might produce. To the contrary, Mr. Keller, the applicant's reservoir expert, stated that (Tr.(10-17-57) p. 59, 61, 62 and 64 and Tr. (later hearings) p. 61 to 62, 69, 78, 129, 133 and 135) his testimony was based on well figures and well reserves and a material balance approach, and that (Tr. (later hearings) p. 464) where the volume of gas measured by the

material balance equation is located in respect to the lease lands, is not determinable from such a calculation. In his testimony he at no time tried to state where the gas was located. On the contrary, he said (Tr.(later hearings) p. 78) that correlative rights would be fully protected in his opinion if the takes as between two wells bore some reasonable relationship to the reserves of the two wells, and that (Tr.(later hearings) p. 133) he rejected the use of gas in place as a basis for protecting correlative rights because it was impossible to measure the gas in place with the information at hand in the Jalmat field. It is apparent, therefore, that his whole approach to the matter of correlative rights differs from the statutory definition thereof, which is as follows:

> "(a) The rules, regulations or orders of the Commission shall, so far as it is practicable to do so, afford to the owner of each property in a pool the opportunity to produce his just and equitable share of the oil or gas, or both, in the pool, <u>being in an amount</u>, so far as can be practicably determined, and so far as such can be practicably obtained without waste, <u>substantially in the proportion that the quantity of the recoverable oil or gas, or both, under such property bears to the total recoverable oil or gas, or both, in the pool</u>, and for this purpose to use his just and equitable share of the reservoir energy." (New Mexico Statutes 65-3-14).

He at no time said that any "well reserve" discussed by him was under the tract on which that well was located.

As a matter of fact, it would be impossible to associate the deliverability of a well with the gas in place under the tract on which the well is located without piling inference on inference and making the conclusion so speculative, illogical and unsound that it should be rejected by this Commission. From Mr. Keller's equation that Deliverability = $T \times (P_s^2 - P_w^2)^n \times K \times C_2$ (Applicant's Ex. 7). It is obvious that in associating deliverability with gas in place (this is gas in place in the well's reserve not that under the tract) he assumed that permeability (K) and the well completion factors (C_2) were relatively constant throughout the field and that variations in deliverability represented variation in net thickness of pay; for permeability and well completion factors do not affect the gas in place at all as testified by Mr. Keller (Tr.(later hearings)p. 71-72), and if either of them varied widely as between wells, the variations in the deliverabilities of the wells would be relatively meaningless

in so far as the net thickness of pay (the reserve affecting factor in said equation) is concerned. The way Mr. Keller related the deliverability to reserves was to say it represented net thickness in pay by transposing the said equation thusly:

$$T = \frac{\text{Deliverability}}{(P_s^2 - P_w^2)^n \times K \times C_2}$$

Obviously, in such an equation unless K (permeability) and C_2 (well completion factors) are constant T will vary not only as deliverabilities vary but also as K or C_2 vary. To attribute the reserve of a well to the tract on which it was located, he had further to assume that the quality of the reservoir under all of the tract was constantly that attributable to the well by his comparisons of deliverability. We, therefore, have a case of inference piled upon inference in reaching the conclusion that the deliverability of a well is in general correlation with the gas in place under the tract on which the well is located. Such reasoning is so speculative that it cannot form the basis of a conclusion.

Manning v. John Hancock Mutual Life Ins. Co., 100 U.S. 697, 25 L. Ed. 761;
De Baca v. Kuhn, 161 Pac. (2) 630, 49 N. M. 225;
Lumbermens Mutual Casualty Co. v. Vaughn, 174 S.W.(2) 1001 (Tex.Civ.App.).

3. The part of Finding 5 of said order reading "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" is erroneous and without substantial evidence to support it because it is based on the false premise set forth in the first part of the said Finding 5.

4. Because the uncontradicted evidence shows that the Jalmat Gas Pool was developed under rules and/or practice whereby proration of production in said field was on a straight acreage basis, the changing of the pool rules to include a deliverability factor is erroneous, there being no evidence that clearly establishes that the change in the rules is necessary to protect the correlative rights of the operators in that pool or to prevent waste. The burden of proof should be much greater where changes in established rules are proposed and in such cases the Commission should not make changes unless the

evidence that they are needed to prevent waste or protect the correlative rights of the operators (not to allow a market to be met) is clear and convincing.

5. The inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool violates the correlative rights of the operators and is erroneous.

6. The Application of Texas Pacific Coal & Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. 520 in Case No. 6731 of this Commission entered on the 12th day of August, 1954, and therefore should not have been entertained by the Commission and cannot be made the basis of a valid Order in Case No. 1327 in so far as the inclusion of deliverability in the proration formula is concerned.

7. The evidence introduced in this proceeding provides no basis upon which a valid order could be entered by the Commission changing the basis for the allocation of production from the Jalmat Gas Pool from a 100% acreage basis to the basis provided in Order No. R-1092-A for the reason that Order No. R-520 entered by this Commission in Case No. 673 constituted a final determination that deliverability should not be included in the proration formula of the Jalmat Gas Pool. Texas Pacific Coal & Oil Company was a party to Case No. 673 and supported the inclusion of deliverability in the proration formula, which request was considered by the Commission, and Order No. 520 was entered denying the request of said Texas Pacific Coal & Oil Company for the inclusion of deliverability in said formula. No appeal was taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered. On the basis of the record in this case, the Commission is without authority to modify or change the decision so reached in Case No. 673.

8. Even if it were conceded that there was substantial evidence to support Finding 5 of said Order, and we do not so concede, this Commission erred in amending the Jalmat Gas Pool's rules to place a deliverability factor in the proration formula because thereby it has jeopardized its very excellent reputation for fairness, wisdom and common sense. The addition of a deliverability "new deal"

in the proration formula of the Jalmat Gas Pool after the pool has been developed on the understanding that proration would be on a straight acreage basis is unfair to those who so developed their properties in the pool. Admittedly, at the time they made their investments they knew that the rules might be changed. However, we believe that they were entitled to assume that the rules would not be changed unless it was clearly shown first, that they resulted in waste or violated correlative rights, and second, that no change based on a violation of correlative rights would be made against the expressed will of the vast majority of operators in the pool who should know better what protects their correlative rights than anyone else. At the hearings on this matter, no issue of waste was raised and the vast majority of the operators, the ones whose correlative rights are involved, opposed the inclusion of deliverability in the proration formula. Furthermore, even it be conceded that there was some proof of some "general" correlation between the deliverability of a well and the gas in place under the tract on which the well is situated (which correlation we do not admit but deny), the proof thereof was not clear, but based upon inference upon inference. In a case of such doubtful correlation between well deliverability and tract reserve gas, it isn't wise, even if it is legal, to upset existing equities or to override the ideas of the majority of the operators in the pool concerning how best to protect their correlative rights.

This deliverability "new deal" in the Jalmat rules is not a safe step forward but a step backward toward the early proration attempts to interfere with the law of capture only so much as a limited market required by prorating the market demand between wells on the basis of their relative potentials or deliverabilities or productivity, however it may be phrased. Such a method of proration allowed a high potential or deliverability well on a small tract to produce not only the oil or gas under that tract but under much of the surrounding tracts. The New Mexico Statutes reject the idea of any such method of proration. Obviously, an owner does not have a fair chance to recover the oil or gas under his land where the proration formula contains a potential or deliverability factor and non-marginal wells are allowed to produce at different rates based on their different potentials or deliverabilities rather than on

differences in their productive acreages.

WHEREFORE your petitioner prays that the Commission grant a rehearing in this case and set aside its Order No. R-1092-A in so far as a deliverability factor is thereby placed in the proration formula for the Jalmat Pool.

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Richard L. Hughston

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Box 1509, Midland, Texas

ATTORNEYS FOR PETITIONER
SHELL OIL COMPANY

Case 1307

IN THE SUPREME COURT OF THE STATE OF NEW MEXICO

STATE OF NEW MEXICO EX REL OIL CONSERVATION COMMISSION, EDWIN L. MECHEM, MURRAY E. MORGAN, A. L. PORTER, JR., MEMBERS OF SAID COMMISSION, TEXAS PACIFIC COAL AND OIL COMPANY, EL PASO NATURAL GAS COMPANY AND PERMIAN BASIN PIPELINE COMPANY,	)	
Relators	)	NO. 6483
vs.	)	
HON. JOHN R. BRAND, JUDGE OF THE FIFTH JUDICIAL DISTRICT OF THE STATE OF NEW MEXICO,	)	
Respondent	)	

BRIEF OF RELATORS

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STATE OF NEW MEXICO EX REL OIL CONSERVATION COMMISSION, EDWIN L. MECHEM, MURRAY E. MORGAN, A. L. PORTER, JR., MEMBERS OF SAID COMMISSION, TEXAS PACIFIC COAL AND OIL COMPANY, EL PASO NATURAL GAS COMPANY AND PERMIAN BASIN PIPELINE COMPANY,	)	
Relators	)	NO. 6483
vs.	)	
HON. JOHN R. BRAND, JUDGE OF THE FIFTH JUDICIAL DISTRICT OF THE STATE OF NEW MEXICO,	)	
Respondent	)	

STATEMENT OF THE CASE

and

STATEMENT OF THE FACTS

This matter is before the Court pursuant to the application of Relators for a Writ of Prohibition as a result of which an Alternative Writ of Prohibition was issued by this Court on September 30, 1958. The question for decision is whether the Writ should be made permanent.

In view of the fact that no trial has been had in this case, Relators feel that combining the Statement of the Case and the Statement of the Facts will prove helpful to the Court in explaining what has taken place to date.

The case involves the question of proration of gas production from the Jalmat Gas Pool in Southern Lea County, New Mexico.

Gas prorationing was first instituted in the Jalmat Gas Pool and in a number of other pools in Southeastern New Mexico on January 1, 1954, after a series of hearings extending over

approximately four years. After these hearings, a gas proration formula based solely on acreage was adopted. On February 9, 1954, a committee was appointed to study the advisability and feasibility of including a deliverability factor in the proration formula at a subsequent date.

In the latter part of 1957, Texas Pacific Coal and Oil Company filed an application with the Oil Conservation Commission seeking an order terminating gas prorationing in the Jalmat Gas Pool, or, in the alternative, for an order establishing deliverability as a factor in the proration formula for the Pool.

The application was heard as Commission Case No. 1327 on October 18, November 14 and December 9, 1957. On January 28, 1958, the Commission entered Order No. R-1092-A. The Order denied the application for termination of gas prorationing, finding that proration was necessary to prevent waste. The Order did, however, change the gas proration formula for the Jalmat Gas Pool to one based upon 75% acreage times deliverability plus 25% acreage. The Commission found as a fact "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."

Following the entry of Order No. R-1092-A, fourteen operators filed applications for a rehearing before the Commission. A rehearing was held on March 25, 1958. Some one thousand pages of testimony, as well as approximately seventy-five exhibits, were received by the Commission in Case No. 1327. On April 25, 1958, the Commission entered Order No. R-1092-C reaffirming Order No. R-1092-A.

Petitions for review were then filed by the following operators pursuant to Section 65-3-22 (b), NMSA, 1953: Continental Oil Company, Shell Oil Company, Cities Service Oil Company, Pan American Petroleum Corporation, Humble Oil and Refining Company, Amerada Petroleum Corporation, Standard Oil Company of Texas, and the Atlantic Refining Company. The cases were docketed in the District Court of Lea County as Nos. 16213 through 16220 and were subsequently consolidated and docketed as Case No. 16213. The Oil Conservation Commission, Texas Pacific Coal and Oil Company, El Paso Natural Gas Company, Permian Basin Pipeline Company and Southern Union Gas Company were named as Respondents.

Relator Oil Conservation Commission requested a pre-trial conference and such conference was held on August 4, 1958, before the Hon. John R. Brand, District Judge and Respondent herein. At this pre-trial conference petitioners stated that they intend to introduce evidence in addition to the record made before the Commission when Cause No. 16213 comes on for trial. The Court advised petitioners to notify Relators and the Court as to the gist of the testimony they proposed to offer and the reason for doing so. The Court stated that it would rule

Conservation Commission for the purpose of determining whether the Commission's action is arbitrary, capricious, unreasonable, improper or unlawful. An Alternative Writ of Prohibition so ordering was issued by the Supreme Court of New Mexico on that date.

ARGUMENT AND AUTHORITIES

POINT I

THE OIL CONSERVATION COMMISSION IS A LEGISLATIVE BODY AND WAS ACTING IN A LEGISLATIVE-ADMINISTRATIVE CAPACITY WHEN IT ENTERED THE ORDERS COMPLAINED OF.

The Oil Conservation Commission of New Mexico was created in 1935 by an Act of the Legislature which was amended in 1949 and now appears as Chapter 65, Article 3, of the New Mexico Statutes Annotated, 1953 Compilation. The Act granted the Commission broad powers to deal with the production of oil and gas in the State of New Mexico. Section 65-3-10, NMSA, 1953, defines the general powers of the Oil Conservation Commission as follows:

> "The commission is hereby empowered, and it is its duty, to prevent the waste prohibited by this act and to protect correlative rights, as in this act provided. To that end, the commission is empowered to make and enforce rules, regulations and orders, and to do whatever may be reasonably necessary to carry out the purposes of this act, whether or not indicated or specified in any section hereof." (Emphasis added)

The powers of the Oil Conservation Commission are of a prospective nature and deal primarily with the determination of state policy regarding the conservation of oil and gas and the promulgation of rules, regulations and orders to implement such policies. Powers such as these are basically legislative in nature and could be exercised by the legislature itself but for the fact that the legislature deemed it more prudent to commit such matters to an administrative agency with a staff of petroleum

engineers and geologists at its disposal.

The Orders complained of established a formula for prorationing the production of gas from the Jalmat Gas Pool, and in entering these orders the Oil Conservation Commission was acting in a legislative and administrative capacity. Superior Oil Company v. Beery, 216 Miss. 664, 64 So. 2d 357 (1953). See Seward v. D. & R. G. Ry. Co., 17 N.M. 557, 131 Pac. 980 (1913); Yarbrough v. Montoya, 54 N.M. 91, 214 P. 2d 769 (1950); Transcontinental Bus System v. State Corporation Commission, 56 N.M. 158, 241 P. 2d 829 (1952); Ferguson-Steere Motor Co. v. State Corporation Commission, 63 N.M. 137, 314 P. 2d 894 (1957).

As the Mississippi Supreme Court stated in California Co. v. State Oil and Gas Board, 200 Miss. 824, 27 So. 2d 542, 545 (1946):

> "The Legislature itself had the right in the first instance to prescribe the general rule and regulation as to the spacing of oil and gas wells and to provide for exceptions thereto under given circumstances, and it had the right to delegate this legislative power to a special administrative agency...and it is to be conceded that in adopting such general rule and regulation the Oil and Gas Board was acting in a legislative capacity..."

An extremely lucid test for determining whether an administrative agency performs legislative or judicial functions was set forth by the Supreme Court of Washington in the case of Floyd v. Department of Labor and Industries, 44 Wash. 2d 560, 269 P. 2d 563 (1954). The court quoted with approval the test originally propounded by Mr. Justice Holmes in Prentis v. Atlantic Coast Line Co., 211 U.S. 210, 29 S. Ct. 67, 69, 53 L. Ed. 150 (1908) as follows:

> "A judicial inquiry investigates, declares, and enforces liabilities as they stand on present or past facts and under laws supposed already to exist. That is its purpose and end. Legislation, on the other hand, looks to the future and changes existing conditions by making a new rule, to be applied thereafter to all or some part of those subject to its power."

In addition, the Washington court stated that two questions must be asked: (1) Could the court have been charged in the first instance with the responsibility of making the decisions the administrative body must make? (2) Are the functions performed by the administrative agency ones which the courts have historically been accustomed to performing and did perform prior to the creation of the administrative body? If, as in the instant case, both questions must be answered in the negative, then the action of the agency is legislative in nature.

The proration orders complained of look to the future and make a new rule to be applied to gas proration in the Jalmat Gas Pool. The courts have never been accustomed to devising formulae for oil and gas proration, and, indeed, could not have been charged in the first instance with making such decisions. See Peterson v. Livestock Commission, 120 Mont. 140, 181 P. 2d 152 (1947). Hence the conclusion is inescapable, that the Oil Conservation Commission was acting in a legislative-administrative capacity when it entered the orders complained of.

POINT II

TO PERMIT THE DISTRICT COURT TO TAKE EVIDENCE WHICH WAS NOT PRESENTED TO THE COMMISSION FOR THE PURPOSE OF DETERMINING WHETHER THE COMMISSION ACTION WAS ARBITRARY, CAPRICIOUS, UNREASONABLE, IMPROPER OR UNLAWFUL WOULD VIOLATE THE SEPARATION OF POWERS PROVISION OF THE NEW MEXICO CONSTITUTION.

The District Court has ruled that it will take additional evidence in this case to determine whether the action of the

Oil Conservation Commission in the instant case was arbitrary, capricious, unreasonable, improper or unlawful.

The taking of such additional evidence will result in nothing more or less than a substitution by the District Court of its judgment for that of the Oil Conservation Commission on matters which have been committed to the discretion of the Commission by the legislature. See Seward v. D. & R. G. Ry. Co., 17 N.M. 557, 131 Pac. 980 (1913). Such action by the District Court would clearly violate the separation of powers doctrine of the Constitution of the State of New Mexico (Article III, Section 1) which provides:

> "The powers of the government of this state are divided into three distinct departments, the legislative, executive and judicial, and no person or collection of persons charged with the exercise of powers properly belonging to one of these departments, shall exercise any powers properly belonging to either of the others, except as in this Constitution otherwise expressly directed or permitted."

An extremely thorough and well reasoned analysis of the limitation imposed by the separation of powers doctrine on judicial review of administrative actions can be found in the case of California Co. v. State Oil and Gas Board, supra. This was an appeal from an order of the State Oil and Gas Board of Mississippi on a factual situation similar to that in the case at bar. The statute which authorized appeals from the decisions of the Oil and Gas Board provided that such appeals were to be tried de novo by the circuit court. The question raised was whether the requirement that the matter be tried de novo was unconstitutional and void because it undertook to confer non-judicial functions on the circuit court. The Mississippi Supreme Court struck down the de novo provision as a violation

of the separation of powers doctrine, saying that since the Board was acting in a legislative capacity when it entered the challenged order,

> "the circuit court would be without Constitutional power on appeal to substitute its own opinion as to what are proper oil conservation measures for that of the State Oil and Gas Board, on a legislative or administrative question, since the separation of executive, legislative and judicial powers...forbid."
>
> * * *
>
> "Therefore, the only sound, practicable or workable rule that can be announced by the Court is to hold that when the appeal is from either a general rule and regulation or from an exception granted thereto, the Court to which the appeal is taken shall only inquire into whether or not the same is reasonable and proper according to the facts disclosed before the Board..." (Emphasis added)

Mr. Justice Frankfurter of the United States Supreme Court phrased this principle very aptly in Railroad Commission of Texas v. Rowan and Nichols Oil Co., 310 U.S. 573, 581, 60 S. Ct. 1021, 84 L. Ed. 1368 (1940), when he wrote:

> "Plainly these are not issues for our arbitrament. The state was confronted with its general problem of proration and with the special relation to it of the small tracts in the particular configuration of the East Texas field. It has chosen to meet these problems through the day to day exertions of a body especially entrusted with the task because presumably competent to deal with it."

In the same opinion Mr. Justice Frankfurter went on to say that the question of whether a system of proration based on hourly potential is fairer than one based on some other factor or combination of factors

> "is in itself a question for administrative and not judicial judgment."

The New Mexico Supreme Court has long been aware of the restriction imposed by the separation of powers doctrine. In the case of Floeck v. Bureau of Revenue, 44 N.M. 194, 100 P. 2d 225, (1940), involving an appeal to District Court from a decision of the Chief of Division of Liquor Control, the Court made the following statement at page 199:

> "Assuming the constitutionality of Sec. 1303, it did not undertake to vest in the District Court the administrative function of whether or not the permit should be granted. It gave the Court authority only to determine whether upon the facts and law, the action of the Commissioner in cancelling the license was based upon an error of law or was unsupported by substantial evidence or clearly arbitrary or capricious...otherwise it would be a delegation of administrative authority to the district court in violation of the Constitution."
> (Emphasis added)

At the time Floeck v. Bureau of Revenue, supra, was decided there was no provision in the liquor law appeal statutes for a trial "de novo." However, in 1945 the legislature amended the act to provide that hearings in the district court on appeals from decisions by the chief of division shall be "de novo." Section 61-516, 1941 Comp., as amended by Chapter 87, Laws of 1945 (Section 46-5-16, NMSA, 1953 Comp.)

In 1950 the Supreme Court of New Mexico was called upon in the case of Yarbrough v. Montoya, 54 N.M. 91, 214 P. 2d 769 (1950), to determine the scope of review under the amended appeal statute referred to above. In that case the Court stated at page 95:

> "We are further committed to the doctrine that the Courts may not overrule the acts on an administrative officer on matters committed to their discretion unless their actions are unlawful, unreasonable, arbitrary, capricious, or not supported by evidence. Floeck v. Bureau of Revenue 44 N.M. 194, 100 P. 2d 225, 228 "

The applicant argued that the above-quoted rule was no longer applicable since the appeal statute had been subsequently amended to provide for a hearing "de novo." The Court dismissed this argument by quoting that portion of the Floeck case, supra, which held that if the statute purported to authorize the District Court to substitute its judgment for that of the Chief of the Division in determining whether or not the permit should be granted,

> "it would be a delegation of administrative authority to the district court in violation of the constitution."

The Court in the Yarbrough case, supra, held that the scope of review by the District Court under the amended "de novo" statute is identical with that under the old statute even though the former was the result of an obvious legislative attempt to increase the scope of review by the District Court. The great significance of this decision is the fact that the Court felt compelled to so construe the amended statute in order to avoid declaring it unconstitutional as violating the separation of powers doctrine. This is clear from the court's language at page 96 of the opinion where it said,

> "We will adopt the construction of the amendment under which it can be held to be constitutional."

The essence of this holding is that the scope of review set forth in the Floeck case, supra, is the maximum review which the constitutional separation of powers doctrine will permit and that the legislature is powerless to go beyond this point.

Professor Davis in his treatise, Davis on Administrative Law § 256 (1951), recognizes that there is a constitutional limit on the scope of review by the courts of administrative action.

Professor Davis characterizes this concept as the "Constitutional Maximum of Review," and states as follows at page 922:

> "Congress may run afoul of constitutional limitations by providing too much review as well as by providing too little review. The maximum limit on review is imposed for the purpose of preventing courts from engaging in nonjudicial activities."

In light of the concept of "constitutional maximum" review, let us consider the numerous opinions of the Supreme Court of New Mexico on the scope of review of actions of the State Corporation Commission.

The first case in New Mexico appears to be Seward v. D. & R. G. Ry. Co., supra, which was a proceeding under the provisions of Article II, Section 7 of the Constitution of the State of New Mexico, which provides for removal of certain matters directly from the Corporation Commission to the Supreme Court and provides further that:

> "...the said court shall have the power and it shall be its duty to decide such cases on their merits, and carry into effect its judgments, orders, and decrees made in such cases, by fine, forfeiture, mandamus, injunction and contempt or other appropriate proceedings." (Emphasis added)

The Attorney General took the position that the Supreme Court had a right to form its independent judgment in the matter and was not confined to a consideration of the reasonableness and lawfulness of the order of the Commission. The Supreme Court had this to say at page 579 of the New Mexico Reports:

> "Now if the contention is sound then the provision just quoted invests this court with legislative power to fix rates. There is no doubt but that the people of the state, by constitutional provision could confer such power upon the judges of the Supreme Court. If they saw fit they might combine all the power of government in one department, but such action would not be in accord with the settled policy of the states of the Union, where it has been the studied purpose to, so far as possible, keep separate the three

> great departments, and we should not so construe the provision as conferring legislative power upon this body, unless compelled to do so by clear and unmistakable language."

The Court held that the only issue to be decided upon the appeal was the reasonableness and lawfulness of the order, and it concluded that if the Court finds the order reasonable and lawful, it enters a judgment to that effect, but if it finds it unlawful and unreasonable, it refuses to enforce it and the State Corporation Commission may proceed to form a new order under its rule.

This proposition was further discussed in the case of Seaberg v. Raton Public Service Co., 36 N.M. 59, 8 P. 2d 100 (1932), in which the petitioner had removed a matter which was before the Corporation Commission, directly to the Supreme Court, and the Corporation Commission filed a motion to dismiss. The facts of the case are not particularly pertinent to the present question, but some of the language of the Court indicates the position which it was quick to take in these matters. We quote from the case as follows (page 62, New Mexico Reports):

> "The proceeding of removal is not for the review of judicial action by the commission. It is to test the reasonableness and lawfulness of its orders. The function of the commission is legislative; that of the court, judicial. The commission is not given power to enforce any order; it being merely a rate-making or rule-making body, doing what, if there were no commission, the Legislature alone could do. The Court, on the other hand, can make no rate or rule, since it lacks the legislative power." (Emphasis added)

Perhaps the most complete discussion of the matter arose in the case of Harris v. State Corporation Commission, 46 N.M. 352, 129 P. 2d 323 (1942), which involved an appeal to the District Court of Santa Fe County. The carrier had been granted a certificate

and another carrier, adversely affected, appealed to the District Court. At the trial, the plaintiff, instead of introducing the record of the hearing before the Commission, introduced new evidence by way of testimony of seven witnesses. Upon conclusion of the evidence, the Court made many findings contrary to those of the Commission. The first question discussed was the scope of judicial review. The Court goes into a rather exhaustive review of the New Mexico authorities and discusses several Law Review articles concerning the subject. Some of its concluding remarks on pages 359-360 are as follows:

> "When our Legislature enacted Ch. 154, L. 1933, it declared its purpose and policy to confer upon the Commission the power and authority to make it its duty to supervise and regulate the transportation of persons and property by motor vehicle for hire upon the public highways of this state and to relieve the undue burdens on the highways, and to protect the safety, and welfare of the traveling and shipping public and to preserve, foster and regulate transportation and permit the co-ordination of transportation facilities.
>
> * * * * * *
>
> Counsel for Appellee contends that in the removal of a cause pending before the Commission under Sec. 51, etc. of the Act, the trial before the District Court is a trial de novo. This view is repelled distinctly by what we said in the Seward Case.
>
> * * * * * *
>
> Even where statutes of other states have said that upon judicial review of administrative or legislative acts the trial shall be de novo, some courts have held such provision unconstitutional, others hold that the de novo provision is limited to the ascertainment by the court of whether the jurisdictional facts exist and whether there had been due process, and whether the Commission had kept within its lawful authority.
>
> * * * * * *

> We hold that the District Court erred in receiving and considering testimony other than that which had been produced at the hearing before the Commission."

In the case of New Mexico Transp. Co., Inc. v. State Corporation Commission, 51 N.M. 59, 178 P. 2d 580 (1947), the Court affirmed the position taken in Harris v. State Corporation Commission, supra, and refused to disturb an order of the State Corporation Commission. At page 60, the Court said:

> "Following the rules there announced, we are unable to say from an examination of the record that the order of the Commission granting these certificates was either unlawful or unreasonable. It is not sufficient that we might have reached a different conclusion." (Emphasis added)

The recent cases of Transcontinental Bus System v. State Corporation Commission, 56 N.M. 158, 241 P. 2d 829 (1952) and Ferguson-Steere Motor Co. v. State Corporation Commission, 62 N.M. 143, 306 P. 2d 637 (1957), confirm the previous decisions of the Supreme Court of New Mexico in connection with this question.

In Ferguson-Steere Motor Company v. State Corporation Commission, 63 N.M. 137, 142, 144, 314 P. 2d 894 (1957) the Court summarized its position regarding the scope of review of administrative actions when it said:

> "It was not within the province of the trial court, nor is it within the province of this Court, to consider any evidence other than that introduced at the hearing before the Commission.
>
> * * *
>
> "This Court has consistently held that the courts may not overrule the acts of an administrative officer on matters committed to their discretion unless their actions are unlawful, unreasonable, arbitrary, capricious, or not supported by evidence, and

> that in reviewing the actions of such bodies, the trial Court is bound by the substantial evidence rule, that is, whether the findings of the administrative body are supported by substantial evidence. Floeck v. Bureau of Revenue, supra; Harris v. State Corporation Commission supra; Yarbrough v. Montoya, supra, Transcontinental Bus System v. State Corporation Commission, supra; Ferguson-Steere Motor v. State Corporation, 62 N.M. 143, 306 P. 2d. 637." (Emphasis added)

Admittedly the statute providing for review of Corporation Commission action contains no do novo provision. But note that the above-quoted language is not limited to review of Corporation Commission action.

Further, it should be noted that the court chose to summarize the scope of review in appeals from the State Corporation Commission in the same identical terms as it used in defining the scope of review in appeals from the actions of the Chief of Division of Liquor Control in Yarbrough v. Montoya, supra, where the statute provided for an appeal de novo. This could hardly be coincidence and we deem it highly significant in light of the language in the Yarbrough case to the effect that any broader scope of review of administrative action

> "would be a delegation of administrative authority to the district court in violation of the constitution."

In view of this fact, the conclusion seems inescapable that the scope of review set forth in the Ferguson-Steere case, supra, is also the maximum review which the constitution will permit, and that the legislature would be powerless to expand the scope of review beyond that point. The conclusion is supported by the court's language in that case at page 142 of the New Mexico Reports:

"The Commission is an administrative body and the courts are limited in their review of the actions of such bodies."

Accord: Seward v. Denver & R. G. Ry. Co., supra; Woody v. Denver & R. G. Ry. Co., 17 N.M. 686, 132 Pac. 250 (1913); Harris v. State Corporation Commission, supra; Transcontinental Bus System v. State Corporation Commission, supra; Garrett Freight Lines v. State Corporation Commission, 63 N.M. 48, 312 P 2d 1061 (1957); State v. McCulloh, 63 N.M. 436, 321 P. 2d 207 (1958).

Thus the concept of "Constitutional Maximum Review" can be summed up as standing for the proposition that the courts, in reviewing findings of fact of administrative agencies on matters committed to the discretion of such agencies, are limited by the separation of powers doctrine to a determination of whether such findings are unlawful, improper, unreasonable, arbitrary, capricious or not supported by the evidence in the record made before the agency.

The factual determination by the Oil Conservation Commission which has been challenged in the instant case involves the advisability of including a deliverability factor in the proration formula for the Jalmat Gas Pool. Certainly the problem of devising an equitable and workable gas proration formula is a matter which has been committed to the judgment and discretion of the Oil Conservation Commission. Railroad Commission of Texas v. Rowan & Nichols Oil Co., supra.

This being the case, the constitutional separation of powers doctrine prohibits the district court from taking any additional evidence to determine whether the Commission's findings of fact in the instant case are arbitrary, capricious, unreasonable, improper or unlawful. The Commission's findings of fact must be sustained if they are supported by substantial evidence on the record made before the Commission.

A.

IF THE STATUTE PROVIDING FOR REVIEW OF ACTIONS OF THE OIL CONSERVATION COMMISSION MUST BE CONSTRUED TO PERMIT THE TAKING OF ADDITIONAL EVIDENCE FOR THE PURPOSES PROPOSED, THEN SUCH STATUTE IS UNCONSTITUTIONAL.

Section 65-3-22 (b), NMSA, 1953 Comp., contains a provision for the review of an order of the Oil Conservation Commission of New Mexico. This provision is as follows:

> "(b) Any party to such rehearing proceeding, dissatisfied with the disposition of the application for rehearing, may appeal therefrom to the district court of the county wherein is located any property of such party affected by the decision, by filing a petition for the review of the action of the commission within twenty (20) days after the entry of the order following rehearing or after the refusal or rehearing as the case may be. Such petition shall state briefly the nature of the proceedings before the Commission and shall set forth the order or decision of the commission complained of and the grounds of invalidity thereof upon which the applicant will rely; Provided, however, that the questions reviewed on appeal shall be only questions presented to the commission by the application for rehearing. Notice of such appeal shall be served upon the adverse party or parties and the commission in the manner provided for the service of summons in civil proceedings. The trial upon appeal shall be de novo, without a jury, and the transcript of proceedings before the commission, including the evidence taken in hearings by the commission, shall be received in evidence by the court in whole or in part upon offer by either party, subject to legal objections to evidence, in the same manner as if such evidence was originally offered in the district court. The commission action complained of shall be prima facie valid and the burden shall be upon the party or parties seeking review to establish the invalidity of such action of the commission. The court shall determine the issues of fact and of law and shall, upon a preponderance of the evidence introduced before the court, which may include evidence in addition to the transcript of proceedings before the commission, and the law applicable thereto, enter its order either affirming, modifying, or vacating the order of the Commission. In the event the court shall modify or vacate the order or decision of the commission, it shall enter such order in lieu thereof as it may determine to be proper. Appeals may be taken from the judgment or decision of the district court to the

> Supreme Court in the same manner as provided for appeals from any other final judgment entered by a district court in this state. The trial of such application for relief from action of the commission and the hearing of any appeal of the Supreme Court from the action of the district court shall be expedited to the fullest possible extent." (Emphasis added)

Although this section of the statute provides for a review proceeding, it also attempts to clothe the Courts, on appeal, with the broad and sweeping power to promulgate legislative and administrative rules and regulations in connection with the oil and gas conservation statutes of New Mexico.

If this statute must be construed as permitting the District Court to receive and consider evidence in addition to the record made before the Commission for the purpose of determining whether the Commission action is arbitrary, capricious, unreasonable, improper or unlawful, then it transcends the separation of powers provision contained in the New Mexico Constitution and hence is unconstitutional.

As pointed out by this Court in Harris v. State Corporation Commission, supra, at page 360 of the New Mexico Reports:

> "Even where statutes of other states have said that upon judicial review of administrative or legislative acts the trial shall be de novo, some courts have held such provision unconstitutional..."

A notable example of such result is the previously mentioned case of California Co. v. State Oil and Gas Board, supra, where the Court held the de novo provision unconstitutional. The Court stated as follows at page 546 of the Southern Reports:

> "In other words to permit a trial de novo in the Circuit Court on a legislative or administrative decision of the State Oil and Gas Board, within the common acceptance of the term 'tried de novo' would permit a party to withhold entirely any showing of these facts, as he contends them to be, from the original board composed of experts and of those charged with the responsibility of a great public policy of the State, and wait until on appeal when he will make his full disclosure

> for the first time before non-experts in that field to determine as to the proper spacing of oil and gas wells. In such case, the Court would be departing from its proper judicial function into the realm of things about which it has no such knowledge as would form the basis for intelligent action."

The same result has been reached in a number of cases from varying jurisdictions. Peterson v. Livestock Commission, supra; Borreson v. Department of Public Welfare, 368 Ill. 425, 14 N.E. 2d 485 (1938); Household Finance Corporation v. State ____ Wash. ____, 244 P. 2d 260 (1952); State v. State Securities Commission, 145 Minn. 221, 176 N.W. 759 (1920); Mississippi Insurance Commission v. Insurance Company of North America, 203 Miss. 533, 36 So. 2d 165 (1948).

B.

THE STATUTE PROVIDING FOR REVIEW OF ACTIONS OF THE OIL CONSERVATION COMMISSION MAY BE CONSTRUED CONSTITUTIONALLY BY LIMITING THE SCOPE OF REVIEW OF SUCH ACTION SO AS TO PROHIBIT THE TAKING OF ADDITIONAL EVIDENCE FOR THE PURPOSES PROPOSED.

The "de novo" and "additional evidence"provisions of Section 65-3-22(b), supra, must be construed, insofar as possible, to uphold their constitutionality. See Yarbrough v. Montoya, supra, That such a construction is possible is clearly demonstrated by the case of Denver & R. G. W. R. Co. v. Public Service Commission, 98 Utah 431, 100 P. 2d 552 (1940). An applicant for a motor carrier permit and the protestant both applied for rehearings after the Public Service Commission of Utah had granted an application with certain limitations and the matter was then appealed to the district court. The Court called attention to the fact that prior to the enactment of a 1935 statute, the court's review of the

action of the Commission was limited to questions of law and the Commission's findings of fact were final. However, in 1935 the legislature changed the statute and provided that the district court "shall proceed after a trial de novo." The Utah Supreme Court in considering the extent of the authority of the district court under the amended statute, had this to say:

> "The expression 'trial de novo' has been used with two different meanings...(1) a complete retrial upon new evidence; (2) a trial upon the record made before the lower tribunal. Locally we find an example of the first in Section 104-77-4, R.S.U. 1933, covering appeals from the justice court to the district court---the case is tried in the district court as if it originated there. An example of the second meaning we find locally in our treatment of equity appeals wherein we say that the parties are entitled to a trial de novo upon the record." (Emphasis added)

In considering the effect of the amended Utah statute, as applied to these two different meanings, the court stated:

> "To review an action is to study or examine again. Thus, 'trial de novo' as used here must have a meaning consistent with the continued existence of that which is to be again examined or studied. If, in these cases, the first meaning were applied to the use of the term 'trial de novo' then one could not consistently speak of it as a review, as the Commission's action would no longer exist to be re-examined or restudied.
>
> * * *
>
> What the Legislature has done by Section 9 is to increase the scope of the court's review of the record of the Commission's action to include questions of fact as well as questions of law. A submission to the court of the application, together with testimony other than the record of the testimony before the Commission was not contemplated. The Legislature had in mind the second meaning when it used the word 'trial de novo'here. (Emphasis added)

It is not unusual for courts to so limit and restrict de novo statutes. Lloyd v. City of Gary, 214 Ind. 700, 17 N.E. 2d

836 (1938); State Board of Medical Registration and Examination v. Scherer, ____Ind.____, 46 N.E. 2d 602 (1943); State v. Farris, Tex. Civ. App., 239 S.W. 2d 419 (1951).

If the Commission record was skimpy or incomplete, perhaps the taking of additional evidence would be warranted. In the case of Denver & R. G. W. R. Co. v. Central Weber Sewer I District, 4 Utah 2d 105, 287 P. 2d 884 (1955), the Court had before it the review of an action of the Sewer Commission. It was urged that on writ of review only the record is reviewable, and that no evidence is adducible in addition to that shown in the record. At page 887 the Court stated:

> "We do not agree with the sewer district that the review can extend no further than to examine the record below, nor do we agree with the utilities that the act contemplates a trial de novo. The nature and extent of the review depends on what happened below as reflected by a true record of the proceedings, viewed in the light of accepted due process requirements. If the record made revealed the fact that the Commission had conducted a hearing, taken evidence, heard witnesses under oath and otherwise had proceeded in accordance with such due process requirements, and had the facts either supported or negatived the commission's findings and conclusions, the reviewing court could have examined only the record before it, to determine if the Commission regularly had pursued its authority, or had abused its discretion. But where, as here, there is nothing to review but an ipse dixit, due process would be denied if the reviewing court could not get at the facts." (Emphasis added)

We find little to criticize in this case. It simply presents a situation where the separation of powers doctrine must give way to the due process requirement. In the case at bar a full, complete and extensive record was made in presenting the matter to the commission, and additional evidence is not necessary in order to have a record to review. Thus the requirements of the due process clause were fully satisfied.

In the case of Spencer v. Bliss, 60 N.M. 16, 287 P. 2d 221 (1955), the Supreme Court had before it a question involving a review of the action of the State Engineer. The statute governing such reviews provides for a hearing de novo. The court stated as follows at page 28, New Mexico Reports:

> "We are satisfied we need not here decide just what effect the decision of the State Engineer should be given in the de novo trial provided for the hearing of an appeal."

The above-quoted language indicates to us that this Court feels that a provision for a de novo hearing can be reconciled with the constitutional requirement of separation of powers. However, we earnestly contend that in order to uphold the constitutionality of the de novo provision in Section 65-3-22(b) supra, this Court must construe the statute as prohibiting the District Court from taking additional evidence for the purpose of determining whether the Commission's action was arbitrary, capricious, unreasonable, improper or unlawful, Denver & R. G. W. R. Co. v. Public Service Commission, supra. See Yarbrough v. Montoya, supra; Harris v. State Corporation Commission, supra.

It is in no way significant that the additional evidence which the District Court proposes to take is evidence allegedly not available to petitioners at the time of the Commission hearing and not presented to the Commission. The receipt of such "new" evidence would be as much an invasion of the legislative function of the Oil Conservation Commission as would be the receipt of "old" evidence. California Co. v. State Oil and Gas Board, supra. As a practical matter, the taking of such allegedly "new" evidence is less warranted than allowing a person to start his case entirely anew in District Court. The evidence supporting the action of the Commission is simply the cold written word in the record. The "new" evidence presented to the Court by the

partisan expert witness is given in person and thus is likely to be more convincing.

POINT III

TO PERMIT THE DISTRICT COURT TO TAKE ADDITIONAL EVIDENCE IN THIS CASE FOR THE PURPOSES PROPOSED WOULD BE CONTRARY TO THE POLICY UNDERLYING THE SEPARATION OF POWERS DOCTRINE

"The second great structural principle of American Constitutional Law is supplied by the doctrine of the Separation of Powers." Corwin, Constitution of the United States of America p. XVI (1953). It is essential to the working of the American system of government, which effects a separation of the three great departments of government, that the persons entrusted with power in any one of the branches shall not be permitted to encroach upon the powers confided to any other branch. See State v. McCulloh, supra.

The basic policy underlying the inclusion of a separation of powers provision in the United States and New Mexico Constitution was not solely one of checks and balances. Such a provision was also included to accomplish the inestimable goal of conferring the many powers of government upon the branch most capable of performing them. This is the only way that a rational division of functions can be achieved. See Landis, The Administrative Process 46 (1938).

Regulation over oil and gas production is authorized as an exercise of the police power of the State, which power is vested in the legislature. The New Mexico Legislature created the Oil Conservation Commission in order to confide this field of regulation to an administrative body with a staff of experts at its disposal.

In its pre-trial ruling the Court stated that since the matter involved was presented to the Commission on the conflicting testimony of experts, the Court would, with the taking of additional testimony, be in a better position to determine whether the order was improper. A majority of the cases before the Oil Conservation Commission involve conflicting testimony of expert witnesses. We submit that this fact is not a legitimate reason for reviewing courts to take evidence in addition to the record made before the Commission. If administrative agencies are going to be mere preliminary examiners of expert testimony for the courts, then we certainly have a misconception of the true function and value of such agencies. Denver Products and Refining Company v. State, 199 Okl. 171, 184 P. 2d 961 (1947); The Ohio Oil Co. v. Porter, 225 Miss. 55, 82 So. 2d 636 (1955). This principle was well stated in the case of Railroad Commission of Texas v. Rowan and Nichols Oil Co., supra, at pp. 581-582, U. S. Reports:

> "Certainly in a domain of knowledge still shifting and growing, and in a field where judgment is therefore necessarily beset by the necessity of inferences bordering upon conjecture even for those learned in the art, it would be presumptous for courts, on the basis of conflicting expert testimony, to deem the view of the administrative tribunal, acting under legislative authority, offensive to the Fourteenth Amendment."

In the second Rowan Case, 311 U. S. 570, 61 S. Ct. 343, 85 L. Ed. 358 (1941), the Court added to what it had said in the first case. The Court concluded that the feel of the expert should not be supplanted by an independent view of judges "on conflicting testimony and prophesies and impressions of expert witnesses."

As was so ably stated by Segal in Administrative Procedure in Massachusetts, 33 B.U.L. Rev. 1, 25 (1953):

> "The proposition that new or additional evidence, which was not offered to the Commission, can first be offered in the appellate court is contrary to good administrative procedure and judicial review; it helps to reduce the administrative agency to a second class body which can be easily by-passed. It should not be the function of the court to hear the evidence in an administrative agency case."

This proposition is nowhere truer than in the review of an order entered by a Commission, such as the Oil Conservation Commission, which deals with highly technical matters and has a body of experts at its disposal. Professor Davis, quoting portions of the United States Supreme Court's decision in Railroad Commission of Texas v. Rowan and Nichols Oil Co., supra, states:

> "When problems 'tough matters of geography and geology and physics and engineering,' hardly suprising is the Supreme Court's action in announcing that 'Plainly these are not issues for our arbitrament', and in reversing the lower courts' decisions because those courts 'appear to have been dominated by their own conception of the fairness and reasonableness of the challenged order.'" Davis on Administrative Law p. 893.

As noted earlier the orders here complained of are proration orders. Professor Davis has pinpointed the evils of excessive judicial review in this area in an article entitled Judicial Emasculation of Administrative Action and Oil Proration, 19 Tex. L. Rev. 29 (1940). Davis is of the opinion that the Supreme Court's drastic curtailment of the scope of review in Railroad Commission of Texas v. Rowan and Nichols Oil Co., supra, can be found in the history of oil proration orders in the courts. At page 39 he states, "Nowhere may one find a more convincing demonstration of the evils of excessive judicial review of administrative action than in the record of regulation in the East Texas oil field. The recurring theme is the inadequacy of the judicial process in technical fields other than law."

Davis explains that his comments are not to be taken as a criticism of judges, but rather as an indictment of a system which does not adequately restrict judicial review of administrative action. He feels that all too frequently judges are expected to know more geology than geologists, more physics than physicists, and more engineering than engineers. Davis concludes that the result has been "the development of oil fields in a manner diametrically opposite to that favored by the physical conditions underground."

In the early days of administrative agencies there was undoubtedly a certain amount of legislative and judicial skepticism and distrust of such agencies - some of which probably was warranted. The result was the enactment of statutes and the handing down of judicial decisions which granted a broad (and in our opinion excessive) scope of judicial review. In practically every state at least one decision reflects such distrust, albeit not explicitly. New Mexico is no exception. See Farmers Development Company v. Rayado Land & Irrigation Co., 18 N.M. 1, 133 Pac. 104 (1913). The Rayado Case was decided when this aura of distrust pervaded actions of administrative agencies and when district courts were not perplexed by overcrowded dockets. Such skepticism was reminiscent of the distrust of equity displayed by the common law judges. Stone, The Common Law in the United States, 50 Harv. L. Rev. 4, 16 (1936).

This Court should not, as some courts have, follow a doctrinaire approach based on such sterile precedent. As Professor Landis has emphasized again and again, the creation of administrative agencies has been in response to the need for expertise both in policy-formation and fact-finding. To subject

the latter again to independent judicial determination on the basis of evidence not presented to the agency is to make pointless the fact-finding process itself. Landis, Crucial Issues in Administrative Law, 53 Harv. L. Rev. 1077, 1094 (1940).

It cannot be controverted that administrative agencies have grown in stature, as well as in number, during the past quarter century. This is as it should be. The only real choice is between effective regulation by expert commissions entrusted with a certain field of complicated regulatory problems or impotent administrative agencies circumscribed by excessive judicial review. See MacMahon, The Ordeal of Administrative Law, 25 Iowa L. Rev. 435 (1940).

One reason for the growth in statute of administrative agencies - and one frequently overlooked - is that hearings before most administrative agencies have become much more formal and less summary through the years. Thus the need for extensive judicial review of administrative action is mitigated. See Denver & R. G. W. R. Co. v. Central Weber Sewer I District, supra.

Certainly the hearings before the Oil Conservation Commission are not summary in nature. In the case here involved, the Commission heard some one thousand pages of sworn testimony and received in the neighborhood of seventy-five exhibits. There was extensive examination and cross-examination of expert witnesses. And we most strenously urge that whether the Commission's action was arbitrary, capricious, unreasonable, improper and unlawful, can and should be determined on the basis of the record made before the Commission. Against the possibility of arbitrariness, which all wish to prevent, the application of procedural requirements plus the continuation of the substantial evidence rule, even moderately applied, would be ample safeguards. Landis,

Crucial Issues in Administrative Law, 53 Harv. L. Rev. 1077, 1094 (1940).

Forward-looking courts have made a fundamental re-evaluation of the proper scope of review of administrative action, tending always in the direction of judicial self-restraint. The added emphasis on the peculiar competence of administrative agencies to fullfil tasks which the courts cannot expertly or expeditiously do has been a major factor in such re-evaluation. Broughtons' Estate v. Central Oregon Irrigation Dist., 165 Ore. 435, 108 P. 2d 276 (1940); Landis, The Administrative Process 143-144 (1938). Further, the courts have come to recognize that excessive review of administrative action "is not conducive to the development of habits of responsibility in administrative agencies." Federal Communications Commission v. Pottsville Broadcasting Company, 309 U. S. 134, 146, 60 S. Ct. 437, 84 L. Ed. 663 (1940).

Note the following statement by Justice Sadler in Spencer v. Bliss, 60 N.M. 16, 287 P. 2d 221 (1955), at page 28:

> "...it will be an unfortunate day and event when it is established in New Mexico, that the district courts must take over and substitute their judgment for that of the skilled and trained hydrologists of the State Engineer's office in the administration of so complicated a subject as the underground waters of this state."

Relators submit that petroleum engineering and geology is at least as complicated as hydrology. Further, we know of no statutory administrative agency in the State of NewMexico which has a trained staff of technical experts equal to that of the Oil Conservation Commission - some six petroleum engineers and five geologists.

It is incomprehensible to Relators how the action of an administrative agency could possibly be branded arbitrary, capricious, unreasonable or improper on the basis of evidence which was never presented to it. Such procedure under a de novo statute was also

incomprehensible to the Mississippi Supreme Court in California Co. v. State Oil and Gas Board, supra, where the Court stated as follows at page 546 of the Southern Reports:

> "But to allow an appellant to present to the Circuit Court a different state of case or one based on additional facts would merely tend to becloud the issue as to whether or not the administrative body had based its decision on substantial evidence, had acted arbitrarily or capriciously, beyond its power, or violated some constitutional right of the party affected thereby."

The concurring opinion by Justice Griffith in the same case recognized that it would be a remarkable incongruity to allow the reviewing court to receive evidence in addition to the record made before the Oil and Gas Board, Justice Griffith stated:

> "The essential nature of such a review is such that it must be of what the Board had before it at the time it made its order. It would be an incongruity as remarkable to permit another different record to be made upon appeal to the circuit court as it would be to allow another and a different record to be presented to this court on an appeal to it. The question is, and must be, what did the Oil and Gas Board have before it, and all this the majority opinion has well and sufficiently pointed out." (Emphasis added)

The Supreme Court of Washington in the case of Lillions v. Gibbs 47 Wash. 2d 629, 289, P. 2d 203, 305, (1955) stated that "arbitrary and capricious action of administrative bodies means willful and unreasoning action, without considering, and in disregard of facts and circumstances." (Emphasis added) We submit that an administrative agency cannot "disregard" facts not presented to it, and hence its action could not be found to be arbitrary or capricious on the basis of such "new" facts.

In Harris v. State Corporation Commission, supra, this Court quoted from, and with approval, an article entitled Court Review of Administrative Decisions, 30 Cal. L. Rev. 507. A portion of the article quoted in the opinion is as follows:

> "With respect to the issues of fact the reviewing court examines the evidence taken by the administrative agency, not to reweigh it, not to substitute the court's judgment for that of the agency, but to determine whether the agency acted rationally, that is, to see that it did not arrive at its conclusion arbitrarily." (Emphasis added)

If "new" or additional evidence actually becomes available subsequent to the action of an administrative agency, it should be presented to such agency rather than the court, either through the process of remand, or if this is not permissible, by dismissal of the petition for review so that a petitioner may file a new application for hearing before the agency. New York v. United States, 331 U.S. 284, 67 S. Ct. 1207, 91 L. Ed. 1492 (1947); Seward v. D. & R. G. Ry. Co., supra. See Woody v. R. R. Co., supra.

It is our abiding conviction that to permit district courts to take evidence which was not presented to the Commission in order to determine whether the Commission's action is arbitrary, capricious, unreasonable, improper or unlawful will render the Oil Conservation Commission a mere preliminary examiner for the courts.

Further, to allow such procedure is grossly unfair, both to the Commission and the parties who presented a full and complete case before the Commission. It will invite reopening of issues in the courts; it will permit the holding back of arguments and evidence before the Commission by a party who will then allege on review that he has pertinent "new" evidence,

which is only "new" because he waited until after Commission action to prepare it; it will permit an attempt to overwhelm the court with partisan expert testimony while opposing parties may well be financially unable to present additional expert testimony to the court; it will result in overburdening the already overcrowded dockets of the district courts. Counsel for Pan American Petroleum Corporation, a petitioner in this case, stated at the second pre-trial conference that three days would be needed for trial of this cause. This is a conservative estimate if petitioners are permitted to introduce additional evidence upon review of the Commission's action. See Gellhorn, Federal Administrative Proceedings 13-14 (1941).

We are in complete agreement with the following statement in General Accounting Fire & Life Assurance Corporation v. Industrial Commission, 223 Wis. 635, 271 N.W. 385, 389 (1937):

> "If (a court) must give a trial de novo, the twilight of administrative law is at hand, for the proceedings before the administrative body will be but a perfunctory skirmish, the principal contribution of which will be delay."

We should not ignore the reminder of Mr. Justice Holmes that "legislatures are ultimate guardians of the liberties and welfare of the people in quite as great a degree as the courts." M. K. & T. Railway of Texas v. May, 194 U.S. 267, 270, ____ S. Ct.____, 48 L. Ed. 971 (1904).

POINT IV

THE ALTERNATIVE WRIT OF PROHIBITION HERETOFORE ISSUED SHOULD BE MADE ABSOLUTE AND PERMANENT

Relators submit that since the taking of additional evidence by the District Court in the instant case would be

a violation of Article III, Section 1 of the New Mexico Constitution, as shown by the authorities cited above, it necessarily follows that the Court is without jurisdiction to take such additional evidence.

Even though the Court has jurisdiction over the parties and the subject matter, the taking of additional evidence for the purposes proposed would amount to an excess of jurisdiction and would render the Court without jurisdiction. This principle has been settled in New Mexico since the case of State v. Carmody, 53 N.M. 367, 208 P. 2d 1073 (1949). The Court stated as follows at page 370:

> "Counsel argue as though cases in which the writ is issued to restrain the trial court from exceeding its jurisdiction, as in State ex rel. Lynch v. District Court, supra; represent a modification of the unbending character of the rule that prohibition will not lie if the trial court has jurisdiction of both the parties and the subject matter. But such is not the case. In no sense do these cases represent a modification or liberalization of this cardinal rule, since to the extent the court proposes to exceed its jurisdiction, there is a want of jurisdiction, both over the parties and the subject matter. To such extent any judgment rendered by it would be a complete nullity and subject to collateral attack. (Emphasis added)

State v. Carmody, supra, which we consider controlling on the subject of prohibition, contains an exhaustive analysis of other New Mexico decisions on the question. Hence, we deem it unnecessary to burden the Court with further authority on this point.

Relators submit that it has been clearly shown by the foregoing authorities that the District Court is without jurisdiction to take additional evidence in the instant case on the issue of whether the Commission's action was arbitrary, capricious,

unreasonable, improper or unlawful.

Even if it be assumed that the threatened action by the District Court be error only, this Court should nevertheless make permanent the Writ of Prohibition, since Relators' remedy by appeal is wholly inadequate. This Court ruled unequivocally in State v. Carmody, supra, that prohibition is a proper remedy in such cases by virtue of the Supreme Court's power of superintending control over inferior courts. At page 378, the opinion states:

> "...even though the trial court be moving within its jurisdiction and the threatened action be error only, as distinguished from a want of jurisdiction as well, this court may intervene by an appropriate writ in an exercise of its power of superintending control, if the remedy by appeal seems wholly inadequate. State v. Raynolds, supra; or where otherwise necessary to prevent irreparable mischief, great, extraordinary, or exceptional hardship; costly delays and unusual burdens of expense."

A comparison of the Carmody case with the case at bar clearly establishes that the need for the exercise of superintending control is even greater in the present case than it was in State v. Carmody, supra.

Remedy by appeal after the entry of final judgment or decree would be accompanied by unbearable expense and delay. In order to preclude the possibility of having its action branded arbitrary, capricious, unreasonable, improper or unlawful on the basis of additional evidence which it had no opportunity to consider, Relator Oil Conservation Commission would feel compelled to present testimony in the District Court to support its action. The preparation and presentation of such testimony and exhibits would be extremely costly, time consuming

and detrimental to the efficiency of the already over-burdened technical staff of Relator Oil Conservation Commission, all to the ultimate detriment of the State of New Mexico.

Relator Texas Pacific Coal and Oil Company has already expended in excess of Thirty-five Thousand Dollars for reservoir studies and expert witness fees in presenting the case before the Oil Conservation Commission. If petitioners are permitted to present additional testimony, Relator Texas Pacific Coal and Oil Company must, of necessity, do likewise in order to adequately protect its interests. Preparation and presentation of such additional testimony will result in an additional expense of approximately Fifteen Thousand Dollars to said Relator.

Relator El Paso Natural Gas Company has already expended in excess of Ten Thousand Five Hundred Dollars for reservoir studies and expert witness fees in presenting the case before the Oil Conservation Commission. If petitioners are permitted to present additional testimony, Relator El Paso Natural Gas Company must, of necessity, do likewise in order to adequately protect its interests. Preparation and presentation of such additional testimony will result in an additional expense of approximately Five Thousand Dollars to said Relator.

Approximately 75 exhibits and one thousand pages of transcript of testimony originally taken before the Oil Conservation Commission, which will become a part of the record in the District Court at the hearing upon the merits in Cause No. 16213, together with the proceedings had before the District Court, would necessarily be included in the record to be filed in the Supreme Court, and the expense and delay occasioned thereby

would be an undue burden upon relators.

By reason of the expense involved and the delay which will inevitably occur before a final decision may be obtained upon an appeal, the remedy by appeal is wholly inadequate and the Alternative Writ of Prohibition should be made absolute and permanent in order to prevent irreparable mischief, great, extraordinary, and exceptional hardship; costly delays and highly unusual burdens of expense.

would be an undue burden upon relators.

By reason of the expense involved and the delay which will inevitably occur before a final decision may be obtained upon an appeal, the remedy by appeal is wholly inadequate and the Alternative Writ of Prohibition should be made absolute and permanent in order to prevent irreparable mischief, great, extraordinary, and exceptional hardship; costly delays and highly unusual burdens of expense.

C O N C L U S I O N

Based upon the reasons and authorities cited herein Relators submit that the Alternative Writ of Prohibition heretofore issued should be made permanent by this Court.

Respectfully submitted,

FRED M. STANDLEY, Attorney General

WILLIAM J. COOLEY, Special Assistant
Attorney General

OLIVER E. PAYNE, Special Assistant
Attorney General

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by: COWAN AND LEACH
HARDIE, GRAMBLING, SIMS AND GALATZAN

Attorneys for Relator El Paso Natural Gas Company

by: ROBERT W. WARD
Attorney for Relator Permian Basin Pipeline Company

I CERTIFY THAT I MAILED A COPY OF THE FOREGOING BRIEF-IN-CHIEF TO RESPONDENT AND TO RESIDENT COUNSEL OF RECORD FOR REAL PARTIES IN INTEREST CN OCTOBER 14, 1958.

CLASS OF SERVICE
This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION
TELEGRAM

W. P. MARSHALL, PRESIDENT

1220 (R11-54)

SYMBOLS
DL = Day Letter
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K OCA185 LONG NL PD=OKLAHOMA CITY OKLA 23=
=NEW MEXICO OIL AND GAS CONSERVATION COMMISSION=
SANTA FE NMEX=

RE JALMAT POOL DELIVER-ABILITY CASE R. OLSON OIL CO WISHES THE FOLLOWING TO BE PLACED IN THE RECORD AT THE REHEARING OF ABOVE CASE BEGINNING MONDAY MARCH 24TH QUOTE: R. OLSEN OIL CO AGREES THAT DELIVER-ABILITY SHOULD PROPERLY BE A FACTOR IN THE PRO RATION FORMULA. IT BELIEVES HOWEVER THAT THE FORMULA IN THE PRESENT ORDER IS NOT EQUITABLE AND URGES THE COMMISSION TO GIVE GREATER WEIGHT TO ACREAGE IN THE FORMULA FOR THE JALMAT F POOL. R. OLSEN OIL CO ALSO ASKS THE COMMISSION TO WITHOUT DELAY TAKE WHATEVER ACTION PROPER, TO PLACE DELIVER-ABILITY AS A FACTOR IN THE PRORATION FORMULA FOR THE REMAINING PRORATED GAS POOLS IN SOUTHEASTERN LEA COUNTY NMEX=
R OLSEN OIL CO PHILLIP RANDOLPH VICE PRESIDENT=

Case 716

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CITIES SERVICE OIL COMPANY

CITIES SERVICE BUILDING
BARTLESVILLE, OKLAHOMA

February 15, 1958

Mr. A. L. Porter, Jr.
Secretary-Director
New Mexico Oil Conservation Commission
107 Mabry Hall
Santa Fe, New Mexico

Re: Case No. 1327
Order No. R-1092-A

Dear Sir:

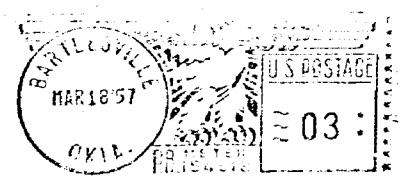
Enclosed please find Application for Re-Hearing in the above numbered case. Please acknowledge receipt and filing of said application. A self-addressed envelope is enclosed for your convenience.

Yours very truly,

Alfred O. Holl,
Attorney

AOH/mab

Enclosures



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BARTLESVILLE OKLA.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CAILED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL &
OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

APPLICATION FOR RE-HEARING

Comes now Cities Service Oil Company, a corporation, and states to the Commission:

(1) This Applicant is a corporation organized under the laws of the State of Delaware and authorized to do business in the State of New Mexico which owns and operates oil and gas leases and gas wells within the limits of the Jalmat Gas Pool in Lea County, New Mexico.

(2) Applicant participated in, and presented testimony to the Commission in, the hearings on the Application of Texas Pacific Coal & Oil Company in the above styled and numbered case and as an Operator in the Jalmat Gas Pool was affected by Order No. R-1092-A entered by the Commission under date of January 29, 1958.

(3) Applicant believes and therefore alleges that Order No. R-1092-A aforesaid was erroneous, illegal and is invalid and by reason thereof a re-hearing is requested in respect to that portion of said Order which provides that effective July 1, 1958, a deliverability factor shall be included in the gas proration formula of the Jalmat Pool and the succeeding portions of said Order carrying into effect the decision of the Commission that deliverability shall be included in the proration formula subsequent to July 1, 1958, and as grounds therefor states:

(a) The Application of Texas Pacific Coal & Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral

attack upon Order No. 520 in Case No. 673 of this Commission entered on the 12th day of August, 1954, and therefore should not have been entertained by the Commission and cannot be made the basis of a valid Order in Case No. 1327 insofar as the inclusion of deliverability in the proration formula is concerned.

(b) The evidence introduced in this proceeding provides no basis upon which a valid order could be entered by the Commission changing the basis for the allocation of production from the Jalmat Gas Pool from a 100% acreage basis to the basis provided in Order No. R-1092-A for the reason that Order No. R-520 entered by this Commission in Case No. 673 constituted a final determination that deliverability should not be included in the proration formula of the Jalmat Gas Pool. Texas Pacific Coal & Oil Company was a party to Case No. 673 and supported the inclusion of deliverability in the proration formula, which request was considered by the Commission, and Order No. 520 was entered denying the request of said Texas Pacific Coal & Oil Company for the inclusion of deliverability in said formula. No appeal was taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered. On the basis of the record in this case, the Commission is without authority to modify or change the decision so reached in Case No. 673.

(c) The inclusion of deliverability in the Jalmat Gas proration formula as ordered by Order No. R-1092-A is predicated on a finding by this Commission "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". Applicant respectfully alleges that this finding of the Commission is contrary to, and wholly without support in, the evidence and is therefore invalid and void. In further support of the grounds here alleged, Applicant attaches hereto as Exhibit "A" a vertical bar graph depicting the relationship between the recoverable gas in place under the 58 tracts which were the subject of testimony and exhibits presented by this applicant and other operators before the Commission on December 9, 1957, and the deliverability of the 58 gas wells located on said tracts. Said exhibit is based upon the testimony in the record in this case and clearly demonstrates the total absence of correlation between the deliverabilities of gas wells in the Jalmat Gas Pool and gas in place under the tracts

dedicated to said wells. If afforded an opportunity to do so, Applicant will present further evidence in this regard but asserts that on the evidence heard by the Commission it is clearly shown that no such correlation exists.

(d) The order of the Commission is invalid in that even though it be assumed that as found by the Commission it has been 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" said finding provides no basis authorized by the statutes of New Mexico for modification of the pre-existing acreage formula for proration of gas produced from said pool.

(e) That the Commission has considered factors not permitted by the statutes of New Mexico in arriving at its decision which was the basis of Order No. R-1092-A. It is apparent from said Order that it was predicated in part upon, (1) a finding that the inclusion of a deliverability factor in the Jalmat proration formula would result in the production of a greater percentage of the pool allowable, and (2) that it would more nearly enable various gas purchasers to meet the market demand for gas in the Jalmat Gas Pool. Neither of said considerations provides any legal basis for the allocation of production under the statutes of New Mexico.

(f) The Order of the Commission results in economic waste in that it will require the expenditure of an excess of Sixty Thousand Dollars by this applicant to increase the deliverability of its gas wells in an effort to protect its correlative rights, although the ultimate recovery from the tracts operated by this applicant will not be appreciably increased thereby.

(g) The Order of the Commission will result in underground waste in that many of the wells in the Jalmat Gas Pool have been completed for some ten to twenty years and their condition is such that the action required of a prudent operator under the Order of the Commission will necessarily result in the underground waste of natural gas and the abuse of correlative rights of the owners of many of said wells.

(h) The Order of the Commission is invalid in that the Commission would have authority to change its existing proration order for the Jalmat Gas Pool only upon the proof by the Applicant in this case, by a preponderance of the evidence, either that waste would be reduced or eliminated or that correlative rights of the owners in the Jalmat Pool would be protected to a

greater degree by the inclusion of deliverability in said proration formula. The burden of proof so assumed by Texas Pacific Coal & Oil Company was not discharged by Applicant.

(i) Order No. R-1092-A results in irreparable injury to the correlative rights of Applicant and deprives this Applicant of its property without due process of law in this, that, it will permit production by offset operators of natural gas underlying the tracts owned by this Applicant without affording compensating counter-drainage from other adjoining tracts, and will prevent this Applicant from producing the recoverable gas in place in the Jalmat Pool underlying the tract upon which the wells of Applicant are located.

WHEREFORE, Applicant respectfully prays the Commission that a rehearing be granted in the above styled and numbered case as to that portion of the Order and Decision of the Commission providing for the inclusion of a deliverability factor in the allocation formula of the Jalmat Gas Pool subsequent to July 1, 1958.

CITIES SERVICE OIL COMPANY

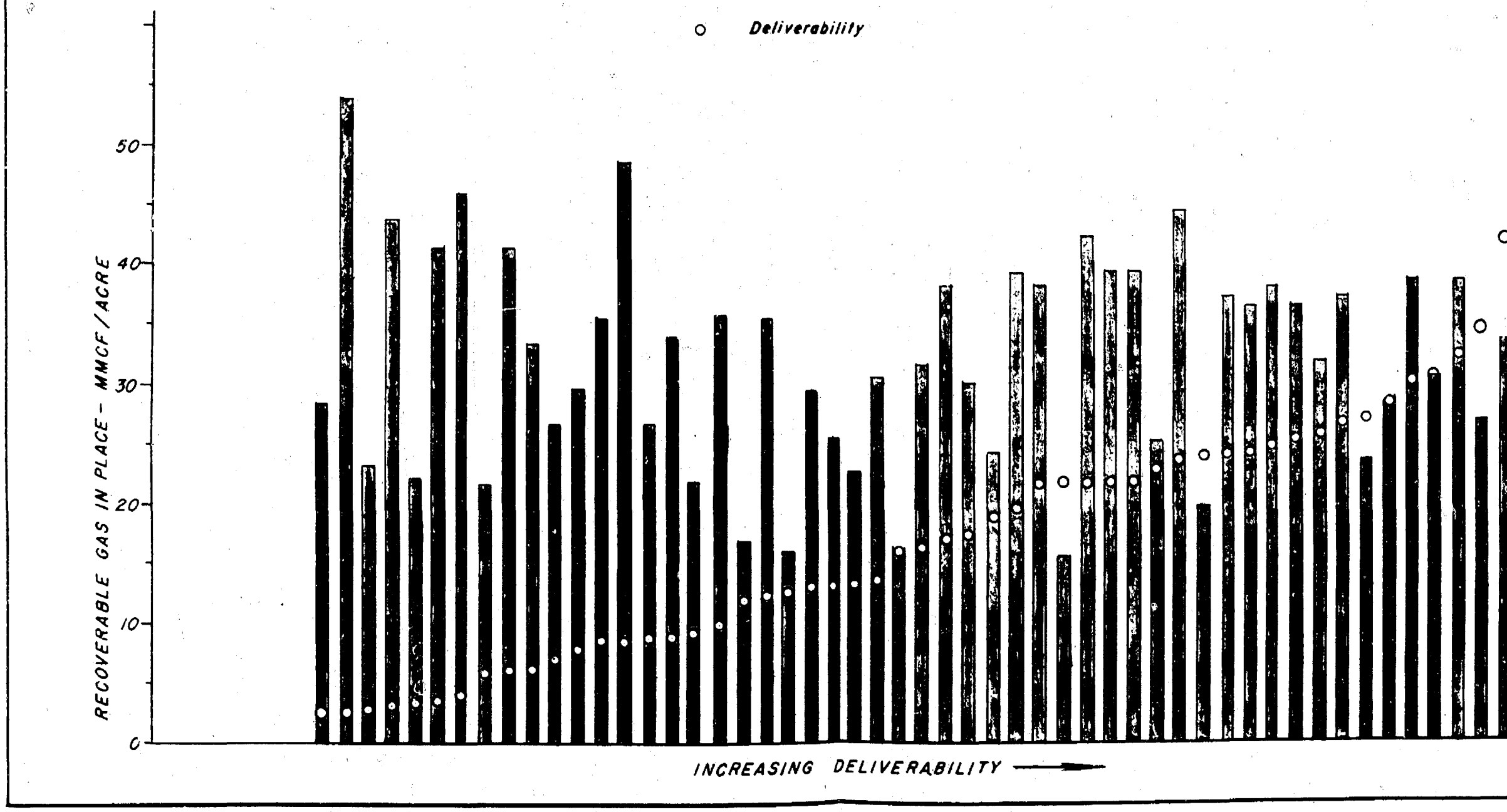
By Alfred O. Holl
Alfred O. Holl,
Attorney

Exhibit "A"

EXHIBIT SHOWING ABSENCE OF CORRELATION BETWEEN DELIVERABILITY & RECOVERABLE GAS IN PLACE

FOR 58 WELL AREA

JALMAT FIELD, LEA COUNTY, NEW MEXICO



THE TEXAS COMPANY

TEXACO PETROLEUM PRODUCTS

PRODUCING DEPARTMENT
WEST TEXAS DIVISION

February 18, 1958

P. O. BOX 1720
FORT WORTH 1, TEXAS

APPLICATION FOR REHEARING
Case No. 1327
Order No. R-1092-A

New Mexico Oil Conservation Commission
Box 871
Santa Fe, N. M.

Gentlemen:

In our application for rehearing of the above captioned matter, we inadvertently failed to include the enclosed Exhibit "A", to which reference is made in the application. Please find attached the above referred to exhibit.

Yours very truly,

H. N. Wade
Petroleum Engineer

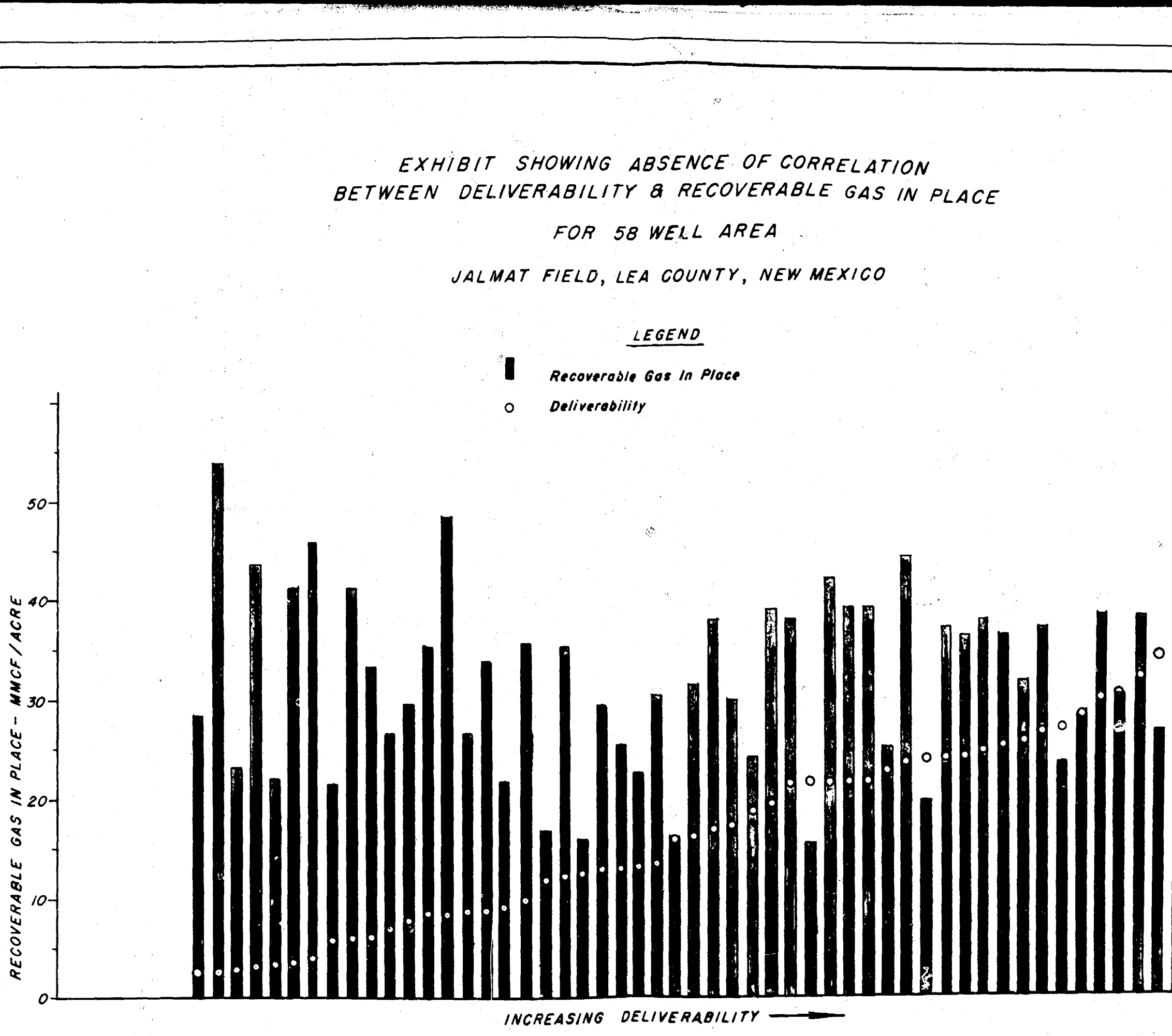
HNW:dl

attachment

EXHIBIT SHOWING ABSENCE OF CORRELATION BETWEEN DELIVERABILITY & RECOVERABLE GAS IN PLACE

FOR 58 WELL AREA

JALMAT FIELD, LEA COUNTY, NEW MEXICO



BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL &
OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

PETITION FOR REHEARING

Comes now Skelly Oil Company and alleges and states:

1. That it is a producer and operator of gas wells in the Jalmat gas pool of Lea County, New Mexico.

2. That heretofore in Case No. 1327 the Commission conducted hearings on October 18, 1957, November 14, 1957 and December 9, 1957, at which hearings this petitioner entered its appearance and participated in said hearings.

3. That as result of hearings above indicated the Commission did on January 29, 1958 issue its Order No. R-1092-A modifying the special rules and regulations for the Jalmat Gas pool, more particularly, Rules 5, 6 and 12.

4. That rules of procedure established for this Commission provides for the filing of the Petition for Rehearing within 20 days from the date of said order.

5. That applicant desires to file this petition for rehearing generally and more specifically as to certain findings of the Commission enumerated hereinafter.

6. That in Finding No. 5, the Commission has indicated that there has been proven 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 results in a more equitable allocation in said pool than under the present gas proration formula. Petitioner avers that the burden of proof must go beyond the showing of a general correlation, but must prove a direct relationship between deliverabilities and gas in place, in which the uncontradicted testimony on such finding indicates no relationship between deliverabilities and gas in place.

Further petitioner avers that as to the equitableness of the deliverability allocation formula, the exhibits and testimony show actually as to the pools as a whole there is less uncompensated drainage from the present allocation formula than the proposed change as indicated in Finding No. 5 by the Commission and that there was substantial failure to prove that the deliverability formula is more equitable in preventing drainage within the pool

as a whole which cannot be equalized by counter drainage and applicant failure to prove that the proposed deliverability formula permits each of the parties in the pool an opportunity to produce its just and equitable share of the gas in proportion to the quantity of gas in place of the respective tracts in the pool.

7. That in Finding No. 6 the Commission indicates that the inclusion of a deliverability factor in the proration formula would result in the production of a greater percentage of the pool allowable and petitioner avers that from the testimony and particularly the exhibits presented therein the fields containing the deliverability factor have greater variation in their underage and overage on an arithmetic average of all pools utilizing such factor than the fields utilizing the present formula which evidence and exhibits stand uncontradicted. That a part of Finding No. 6 is the finding that the inclusion of a deliverability factor enables the various gas purchasers in the Jalmat pool to meet the market demand for gas from said pool. Petitioner avers that this particular portion of Finding No. 6 raises a particular legal matter which is of a serious nature in the administration of the presently defined act under which the Oil and Gas Commission operated in that the statutory authority of this Commission is confined to the limitations of production in the prevention of waste and protection of correlative rights in an effort to avoid drainage and this Commission has no authority to divide a market in the absence of prevention of waste or protection of correlative rights. The statute provides for the nonratable purchase for taking which causes or results in waste or causes or results in violation of correlative rights and the statute further limits production to reasonable market demand and prevents production in excess of reasonable market demand.

WHEREFORE, Petitioner for Rehearing prays that this Honorable Commission accept jurisdiction to consider this petition for rehearing and permit said petitioner at an appropriate time to present these various matters above enumerated and more particularly permit it an opportunity to present testimony and/or legal arguments as to its portions bearing matter for legal clarification and at the conclusion of said rehearing issue an appropriate order in the premises

Respectfully submitted,

SKELLY OIL COMPANY

BY George W. Selinger
George W. Selinger

CLASS OF SERVICE
This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION
TELEGRAM (33)

W. P. MARSHALL, PRESIDENT

SYMBOLS
DL = Day Letter
NL = Night Letter
LT = International Letter Telegram

The filing time shown in the date line on domestic telegrams is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

MAIN OFFICE OCC

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D FWA270 PD=FAX FORT WORTH TEX 18 1126AMC=

:NW MEXICO OIL CONSERVATION COMM=

STATE CAPITOL BLDG SANTA FE NMEX=

ATTENTION MR A L PORTER

ALTHOUGH GULF IS NOT AN APPLICANT FOR REHEARING OF THE JALMAT CASE, NO. 1327, OUR POSITION IS NOW, AS IT HAS BEEN IN THE PAST, THAT DELIVERABILITY SHOULD NOT BE INCLUDED IN GAS PRORATION FORMULAE=

H M BAYER GULN O L CORP=

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

APPLICATION OF TEXAS PACIFIC COAL & OIL COMPANY FOR AN ORDER IMMEDIATELY TERMINATING GAS PRORATIONING IN THE JALMAT GAS POOL: OR IN THE ALTERNATIVE, REVISING THE SPECIAL RULES AND REGULATIONS FOR THE JALMAT GAS POOL IN LEA COUNTY, NEW MEXICO.

CASE NO. 1327
Order No. R-~~1902-A~~ 1092-A

APPLICATION FOR REHEARING

COMES NOW Tidewater Oil Company, herein referred to as "Applicant", and states to the Commission:

(1) Applicant is a corporation owning and operating oil and gas leases and gas wells within the limits of the Jalmat Gas Pool in Lea County, New Mexico.

(2) Applicant participated in, and presented testimony to the Commission in, the hearings on the Application of Texas Pacific Coal & Oil Company in the above styled and numbered case and as an Operator in the Jalmat Gas Pool was affected by Order No. R-1092-A entered by the Commission under date of January 29, 1958.

(3) Applicant believes and therefore alleges that Order No. R-1092-A aforesaid was erroneous, illegal and is invalid and by reason thereof a rehearing is requested in respect to that portion of said Order which provides that effective July 1, 1958, a deliverability factor shall be included in the gas proration formula of the Jalmat Pool and the succeeding portions of said Order carrying into effect the decision of the Commission that deliverability shall be included in the proration formula subsequent to July 1, 1958, and as grounds therefor states:

(a) The Application of Texas Pacific Coal & Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. 520 in Case No. 6731 of this Commission entered on the 12th day of August, 1954, and, therefore, should not have been entertained by the Commission and cannot be made the basis of a valid Order in Case No. 1327 insofar as the inclusion of deliverability in the proration formula is concerned.

(b) The evidence introduced in this proceeding provides no basis upon which a valid order could be entered by the Commission changing the basis for the allocation of production from the Jalmat Gas Pool from a 100% acreage basis to the basis provided in Order No. R-1092-A for the reason that Order No. R-520 entered by this Commission in Case No. 673 constituted a final determination that deliverability should not be included in the proration formula of the Jalmat Gas Pool. Texas Pacific Coal & Oil Company was a party to Case No. 673 and supported the inclusion of deliverability in the proration formula, which request was considered by the Commission, and Order No. 520 was entered denying the request of said Texas Pacific Coal & Oil Company for the inclusion of deliverability in said formula. No appeal was taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered. On the basis of the record in this case, the Commission is without authority to modify or change the decision so reached in Case No. 673.

(c) The inclusion of deliverability in the Jalmat Gas proration formula as ordered by Order No. R-1092-A is predicated on a finding by this Commission "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." Applicant respectfully alleges that this finding of the Commission is contrary to, and wholly without support in, the evidence and is, therefore, invalid and void. In further support of the grounds here alleged, Applicant attaches hereto as Exhibit "A" a vertical bar graph depicting the relationship between the recoverable gas in place under the 58 tracts which were the subject of testimony and exhibits presented by this applicant and other operators before the Commission on December 9, 1957, and the deliverability of the 58 gas wells located on said tracts. Said exhibit is based upon the testimony in the record in this case and clearly demonstrates the total absence of correlation between the deliverabilities of gas wells in the Jalmat Gas Pool and gas in place under the tracts dedicated to said wells. If afforded an opportunity to do so, Applicant will present further evidence in this regard but asserts that on the evidence heard by the Commission it is clearly shown that no such correlation exists.

(d) The order of the Commission is invalid in that even though it be assumed that as found by the Commission it has been 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", said finding provides no basis authorized by the statutes of New Mexico for modification of the pre-existing acreage formula for proration of gas produced from said pool.

(e) That the Commission has considered factors not permitted by the statutes of New Mexico in arriving at its decision which was the basis of Order No. R-1092-A. It is apparent from said Order that it was predicated in part upon, (1) a finding that the inclusion of a deliverability factor in the Jalmat proration formula would result in the production of a

greater percentage of the pool allowable, and (2) that it would more nearly enable various gas purchasers to meet the market demand for gas in the Jalmat Gas Pool. Neither of said considerations provides any legal basis for the allocation of production under the statutes of New Mexico.

(f) The Order of the Commission results in economic waste in that it will require the expenditure of hundreds of thousands of dollars by the operators in the Jalmat pool, including this operator, in an effort to increase the deliverability of the gas wells in said pool and thereby to protect their respective correlative rights, although the ultimate recovery of gas from said pool will not be appreciably increased by such expenditure.

(g) The Order of the Commission will result in underground waste in that many of the wells in the Jalmat Gas Pool have been completed for some ten to twenty years and their condition is such that the action required of a prudent operator under the Order of the Commission will necessarily result in the underground waste of natural gas and the abuse of correlative rights of the owners of many of said wells.

(h) Even if it be assumed that the Commission had jurisdiction and authority in this proceeding to change the basis on which production from said pool is allocated as between the operators thereof, such a change could be made only upon establishment by a preponderance of the evidence in this case, either that waste would be reduced or eliminated, or that the correlative rights of the operators in the Jalmat pool would be protected to a greater degree by such a change in the allocation formula. The burden of proof so assumed by Applicant Texas Pacific Coal & Oil Company was not discharged in this case and by reason thereof the Commission's Order is without support in the evidence.

(j) Order No. R-1092-A results in irreparable injury to the correlative rights of Applicant and deprives this Applicant of its property without due process of law in that,

1. It will permit production by offset operators of natural gas underlying the tracts owned by this Applicant without affording compensating counter-drainage from other adjoining tracts, and will prevent this Applicant from producing the recoverable gas in place in the Jalmat Pool underlying the tract upon which the wells of Applicant are located, and

2. Substantial expenditures have been made by this operator and other operators in said pool upon the basis of Order R-520, and in reliance upon the allocation of the production of said pool by this Commission on a 100% acreage basis, the benefits of which are destroyed by said Order.

WHEREFORE, Applicant respectfully prays the Commission that a rehearing be granted in the above styled and numbered case as to that portion of the Order and Decision of the Commission providing for the inclusion of a deliverability factor in the allocation formula of the Jalmat Gas Pool subsequent to July 1, 1958.

TIDEWATER OIL COMPANY

By: Jason L. Malone
of ATWOOD & MALONE
One of its Attorneys
Roswell Petroleum Building
Roswell, New Mexico

EXHIBIT SHOWING ABSENCE OF CORRELATION BETWEEN DELIVERABILITY & RECOVERABLE GAS IN PLACE

FOR 58 WELL AREA

JALMAT FIELD, LEA COUNTY, NEW MEXICO

LEGEND

▮ Recoverable Gas In Place

○ Deliverability

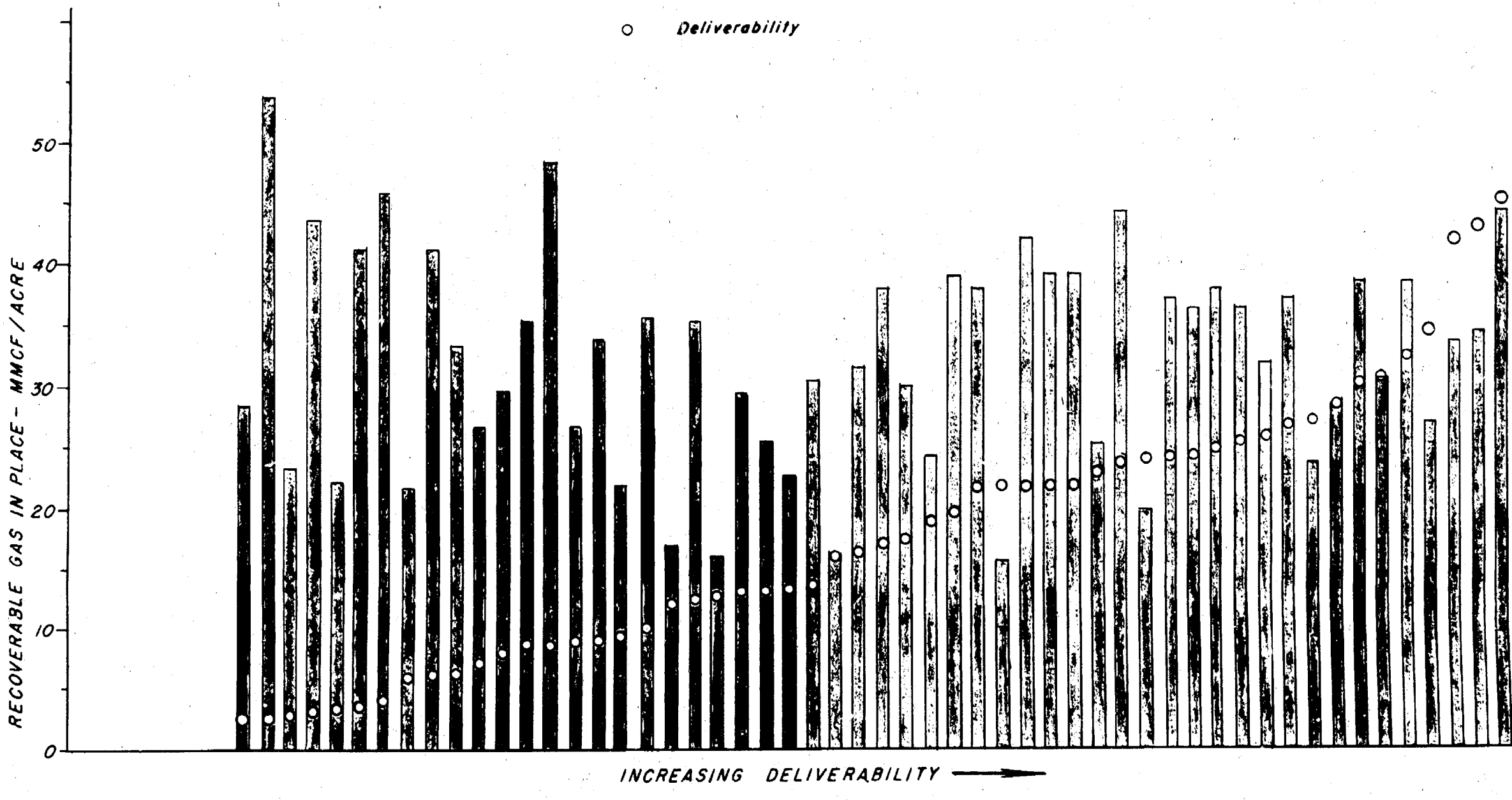


Exhibit H

MAIN OFFICE OCC

BEFORE THE OIL CONSERVATION COMMISSION 1957 SEP 25 AM 11:33

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF TEXAS PACIFIC COAL & OIL COMPANY FOR AN ORDER IMMEDIATELY TERMINATING GAS PRORATIONING IN THE JALMAT GAS POOL, LEA COUNTY, NEW MEXICO, OR IN THE ALTERNATIVE, FOR AN ORDER IMMEDIATELY CANCELLING ALL ACCUMULATED UNDER-PRODUCTION; REQUIRING PURCHASERS TO INCREASE NOMINATIONS COMMENSURATE WITH ACTUAL TAKES; ESTABLISHING DELIVERABILITY AS A FACTOR IN THE PRORATION FORMULA; ESTABLISHING MAXIMUM TAKES AS TO WELLS IN THE POOL; AND SUCH OTHER ORDERS AS WILL IMMEDIATELY BRING THE POOL INTO BALANCE AND MAINTAIN SUCH BALANCE WITHOUT WASTE AND WITHOUT ABUSE OF CORRELATIVE RIGHTS.	CASE NO. 1327

APPLICATION

Comes now applicant, Texas Pacific Coal & Oil Company, by its attorneys, Campbell & Russell, and states:

1. Applicant is the owner of 41.75 non-marginal gas units and 6.71 marginal gas units within the limits of the Jalmat Gas Pool, Lea County, New Mexico. All of said units involve leases from the State of New Mexico.

2. There are 389.13 gas units in the Jalmat Gas Pool and El Paso Natural Gas Company is connected to and purchases from 336.23 of said gas units, being approximately 86% of the total gas units in the field. El Paso Natural Gas Company has exclusive control over the rate of takes from each of applicant's wells in the pool.

3. On January 1, 1954, the Oil Conservation Commission of New Mexico instituted gas prorationing in the then-defined limits of the pool, and for a period of 2½ years, until the last six months of 1956, allowables and production within the pool were

Mailed Docket to Campbell 10-3-57 BP

maintained in reasonable balance. During the last six months of 1956, El Paso Natural Gas Company took from applicant'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 carry over into the first proration period of 1957.

4. The Oil Conservation Commission, at the request of certain gas purchasers, has to date failed to balance production at the end of each proration period as provided in the rules governing gas prorationing in the Jalmat Pool.

5. Many of the gas wells in the Jalmat Gas Pool have been and are now unable to produce the allowable assigned to them and there is now accumulated under-production in said pool which cannot be made up before the end of the current proration period.

6. During the year 1957, El Paso Natural Gas Company, by reason of over-production accumulated to wells on which it failed to supplement its nominations and due to the failure to balance production at the end of 1956 and at the end of the first six months of 1957, has drastically reduced its takes from some non-marginal wells of applicant with the result that marginal wells in the Jalmat Gas Pool are in some instances being permitted to produce more gas than non-marginal wells, which results in drainage of gas from applicant's properties and a loss of gas reserves.

7. If the El Paso Natural Gas Company is required by reason of present rules governing gas prorationing in the Jalmat Gas Pool to continue to restrict production from applicant's non-marginal wells, or to shut-in said wells, applicant will continue to suffer drainage from its properties.

8. Certain of applicant's wells, even if shut-in during the balance 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, the result will be a negative allowable for the entire pool during a portion of the next proration period.

9. That during the period of gas prorationing, El Paso Natural Gas Company has consistently run gas from wells with high deliverability with the result that the method of prorationing, as now established, has meant that, during the year 1956, 40% of

the wells in the pool produced 60% of the gas at an average rate of 303,725 MCF per unit, which was 58,090 MCF per unit in excess of the allowables.

10. El Paso Natural Gas Company has failed to keep individual wells of applicant in reasonable balance with each other.

11. The continuation of gas prorationing in this pool will result in drainage of applicant's properties and abuse of its correlative rights, and will render impossible the 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 will result in economic loss to applicant and the State of New Mexico as royalty owner.

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 accumulated under-production and redistributing such under-production to over-produced wells in the Jalmat Gas Pool; and requiring gas purchasers to nominate a sufficient amount of gas from the pool 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 the Commission to issue such further order or orders as will bring the pool immediately into balance and maintain such balance without waste and without abuse of applicant's or others' correlative rights.

Respectfully submitted,

CAMPBELL & RUSSELL

Jack M. Campbell

Jack M. Campbell

JMC:bb

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL &
OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

APPLICATION FOR RE-HEARING

Comes now The Texas Company, a corporation, and states to the Commission:

(1) The Texas Company operates four gas wells in the Jalmat Gas Pool in Lea County, N. M. Applicant, as an operator in the Jalmat Gas Pool, participated in hearings on the above captioned application which resulted in the issuance of Order No. R-1092-A. Applicant requests that a rehearing be scheduled to cover that portion of Order No. R-1092-A which provides that effective July, 1, 1958, a deliverability factor should be included in the gas proration formula of the Jalmat pool in that applicant believes and alleges that Order No. R-1092-A is erroneous, illegal and is invalid and in support thereof, states the following:

(a) By asking the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, the application of Texas Pacific Coal & Oil constituted a collateral attack upon Order No. 520 in Case No. 673, which was entered by the Commission on the 12th day of August, 1954 and therefore should not have been considered by the Commission as a basis for its Order in Case No. 1327, insofar as said order related to the inclusion of deliverability in the proration formula.

(b) Order No. R-520 entered by this Commission in Case No. 673 constituted a final determination by the Commission that 100 percent acreage was the proper basis for the allocation of production from the Jalmat Gas Pool and that deliverability should

not be included in the Jalmat Gas Pool proration formula. Texas Pacific Coal and Oil Company, an active supporter of the inclusion of deliverability in the Jalmat Gas Pool, as indicated by its participation in Case No. 673, made no appeal from the final decision of the Commission in this matter by its Order No. 520. On the basis of the record in this case, the Commission is without authority to modify or change the decision reached in Case No. 673 as indicated by Order No. R-520.

(c) Applicant respectfully alleges that this Commission's finding (5) in its Order No. R-1092_A is completely unsupported by the evidence presented in Case No. 1327. In support of this contention applicant attaches as Exhibit "A", a vertical bar graph which indicates an absence of correlation between recoverable gas in place and deliverability on 58 tracts, all of which was made a part of the record of Case No. 1327. Applicant submits that even if a correlation between recoverable gas in place and deliverability had been shown, such finding would provide no basis under New Mexico statutes for modification of the pre-existing 100 percent acreage allocation formula.

(d) The Commission by its finding (6) of Order No. R-1092-A indicates that it has considered, in its decision in Order No. R-1092-A, its belief that (1) the inclusion of the deliverability in the Jalmat proration formula would result in the production of a greater percent of the pool allowable and, (2) that it will more nearly enable the various gas purchasers in this pool to meet the market demand for gas from the pool. Applicant respectfully submits that these factors are not permitted by the statutes of New Mexico and therefore provide no legal basis for the allocation of production from the Jalmat Pool.

(e) In view of the length of time that many of the wells in the Jalmat Gas Pool have been in operation, the Commission's order is such that vested rights, which have been established during the previous operating life of this field will be disturbed and the correlative rights of the owners of many of these older wells will be in jeopardy.

(f) Applicant, as a result of this order will be required to expend at least $20,000 to increase the deliverability of its four wells in the Jalmat Gas Pool in an attempt to protect its correlative rights. This expenditure will result in economic waste since the ultimate recovery from the acreage served by applicant's four wells will not be appreciably increased as a result of the remedial operations. The alternative to this unnecessary expenditure is uncompensated drainage which will adversely affect the correlative rights of applicant.

(g) The existing proration order for the Jalmat Gas Pool has been changed by the Commission through its order R-1092-A without a preponderance of evidence being submitted by applicant in Case No. 1327 which would assure the Commission that waste would be reduced or eliminated or that the correlative rights of the owners in the Jalmat Pool would be protected to a greater degree by including deliverability in the allocation formula for the Jalmat Gas Pool. It is respectfully submitted that the Commission, by its action,, has issued an order that is invalid.

WHEREFORE, applicant respectfully prays the Commission that a rehearing be granted in the above style and numbered case pertaining to that portion of Order No. R-1092-A which provides for the inclusion of a deliverability factor in the allocation formula of the Jalmat Gas Pool, effective July 1, 1958.

THE TEXAS COMPANY

By: W. N. Sands

W. N. Sands
Attorney

ATWOOD & MALONE
LAWYERS

JEFF D. ATWOOD
ROSS L. MALONE
CHARLES F. MALONE
E. KIRK NEWMAN
RUSSELL D. MANN
PAUL A. COOTER

TELEPHONE MAIN 2-6221
ROSWELL PETROLEUM BUILDING
ROSWELL, NEW MEXICO

February 17, 1958

Oil Conservation Commission
State Capitol
Santa Fe, New Mexico

Re: Case No. 1327, Order No. R-1092-A

Gentlemen:

We enclose herewith, in triplicate, the Applications of Tidewater Oil Company and Pan American Petroleum Corporation for Rehearing on Order No. R-1092-A.

Very truly yours,
ATWOOD & MALONE

By: Ross L. Malone

RLM:bc
Encls.
cc: Mr. Jack M. Campbell

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

CASE NO. 1327
Order No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL & OIL COMPANY FOR AN ORDER IMMEDIATELY TERMINATING GAS PRORATIONING IN THE JALMAT GAS POOL: OR IN THE ALTERNATIVE, REVISING THE SPECIAL RULES AND REGULATIONS FOR THE JALMAT GAS POOL IN LEA COUNTY, NEW MEXICO.

APPLICATION FOR REHEARING

COMES NOW Pan American Petroleum Corporation, herein referred to as "Applicant", and states to the Commission:

(1) Applicant is a corporation owning and operating oil and gas leases and gas wells within the limits of the Jalmat Gas Pool in Lea County, New Mexico.

(2) Applicant participated in, and presented testimony to the Commission in, the hearings on the Application of Texas Pacific Coal & Oil Company in the above styled and numbered case and as an operator in the Jalmat Gas Pool was affected by Order No. R-1092-A entered by the Commission under date of January 29, 1958.

(3) Applicant believes and, therefore, alleges that Order No. R-1092-A aforesaid was erroneous, illegal and is invalid and by reason thereof a rehearing is requested in respect to that portion of said Order which provides that effective July 1, 1958, a deliverability factor shall be included in the gas proration formula of the Jalmat Pool and the succeeding portions of said Order carrying intc effect the decision of the Commission that deliverability shall be included in the proration formula subsequent to July 1, 1958, and as grounds therefor states:

(a) The Application of Texas Pacific Coal & Oil Company in Case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool, constituted a collateral attack upon Order No. 520 in Case No. 6731 of this Commission entered on the 12th day of August, 1954, and, therefore, should not have been entertained by the Commission and cannot be made the basis of a valid Order in Case No. 1327 insofar as the inclusion of deliverability in the proration formula is concerned.

(b) The evidence introduced in this proceeding provides no basis upon which a valid order could be entered by the Commission changing the basis for the allocation of production from the Jalmat Gas Pool from a 100% acreage basis to the basis provided in Order No. R-1092-A for the reason that Order No. R-520 entered by this Commission in Case No. 673 constituted a final determination that deliverability should not be included in the proration formula of the Jalmat Gas Pool. Texas Pacific Coal & Oil Company was a party to Case No. 673 and supported the inclusion of deliverability in the proration formula, which request was considered by the Commission, and Order No. 520 was entered denying the request of said Texas Pacific Coal & Oil Company for the inclusion of deliverability in said formula. No appeal was taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered. On the basis of the record in this case, the Commission is without authority to modify or change the decision so reached in Case No. 673.

(c) The inclusion of deliverability in the Jalmat Gas proration formula as ordered by Order No. R-1092-A is predicated on a finding by this Commission "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." Applicant respectfully alleges that this finding of the Commission is contrary to, and wholly without support in, the evidence and is, therefore, invalid and void. In further support of the grounds here alleged, Applicant attaches hereto as Exhibit "A" a vertical bar graph depicting the relationship between the recoverable gas in place under the 58 tracts which were the subject of testimony and exhibits presented by this Applicant and other operators before the Commission on December 9, 1957, and the deliverability of the 58 gas wells located on said tracts. Said exhibit is based upon the testimony in the record in this case and clearly demonstrates the total absence of correlation between the deliverabilities of gas wells in the Jalmat Gas Pool and gas in place under the tracts dedicated to said wells. If afforded an opportunity to do so, Applicant will present further evidence in this regard but asserts that on the evidence heard by the Commission it is clearly shown that no such correlation exists.

(d) The Order of the Commission is invalid in that even though it be assumed that as found by the Commission it has been 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", said finding provides no basis authorized by the statutes of New Mexico for modification of the pre-existing acreage formula for proration of gas produced from said pool.

(e) That the Commission has considered factors not permitted by the statutes of New Mexico in arriving at its decision which was the basis of Order No. R-1092-A. It is apparent from said Order that it was predicated in part upon, (1) a finding that the inclusion of a deliverability factor in the Jalmat proration formula would result in the production of a

greater percentage of the pool allowable, and (2) that it would more nearly enable various gas purchasers to meet the market demand for gas in the Jalmat Gas Pool. Neither of said considerations provides any legal basis for the allocation of production under the statutes of New Mexico

(f) The Order of the Commission results in economic waste in that it will require the expenditure of hundreds of thousands of dollars by the operators in the Jalmat Pool, including this operator, in an effort to increase the deliverability of the gas wells in said pool and thereby to protect their respective correlative rights, although the ultimate recovery of gas from said pool will not be appreciably increased by such expenditure.

(g) The Order of the Commission will result in underground waste in that many of the wells in the Jalmat Gas Pool have been completed for some ten to twenty years and their condition is such that the action required of a prudent operator under the Order of the Commission will necessarily result in the underground waste of natural gas and the abuse of correlative rights of the owners of many of said wells.

(h) Even if it be assumed that the Commission had jurisdiction and authority in this proceeding to change the basis on which production from said pool is allocated as between the operators thereof, such a change could be made only upon establishment by a preponderance of the evidence in this case, either that waste would be reduced or eliminated, or that the correlative rights of the operators in the Jalmat Pool would be protected to a greater degree by such a change in the allocation formula. The burden of proof so assumed by Applicant Texas Pacific Coal & Oil Company was not discharged in this case and by reason thereof the Commission's Order is without support in the evidence.

(i) Order No. R-1092-A results in irreparable injury to the correlative rights of Applicant and deprives this Applicant of its property without due process of law in that,

1. It will permit production by offset operators of natural gas underlying the tracts owned by this Applicant without affording compensating counter-drainage from other adjoining tracts, and will prevent this Applicant from producing the recoverable gas in place in the Jalmat Pool underlying the tract upon which the wells of Applicant are located, and

2. Substantial expenditures have been made by this operator and other operators in said pool upon the basis of Order R-520, and in reliance upon the allocation of the production of said pool by this Commission on a 100% acreage basis, the benefits of which are destroyed by said Order.

WHEREFORE, Applicant respectfully prays the Commission that a rehearing be granted in the above styled and numbered case as to that portion of the Order and Decision of the Commission providing for the inclusion of a deliverability factor in the allocation formula of the Jalmat Gas Pool subsequent to July 1, 1958.

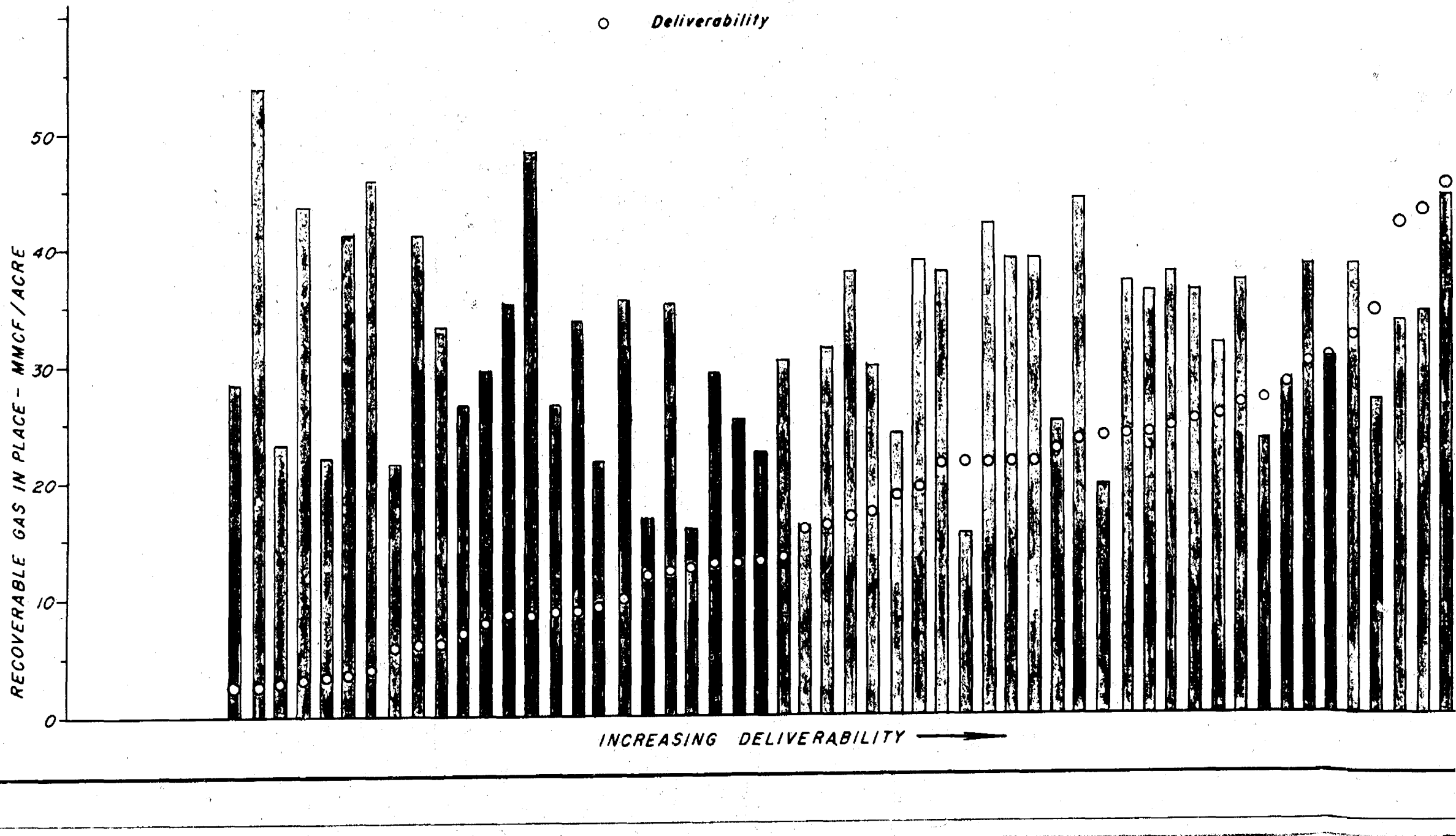
PAN AMERICAN PETROLEUM CORPORATION

By: Tom B. Malone
of ATWOOD & MALONE
One of its Attorneys
Roswell Petroleum Building
Roswell, New Mexico

EXHIBIT SHOWING ABSENCE OF CORRELATION BETWEEN DELIVERABILITY & RECOVERABLE GAS IN PLACE

FOR 58 WELL AREA

JALMAT FIELD, LEA COUNTY, NEW MEXICO



J. M. HERVEY 1874-1953
HIRAM M. DOW
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LAW OFFICES
HERVEY, DOW & HINKLE
HINKLE BUILDING
ROSWELL, NEW MEXICO

TELEPHONE MAIN 2-6510
POST OFFICE BOX 547

February 15, 1958

New Mexico Oil Conservation Commission
State Capitol Building
Santa Fe, New Mexico

Re: Case No. 1327,
Order No. R-1092-A

Gentlemen:

Enclosed herewith please find in triplicate a request by Humble Oil & Refining Company for a rehearing in the above case.

Very truly yours,

HERVEY, DOW & HINKLE

By Howard C. Bratton

HCB:db
Enclosure

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
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APPLICATION OF TEXAS PACIFIC COAL &
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JALMAT GAS POOL; OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

APPLICATION FOR REHEARING

Comes now Humble Oil & Refining Company and requests a rehearing in the above case with respect to the matters hereinafter referred to which were determined by Order No. R-1092-A of the New Mexico Oil Conservation Commission in connection with the above styled case, and in support thereof respectfully shows:

I.

Applicant owns and operates oil and gas leases and gas wells within the Jalmat Gas Pool in Lea County, New Mexico. Applicant is affected by Order No. R-1092-A, which was entered by the Commission under date of January 29, 1958.

II.

Order No. R-1092-A contains two findings, Nos. 5 and 6, which are the basis upon which Finding No. 7 as to deliverability is made, and upon which said Order amends previous orders of the Commission to include a deliverability factor in the proration formula. Paragraph 2 of Order No. R-1092-A amends all orders previously issued by the Commission to provide for an "acreage factor" for allowable purposes. Paragraph 3 of Order No. R-1092-A provides that Order No. R-520 as amended by Order No. R-967 be revised effective July 1, 1958, to include a deliverability factor in the gas proration formula of the Jalmat Gas Pool. Said paragraph provides for the deliverability factor and sets forth how it shall be carried into effect.

III.

Applicant alleges that the Commission is without jurisdiction or authority, and is estopped in equity and justice to entertain the application of Texas Pacific Coal & Oil Company in regard to the above matters in Order No. R-1092-A, and that Texas Pacific Coal & Oil Company was estopped to apply for an amendment to the proration formula for the Jalmat Gas Pool, and that if the Commission does have jurisdiction and there was no estoppel, the said order, in regard to the above matters, is discriminatory, erroneous, illegal and invalid, and a rehearing is requested in respect to said matters. In support thereof, Applicant states:

1. The application of Texas Pacific Coal & Oil Company in case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool constituted a collateral attack upon Order No. 520 in Case No. 673 of this Commission, entered on the 12th day of August 1954, and the Commission was without jurisdiction to entertain said application, and said application cannot be made the basis of a valid order in Case No. 1327 insofar as the changing of the basis for allocation of production from the Jalmat Gas Pool from a 100% acreage basis to include a deliverability factor in the proration formula.

2. Order No. R-520 entered by this Commission in Case No. 673 constituted a final decision that the proration formula for the Jalmat Gas Pool should be on a 100% acreage basis. No appeal was taken from the final decision of the Commission so ordered, and the Commission cannot now on the basis of the application and record in this cause enter a valid order changing the basis for the allocation of production from the Jalmat Gas Pool.

3. Texas Pacific Coal & Oil Company, the applicant in Case No. 1327, was a participant in Case No. 673, and in said case supported the inclusion of deliverability in the proration formula, which request was considered by the Commission and denied therein. No appeal was

taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered and said company is now estopped to request a change in the proration formula for the Jalmat Gas Pool. On the basis of the record in this case, the Commission is without authority to revise, modify or change Order No. R-520 to now provide that the proration formula for the Jalmat Gas Pool shall include a deliverability factor.

4. Order No. R-1092-A is invalid and discriminatory and deprives the owners of properties in the Jalmat Gas Pool of their property without due process of law in that the owners of interest in said gas pool have acted in reliance on Order No. R-520 and have expended substantial sums of money on their properties in the Jalmat Gas Pool after the issuance of said Order, and have vested property rights therein, which property rights will be impaired by the inclusion of a deliverability factor in the proration formula for the Jalmat Gas Pool.

5. As a result of the aforesaid expenditures and other actions by the owners in the Jalmat Gas Pool in good faith in reliance upon the existing proration rules in Order No. R-520 the Commission is as a matter of equity and justice estopped from amending said proration order to include a deliverability factor which amendment would discriminate against owners who have acted in reliance upon the existing proration formula.

6. Finding No. 5 in Order No. R-1092-A is:

> " 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 more equitable allocation of the gas production in said pool than under the present gas proration formula."

Applicant alleges that this finding is contrary to, and wholly without support in the evidence and is therefore erroneous and invalid. In

further support of the grounds here alleged, there is attached hereto as Exhibit "A" a vertical bar graph depicting the relationship between the recoverable gas in place under the 58 tracts which were the subject of testimony and exhibits presented by this applicant and other operators before the Commission on December 9, 1957, and the deliverability of the 58 gas wells located on said tracts. Said exhibit is based upon the testimony and the record in this case and clearly demonstrates the total absence of correlation between the deliverabilities of gas wells in the Jalmat Gas Pool and gas in place under the tracts dedicated to said wells. If afforded an opportunity to do so, applicant will present further evidence in this regard but asserts that on the evidence heard by the Commission it is clearly shown that no such correlation exists, and that therefore the entire Finding No. 5 is erroneous and invalid.

7. Even though it is assumed that it has been proved as stated in Finding No. 5 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", said Finding provides no basis authorized by the statutes of New Mexico for modification of the formula prescribed by Order No. R-520 for the proration of gas produced from the Jalmat Gas Pool.

8. The Commission has used as a basis for its decision to include deliverability in the proration formula certain factors which are not contemplated or permitted by the statutes of New Mexico in the determination of a proration formula for a gas pool. Finding No. 6 of said Order No. R-1092-A is:

> "That 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 various gas purchasers in the Jalmat Gas Pool to meet the market demand for gas from said pool."

Neither of said considerations provides any legal basis for the allocation of production among the gas wells in a gas pool.

9. Order No. R-1092-A will result in underground waste since many wells in the Jalmat Gas Pool are old wells and the condition of many of such wells is such that the action required of a prudent operator under Order No. R-1092-A will necessarily result in the underground waste of natural gas.

10. Order No. R-1092-A will result in economic waste in that it will require the expenditure of a large sum of money by this applicant to increase the deliverability of its gas wells in an effort to protect its correlative rights, although the ultimate recovery from the tracts owned by this applicant will not be appreciably increased thereby, and although efforts of operators to increase the deliverability of wells in the Jalmat Gas Pool cannot prevent the violation of correlative rights which will result from the inclusion of a deliverability factor in the proration formula.

11. Order No. R-1092-A is invalid in that the burden of proof was upon the applicant in this case, by a preponderance of the evidence, to show a valid reason on a ground authorized by the statutes of New Mexico for the inclusion of deliverability in the proration formula for the Jalmat Gas Pool, and the applicant did not sustain this burden of proof.

12. Order No. R-1092-A results in irreparable injury to the property rights of applicant and to its correlative rights in that it permits drainage from under tracts in the Jalmat Gas Pool owned by this applicant, which drainage is not equalized by counter drainage. This deprives applicant of its property without due process of law in violation of Amendment 14 of the Constitution of the United States and Article II, Section 18 of the Constitution of the State of New Mexico.

WHEREFORE, Applicant respectfully requests the Commission that a rehearing be granted in the above case as to those portions of Order No. R-1092-A which amend the previous orders of the Commission to provide for the inclusion of a deliverability factor in the allocation formula of the Jalmat Gas Pool subsequent to July 1, 1958, and that after rehearing the Commission rescind its order in the above respects, and retain the proration formula established by Order No. R-520.

HUMBLE OIL & REFINING COMPANY

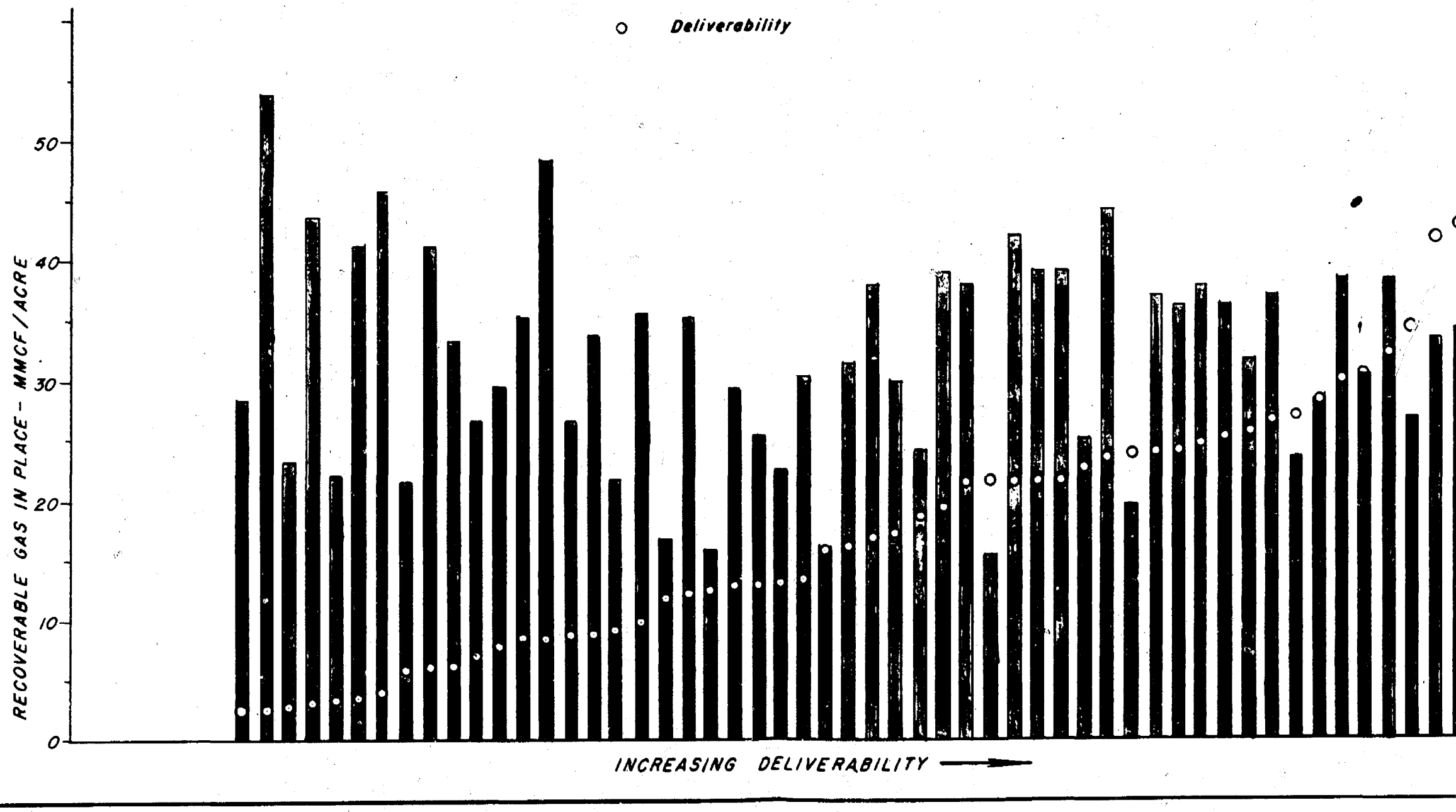
By _____

Hervey, Dow & Hinkle
P. O. Box 547
Roswell, New Mexico

EXHIBIT SHOWING ABSENCE OF CORRELATION BETWEEN DELIVERABILITY & RECOVERABLE GAS IN PLACE

FOR 58 WELL AREA

JALMAT FIELD, LEA COUNTY, NEW MEXICO



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February 15, 1958

New Mexico Oil Conservation Commission
State Capitol Building
Santa Fe, New Mexico

Re: Case No. 1327,
Order No. R-1092-A

Gentlemen:

Enclosed herewith please find in triplicate a request by The Atlantic Refining Company for a rehearing in the above case.

Very truly yours,

HERVEY, DOW & HINKLE

By Howard C. Bratton

HCB:db
Enclosure

BEFORE THE OIL CONSERVATION COMMISSION
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REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

APPLICATION FOR REHEARING

Comes now The Atlantic Refining Company and requests a rehearing in the above case with respect to the matters hereinafter referred to which were determined by Order No. R-1092-A of the New Mexico Oil Conservation Commission in connection with the above styled case, and in support thereof respectfully shows:

I.

Applicant owns and operates oil and gas leases and gas wells within the Jalmat Gas Pool in Lea County, New Mexico. Applicant is affected by Order No. R-1092-A, which was entered by the Commission under date of January 29, 1958.

II.

Order No. R-1092-A contains two findings, Nos. 5 and 6, which are the basis upon which Finding No. 7 as to deliverability is made, and upon which said Order amends previous orders of the Commission to include a deliverability factor in the proration formula. Paragraph 2 of Order No. R-1092-A amends all orders previously issued by the Commission to provide for an "acreage factor" for allowable purposes. Paragraph 3 of Order No. R-1092-A provides that Order No. R-520 as amended by Order No. R-967 be revised effective July 1, 1958, to include a deliverability factor in the gas proration formula of the Jalmat Gas Pool. Said paragraph provides for the deliverability factor and sets forth how it shall be carried into effect.

III.

Applicant alleges that the Commission is without jurisdiction or authority, and is estopped in equity and justice to entertain the application of Texas Pacific Coal & Oil Company in regard to the above matters in Order No. R-1092-A, and that Texas Pacific Coal & Oil Company was estopped to apply for an amendment to the proration formula for the Jalmat Gas Pool, and that if the Commission does have jurisdiction and there was no estoppel, the said order, in regard to the above matters, is discriminatory, erroneous, illegal and invalid, and a rehearing is requested in respect to said matters. In support thereof, Applicant states:

1. The application of Texas Pacific Coal & Oil Company in case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool constituted a collateral attack upon Order No. 520 in Case No. 673 of this Commission, entered on the 12th day of August, 1954, and the Commission was without jurisdiction to entertain said application, and said application cannot be made the basis of a valid order in Case No. 1327 insofar as the changing of the basis for allocation of production from the Jalmat Gas Pool from a 100% acreage basis to include a deliverability factor in the proration formula.

2. Order No. R-520 entered by this Commission in Case No. 673 constituted a final decision that the proration formula for the Jalmat Gas Pool should be on a 100% acreage basis. No appeal was taken from the final decision of the Commission so ordered, and the Commission cannot now on the basis of the application and record in this cause enter a valid order changing the basis for the allocation of production from the Jalmat Gas Pool.

3. Texas Pacific Coal & Oil Company, the applicant in Case No. 1327, was a participant in Case No. 673, and in said case supported the inclusion of deliverability in the proration formula, which request was considered by the Commission and denied therein. No appeal was

taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered and said company is now estopped to request a change in the proration formula for the Jalmat Gas Pool. On the basis of the record in this case, the Commission is without authority to revise, modify or change Order No. R-520 to now provide that the proration formula for the Jalmat Gas Pool shall include a deliverability factor.

4. Order No. R-1092-A is invalid and discriminatory and deprives this applicant of its property without due process of law in violation of the 14th Amendment to the Constitution of the United States and in violation of Article II, Section 18 of the Constitution of the State of New Mexico in that this applicant has acted in reliance on Order No. R-520, and has performed drilling operations, recompletion operations, and has expended substantial sums of money on its properties in the Jalmat Gas Pool after the issuance of said Order, and it has vested property rights therein, which property rights will be impaired by the inclusion of a deliverability factor in the proration formula for the Jalmat Gas Pool.

5. As a result of the aforesaid expenditures and the other actions by this applicant in good faith in reliance upon the existing proration rules in Order No. R-520, the Commission is, as a matter of equity and justice, estopped from amending said proration order to include a deliverability factor, which amendment would discriminate against this applicant.

6. Finding No. 5 in Order No. R-1092-A is:

> "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 more equitable allocation of the gas production in said pool than under the present gas proration formula."

Applicant alleges that this finding is contrary to, and wholly without support in the evidence and is therefore erroneous and invalid. In

taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered and said company is now estopped to request a change in the proration formula for the Jalmat Gas Pool. On the basis of the record in this case, the Commission is without authority to revise, modify or change Order No. R-520 to now provide that the proration formula for the Jalmat Gas Pool shall include a deliverability factor.

4. Order No. R-1092-A is invalid and discriminatory and deprives this applicant of its property without due process of law in violation of the 14th Amendment to the Constitution of the United States and in violation of Article II, Section 18 of the Constitution of the State of New Mexico in that this applicant has acted in reliance on Order No. R-520, and has performed drilling operations, recompletion operations, and has expended substantial sums of money on its properties in the Jalmat Gas Pool after the issuance of said Order, and it has vested property rightstherein, which property rights will be impaired by the inclusion of a deliverability factor in the proration formula for the Jalmat Gas Pool.

5. As a result of the aforesaid expenditures and the other actions by this applicant in good faith in reliance upon the existing proration rules in Order No. R-520, the Commission is, as a matter of equity and justice, estopped from amending said proration order to include a deliverability factor, which amendment would discriminate against this applicant.

6. Finding No. 5 in Order No. R-1092-A is:

> "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 more equitable allocation of the gas production in said pool than under the present gas proration formula."

Applicant alleges that this finding is contrary to, and wholly without support in the evidence and is therefore erroneous and invalid. In

further support of the grounds here alleged, there is attached hereto as Exhibit "A" a vertical bar graph depicting the relationship between the recoverable gas in place under the 58 tracts which were the subject of testimony and exhibits presented by this applicant and other operators before the Commission on December 9, 1957, and the deliverability of the 58 gas wells located on said tracts. Said exhibit is based upon the testimony and the record in this case and clearly demonstrates the total absence of correlation between the deliverabilities of gas wells in the Jalmat Gas Pool and gas in place under the tracts dedicated to said wells. If afforded an opportunity to do so, applicant will present further evidence in this regard but asserts that on the evidence heard by the Commission it is clearly shown that no such correlation exists, and that therefore the entire Finding No. 5 is erroneous and invalid.

7. Even though it is assumed that it has been proved as stated in Finding No. 5 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", said Finding provides no basis authorized by the statutes of New Mexico for modification of the formula prescribed by Order No. R-520 for the proration of gas produced from the Jalmat Gas Pool.

8. The Commission has used as a basis for its decision to include deliverability in the proration formula certain factors which are not contemplated or permitted by the statutes of New Mexico in the determination of a proration formula for a gas pool. Finding No. 6 of said Order No. R-1092-A is:

> "That 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 various gas purchasers in the Jalmat Gas Pool to meet the market demand for gas from said pool."

Neither of said considerations provides any legal basis for the allocation of production among the gas wells in a gas pool.

9. Order No. R-1092-A will result in underground waste since many wells in the Jalmat Gas Pool are old wells and the condition of many of such wells is such that the action required of a prudent operator under Order No. R-1092-A will necessarily result in the underground waste of natural gas.

10. Order No. R-1092-A will result in economic waste in that it will require the expenditure of a large sum of money by this applicant to increase the deliverability of its gas wells in an effort to protect its correlative rights, although the ultimate recovery from the tracts owned by this applicant will not be appreciably increased thereby, and although efforts of operators to increase the deliverability of wells in the Jalmat Gas Pool cannot prevent the violation of correlative rights which will result from the inclusion of a deliverability factor in the proration formula.

11. Order No. R-1092-A is invalid in that the burden of proof was upon the applicant in this case, by a preponderance of the evidence, to show a valid reason on a ground authorized by the statutes of New Mexico for the inclusion of deliverability in the proration formula for the Jalmat Gas Pool, and the applicant did not sustain this burden of proof.

12. Order No. R-1092-A results in irreparable injury to the property rights of applicant and to its correlative rights in that it permits drainage from under tracts in the Jalmat Gas Pool owned by this applicant, which drainage is not equalized by counter drainage. This deprives applicant of its property without due process of law in violation of Amendment 14 to the Constitution of the United States and Article II, Section 18 of the Constitution of the State of New Mexico.

WHEREFORE, Applicant respectfully requests the Commission that a rehearing be granted in the above case as to those portions of Order No. R-1092-A which amend the previous orders of the Commission to provide for the inclusion of a deliverability factor in the allocation formula of the Jalmat Gas Pool subsequent to July 1, 1958, and that after rehearing the Commission rescind its order in the above respects, and retain the proration formula established by Order No. R-520.

THE ATLANTIC REFINING COMPANY

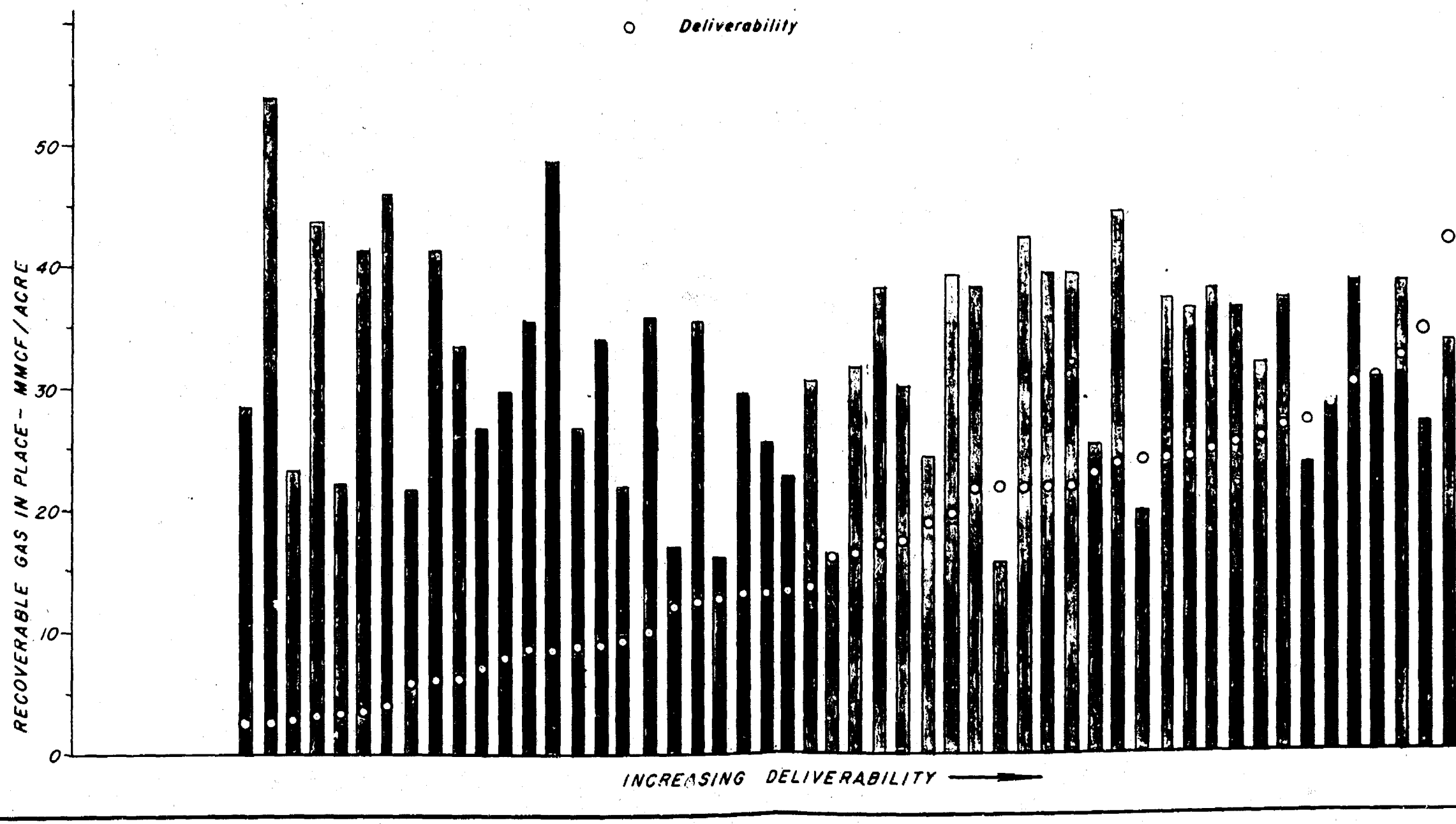
A. B. TANCO
P. O. BOX 2819
DALLAS, TEXAS

HERVEY, DOW & HINKLE
P. O. Box 547
Roswell, New Mexico

EXHIBIT SHOWING ABSENCE OF CORRELATION BETWEEN DELIVERABILITY & RECOVERABLE GAS IN PLACE

FOR 58 WELL AREA

JALMAT FIELD, LEA COUNTY, NEW MEXICO



J. M. HERVEY 1874-1953
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CLARENCE E. HINKLE
W. E. BONDURANT, JR.
GEORGE H. HUNKER, JR.
HOWARD C. BRATTON
S. B. CHRISTY IV
LEWIS C. COX, JR.
PAUL W. EATON, JR.
ROBERT C. BLEDSOE

LAW OFFICES
HERVEY, DOW & HINKLE
HINKLE BUILDING
ROSWELL, NEW MEXICO

TELEPHONE MAIN 2-6510
POST OFFICE BOX 547

February 17, 1958

New Mexico Oil Conservation Commission
State Capitol Building
Santa Fe, New Mexico

Re: Case No. 1327,
Order No. R-1092-A

Gentlemen:

Enclosed herewith please find in triplicate a request by Sun Oil Company for a rehearing in the above case.

Very truly yours,

HERVEY, DOW & HINKLE

By Howard C. Bratton

HCB:db

Enclosure

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL &
OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

APPLICATION FOR REHEARING

Comes now Sun Oil Company and requests a rehearing in the above case with respect to the matters hereinafter referred to which were determined by Order No. R-1092-A of the New Mexico Oil Conservation Commission in connection with the above styled case, and in support thereof respectfully shows:

I.

Applicant owns and operates oil and gas leases and gas wells within the Jalmat Gas Pool in Lea County, New Mexico. Applicant is affected by Order No. R-1092-A, which was entered by the Commission under date of January 29, 1958.

II.

Order No. R-1092-A contains two findings, Nos. 5 and 6, which are the basis upon which Finding No. 7 as to deliverability is made, and upon which said Order amends previous orders of the Commission to include a deliverability factor in the proration formula. Paragraph 2 of Order No. R-1092-A amends all orders previously issued by the Commission to provide for an "acreage factor" for allowable purposes. Paragraph 3 of Order No. R-1092-A provides that Order No. R-520 as amended by Order No. R-967 be revised effective July 1, 1958, to include a deliverability factor in the gas proration formula of the Jalmat Gas Pool. Said paragraph provides for the deliverability factor and sets forth how it shall be carried into effect.

III.

Applicant alleges that the Commission is without jurisdiction or authority, and is estopped in equity and justice to entertain the application of Texas Pacific Coal & Oil Company in regard to the above matters in Order No. R-1092-A, and that Texas Pacific Coal & Oil Company was estopped to apply for an amendment to the proration formula for the Jalmat Gas Pool, and that if the Commission does have jurisdiction and there was no estoppel, the said Order, in regard to the above matters, is discriminatory, erroneous, illegal and invalid, and a rehearing is requested in respect to said matters. In support thereof, Applicant states:

1. The application of Texas Pacific Coal & Oil Company in case No. 1327, to the extent that it sought the inclusion of a deliverability factor in the proration formula of the Jalmat Gas Pool constituted a collateral attack upon Order No. 520 in Case No. 673 of this Commission, entered on the 12th day of August 1954, and the Commission was without jurisdiction to entertain said application, and said application cannot be made the basis of a valid order in Case No. 1327 insofar as the changing of the basis for allocation of production from the Jalmat Gas Pool from a 100% acreage basis to include a deliverability factor in the proration formula.

2. Order No. R-520 entered by this Commission in Case No. 673 constituted a final decision that the proration formula for the Jalmat Gas Pool should be on a 100% acreage basis. No appeal was taken from the final decision of the Commission so ordered, and the Commission cannot now on the basis of the application and record in this cause enter a valid order changing the basis for the allocation of production from the Jalmat Gas Pool.

3. Texas Pacific Coal & Oil Company, the applicant in Case No. 1327, was a participant in Case No. 673, and in said case supported the inclusion of deliverability in the proration formula, which request was considered by the Commission and denied therein. No appeal was

taken by Texas Pacific Coal & Oil Company from the final decision of the Commission so ordered and said Company is now estopped to request a change in the proration formula for the Jalmat Gas Pool. On the basis of the record in this case, the Commission is without authority to revise, modify or change Order No. R-520 to now provide that the proration formula for the Jalmat Gas Pool shall include a deliverability factor.

4. As a result of expenditures and other actions by the owners in the Jalmat Gas Pool in good faith in reliance upon the existing proration rules in Order No. R-520 the Commission is as a matter of equity and justice estopped from amending said proration order to include a deliverability factor.

5. Finding No. 5 in Order No. R-1092-A is:

> "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 more equitable allocation of the gas production in said pool than under the present gas proration formula."

Applicant alleges that this finding is contrary to, and wholly without support in the evidence and is therefore erroneous and invalid. Applicant alleges that on the contrary the undisputed evidence is that there is no 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.

6. Even though it is assumed that it has been proved as stated in Finding No. 5 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", said Finding provides no basis authorized by the statutes of New Mexico for modification of the formula prescribed by Order No. R-520 for the proration of gas produced from the Jalmat Gas Pool.

7. The Commission has used as a basis for its decision to include deliverability in the proration formula certain factors which are not contemplated or permitted by the statutes of New Mexico in the determination of a proration formula for a gas pool. Finding No. 6 of said Order No. R-1092-A is:

> "That 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 various gas purchasers in the Jalmat Gas Pool to meet the market demand for gas from said pool."

Neither of said considerations provides any basis authorized by the statutes of New Mexico for the allocation of production among the gas wells in a gas pool.

8. Order No. R-1092-A will result in underground waste since many wells in the Jalmat Gas Pool are old wells and the condition of many of such wells is such that the action required of a prudent operator under Order No. R-1092-A will necessarily result in the underground waste of natural gas.

9. Order No. R-1092-A will result in economic waste in that it will require the expenditure of a large sum of money by this applicant to increase the deliverability of its gas wells in an effort to protect its correlative rights, although the ultimate recovery from the tracts owned by this applicant will not be appreciably increased thereby, and although efforts of operators to increase the deliverability of wells in the Jalmat Gas Pool cannot prevent the violation of correlative rights which will result from the inclusion of a deliverability factor in the proration formula.

10. Order No. R-1092-A is invalid in that the burden of proof was upon the applicant in this case, by a preponderance of the evidence, to show a valid reason on a ground authorized by the statutes of New Mexico for the inclusion of deliverability in the proration formula for the Jalmat Gas Pool, and the applicant did not sustain this burden of proof.

11. Order No. R-1092-A results in irreparable injury to the property rights of applicant and to its correlative rights in that it permits drainage from under tracts in the Jalmat Gas Pool owned by this applicant, which drainage is not equalized by counter drainage. This deprives applicant of its property without due process of law in violation of Amendment 14 to the Constitution of the United States, and Article II, Section 18 of the Constitution of the State of New Mexico.

WHERE..., Applicant respectfully requests the Commission that a rehearing be granted in the above case as to those portions of Order No. R-1092-A which amend the previous orders of the Commission to provide for the inclusion of a deliverability factor in the allocation formula of the Jalmat Gas Pool subsequent to July 1, 1958, and that after rehearing the Commission rescind its order in the above respects, and retain the proration formula established by Order No. R-520.

SUN OIL COMPANY

By _____

Hervey, Dow & Hinkle
P. O. Box 547
Roswell, New Mexico

Order R-1092-B was sent to the attached list and the names listed below: 2-21-58 BP

H. M. Bayer, Gulf Oil Corp. P.O. Drawer 1290, Ft. Worth, Texas
Alfred O. Holl, Cities Service Oil Co., Cities Service Bldg., Bartlesville, Okla.
W. N. Sands, The Texas Co., Box 1720, Ft. Worth, Texas
Howard Bratton, Hervey, Dow & Hinkle, Box 547, Roswell, N.M.
Oliver Seth, Seth & Montgomery, Box 828, Santa Fe,
C. W. Proctor, Standard Oil Co. of Texas, Box 1249, Houston, Texas

4-28-58
called Jack Campbell. Foss Malone & Norman Woodruff collect this morning & notified them of the signing of Order R-1092-C.
B.P.
Duplicated copies of the order were mailed to all names on this list today. BP

Order # 1092-1
Designated Cases
Mailed 2-3-58
BP

ORDER IN THE JALMAT CASE SENT TO THE FOLLOWING:

2 - Jack Campbell, Box 721, Roswell White Bldg.
Ben Howell, El Paso Nat. Gas, Box 1492, El Paso Paso Nat. Gas Bldg.
Jack Osborne, Permian Basin Pipeline Co., 2223 Dodge, Omaha
Harry Dipple, Continental Oil Co.. Fair Bldg., Ft. Wroth 2, Texas
John Kelly, Box 5671, Roswell 803 N. 2nd
George Selinger, Skelly Oil Co., Box 1650, Tulsa, Okla. Skelly Bldg.
Layton Webb, Sinclair Oil & Gas Co., Box 1470, Midland, Texas Petro. L/o Bldg.
3 - Ross Malone, Box 867, Roswell Petroleum Bldg
William Kastler, Gulf Oil Corp., Box 669, Roswell Petr. Bldg.
3 - Clarence Hinkle, Hervey, Dow & Hinkle, Box 547, Roswell - Hinkle Bldg.
Pat McCarthy, Permian Basin Pipeline, 2223 Dodge, Omaha, Nebr.
Granville Dutton, Sun Oil Co., Rio Grande Natl. Bldg., Dallas 2, Texas
2 - William G. Webb, 17th Floor, Mercantile Gank Bldg., Dallas 1, Texas
H. D. Bushnell, Amerada Petr. Corp. Box 2040, Tulsa 2, Okla. - Bacon Bldg.
A. S. Grenier, Southern Union Gas Co., Burt Bldg., Dallas 1,
Jack Brown, Pan American Petr. Corp., Box 899, Roswell
Paul Johnston, Gackle Oil Co., Box 2076, Hobbs
Don Walker, Gulf Oil Corp., P.O. Drawer 1290, Ft. Worth - Life & American Bldg.
3 - Jason Kellahin, Box 1713, Santa Fe
H. N Wade, The Texas Co., Box 1720, Ft. Worth Continental L/o Bldg.
R. L. Hughston, Shell Oil Co., Box 1509, Midland - Shell Bldg.
W. P. Tomlinson, Atlantic Refining Co., Box 6640, Roswell - J. P. White Bldg.
R. H. Stewart, Standard Oil Co. of Texas, Box 1249, Houston 1, 1600 City Natl. Bank Bldg.
Eugene Motter, Cities Service Oil Co., Box 97, Hobbs
R. N. Miller, Tidewater Oil Co., Box 547, Hobbs

1/29/58
Called Jack Campbell & Jason Kellahin this date. And with the exception of Pat McCarthy on the list above, everyone was sent a night letter collect.

DOMESTIC SERVICE

Check the class of service desired; otherwise this message will be sent as a fast telegram

TELEGRAM	
DAY LETTER	
NIGHT LETTER	

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WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

1206 (4-55)

INTERNATIONAL SERVICE

Check the class of service desired; otherwise the message will be sent at the full rate

FULL RATE	
LETTER TELEGRAM	
SHORE-SHIP	

NO. WDS.-CL. OF SVC.	PD. OR COLL.	CASH NO.	CHARGE TO THE ACCOUNT OF	TIME FILED
	COLLECT			4:00 p.m.

Send the following message, subject to the terms on back hereof, which are hereby agreed to

JANUARY 29, 1958

THE COMMISSION THIS DATE ENTERED ORDER R-1092-A IN CASE NO. 1327 ESTABLISHING A 75% ACREAGE TIMES DELIVERABILITY PLUS 25% STRAIGHT ACREAGE PRORATION FORMULA FOR JALMAT GAS POOL EFFECTIVE JULY 1, 1958. APPLICATION IN ALL OTHER RESPECTS DENIED.

A. L. PORTER, JR.
SECRETARY - DIRECTOR
OIL CONSERVATION COMMISSION

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1327
Order No. R-1092-A

APPLICATION OF TEXAS PACIFIC COAL &
OIL COMPANY FOR AN ORDER IMMEDIATELY
TERMINATING GAS PRORATIONING IN THE
JALMAT GAS POOL; OR IN THE ALTERNATIVE,
REVISING THE SPECIAL RULES AND REGULATIONS
FOR THE JALMAT GAS POOL IN LEA COUNTY,
NEW MEXICO.

STATEMENT OF HUMBLE OIL & REFINING COMPANY

At the conclusion of the original hearing in this case, Humble pointed out that it did not feel that the Oil Conservation Commission had given the original proration formula in the Jalmat Gas Pool a fair trial in that the Commission had failed to require the operators and purchasers to comply with the special field rules, and it urged that the rules be enforced.

Humble believes that the Commission has the right to change a proration formula where there is sufficient evidence presented to show the necessity for such change, but it submits that in this case that the evidence presented does not warrant a change.

Humble is in accord with the statement made on behalf of the operators with respect to the evidence showing that deliverability has no relationship to recoverable gas in place under a tract, and desires to emphasize that correlative rights will be better protected under the original straight acreage formula rather than under the present order providing for deliverability.

Under the Conservation act the Commission is charged with the duty of fixing an allowable formula upon a reasonable basis and it is specifically provided that it is only for the purpose of protecting

correlative rights that acreage, pressure, deliverability and other factors may be considered. Humble urges that the Commission has erroneously considered these factors other than for the purpose of protecting correlative rights. There has been injected throughout this entire case the plea of the purchasers that they cannot satisfy the market demand unless gas is prorated on a deliverability basis, and the Commission has so found in its Finding No. 6. Humble submits that the position of the gas purchasers should receive absolutely no consideration in determining a proration formula. A gas proration formula under our statute is not adopted for the benefit or convenience of the purchasers, but is required to prevent waste and to protect correlative rights insofar as possible by preventing drainage between producing tracts in a pool which is not equalized by counter drainage.

Humble urges the Commission to reconsider the Order which has been entered, to reinstate the original straight acreage formula, and to require that not only the operators but the purchasers comply with the special rules in the Jalmat Gas Pool.

HUMBLE OIL & REFINING COMPANY

By _____

Hervey, Dow & Hinkle
P. O. Box 547
Roswell, New Mexico