BEFORE THE
OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO
at
Santa Fe, New Mexico

Transcript of Hearing in

Case No. 673

March 17, 1954

Regular Hearing.

ADA DEARNLEY & ASSOCIATES
COURT REPORTERS
ROOM 105-106, EL CORTEZ BLDG.
PHONES 7-9645 AND 5-9546
ALBUQUERQUE, NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO
at
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March 17, 1954

In the matter of:

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 additional 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. Case No. 673

The order contemplated will pertain to gas pool delineation, gas proration, gas well spacing, gas well allowables, gas proration units, and related matters, affecting the following designated gas pools situated in Lea County, New Mexico, to-wit:

Jalco Gas Pool, Langmat Gas Pool, Eumont Gas Pool, Arrow Gas Pool

In considering the foregoing matters, notice is further given that the contemplated order may affect the following designated oil pools situated in Lea County, New Mexico, to-wit:

Eunice-Monument Oil Pool, South Eunice Oil Pool, Hardy Oil Pool, Penrose-Skelly Oil Pool, Cooper-Jal Oil Pool, Arrowhead Oil Pool, Langlis-Mattix Oil Pool, Falby-Yates Oil Pool, Rhodes Oil Pool, Leonard Oil Pool, South Leonard Oil Pool, Eaves Oil Pool.

(Notice of Publication read.)

MR. SPURRIER: The Meeting will come to order, please. The next case on the docket is Case 673. Mr. Campbell.

MR. CAMPBELL: If the Commission, please, Jack M. Campbell, Roswell, New Mexico, appearing on behalf of Texas Pacific Coal and Oil Company. In view of the fact that Case 673 is on the docket

partially, at least, due to the position taken by Texas Pacific Coal and Oil Company in the Jalco Gas Pool case, I feel that we have some responsibility to explain to the Commission and the interested operators here present the exact position of Texas Pacific Coal and Oil Company in connection with Case 673.

It has been said sometimes in jest and sometimes not in jest, that Texas Pacific Coal and Oil Company has been doing a lot of sharp shooting at gas prorationing and has not yet offered any substantial suggestions or methods by which it could be put into effect in the event the Commission continues to think it is necessary. We hope at this hearing today to make such suggestions and to explain the position of Texas Pacific. It has also been said, usually in jest, that if Mr. Gene Adair is going to testify any more in this gas prorationing, that he should be put under oath. I am going to put him under oath today and put him on the witness stand so that any of you who desire to cross examine him may do so. Before I do that, I want to again explain to the Commission and to interested operators why Texas Pacific Coal and Oil Company has attacked the proration order in the Jalco Gas Pool which case is now concluded. We do not believe that we have been entirely chasing after ghosts. The nominations made at this morning's hearing by the gas purchaser in the Jalco Gas Pool were 63 percent below the nominations made last month. They were 66 percent below the nominations made last month in the Langmat Pool. While the Commission does not yet break the nominations down by proration units, it doesn't take much of a mathematician to calculate that on the basis of the per unit allowable in March in each of those pools, particularly in the Jalco Pool. And assuming the same number of proration units in the Jalco Pool this

month, that the per unit allowable will in the month of April, before summer is ever upon us, drop below the 500,000 minimum take provisions of gas purchase contracs. It may be that during the year that average will be brought up, but certainly we do not know, the gas purchasing companies probably do not know, and the fact that the third month gas prorationing is in effect, the proration unit allowable is going to drop below the take or pay provision of the gas purchase contract causes us some serious concern.

We believe essentially that the principel problem of the Commission in prorating gas is that they must prorate these gas fields as they find them and not like they would like to have found them twenty-five years ago. In the first place, these wells were drilled, completed and have very, many of them, been produced for twenty-five years as oil wells. They were spaced as oil wells and drilled in that manner. It is not an easy problem for the Commission to undertake to move into a field with that historical background. In the second place, not only do we believe we have established historically, but we believe we have vested contractual rights. We believe these contracts were entered into at arm's length. We believe coming into a field at this date after the contracts have been executed and have been operating under them for a number of years, the Commission must give the owners of properties in these particular fields adequate protection against abrogation of any of these contracts. We believe that the Commission, at any time, for the purpose of preventing physical waste, can do either or both of these things. We do not believe that the Commission should or can, for any other reason than for the prevention of physical waste, change vested rights acquired many years ago,

or change vested contractual rights which we believe we own. That is basically the reason we have taken the position we have in connection with the existing gas proration order. Now this Commission has set down Case 673 to re-examine to some extent prorationing of gas in southeastern New Mexico. In the meantime the present orders are remaining in effect. We believe that if the Commission can, before the end of the first six months' period, make adjustments in the gas proration orders which will be to the benefit of all operators and will assure the protection of rights that exist in these areas, that it will be for the best interest of the State and for the best interest of the operators. We propose and will suggest to you through Mr. Adair that the Commission consider the following steps.

We want the Commission to know and you to know, that we do not presume to tell the Commission or you or anyone else how this should be done, but we do have serious concern about our property rights and we offer this as a possibility of a way in which those rights can be adequately protected and gas prorationing still put into effect in southeastern New Mexico. First we believe that it is necessary to redefine oil pools, gas pools or oil and gas pools in southeastern New Mexico. It is our present feeling that at least insofar as the Langmat and Jalco Pools are concerned, which are the only ones about which we have made personal studies, that those pools are all one reservoir, vertically and laterally, and that it should be defined as an oil and gas pool which the Commission has the power to do under the statute. Once it is defined as an oil and gas pool we believe, secondly, as a correlary to that we must undertake to define a gas well. We will make a suggestion

along those lines as to how to define a gas well, basically, along the same lines as is done under the statutes in Texas. Then, we believe that those gas wells can be prorated as gas wells under our statute once they are defined. The third proposition is the establishment of gas-oil ratios for the oil wells that remain in these areas after the pool is defined. In some of these areas there is no gas-oil ratio limitation. In others there is a 6000 to 1 gas-oil ratio limitation. Probably both of those are wrong. We believe that the Commission should hear evidence and establish a gas-oil ratio throughout an entire pool area which will be at a point which will recover the greatest possible ultimate amount of oil on initial efforts, and at the same time now allow anyone to produce an unfair amount of casing-head gas in connection with the production of his oil.

We will make a suggestion as to where that gas-oil ratio limitation should be placed and we will state to you the reasons why we make that recommendation. The fourth step which we suggest be taken is that the method of establishing proration units and obtaining exceptions to standard proration units be simplified. We suggest that the Commission make it possible to approve proration units within a section within section lines up to 640 acres without the requirement of a hearing, provided notice is given to all offset operators and a ten-day period allowed to elapse for them to demand a hearing. If the hearing is demanded on the attributing of acreage beyond 160 acres, but within a section, then of course we believe a hearing should be held. In that manner we believe we will eliminate a large number of the exceptions that are being sought, or proration units in excess of 160 acres,

since the evidence so far presented certainly indicates that one well will drain at least 640 acres. Finally we are going to suggest a method by which we believe we can protect the contractual rights which we have bargained for in connection with the take or pay provisions of gas purchase contracts including low pressure gas provisions as we move along this thing down the road. Mr. Adair will make a recommendation as to a provision in gas provision orders setting up a minimum allowable for gas wells. As I say, these are certainly not all of the answers I am sure, but because it has been said that we have not made any definite recommendations, we felt that at the outset of this hearing, it might be worthwhile for the Commission and interested operators to have something upon which to work. We know there are a number of people who wish to offer evidence either now or at next months' hearing. We want to give this information to them through Mr. Adair on the witness stand so that they may have it before them when they are prepared to present whatever testimony and evidence they want to put into the record. So if you will swear Mr. Adair, I will ask him some questions.

EUGENE ADAIR

having first been duly sworn, testifies as follows:

DIRECT EXAMINATION

By MR. JACK CAMPBELL:

Q State your name please. A Eugene Adair.

Q Where do you live? A Ft. Worth, Texas.

Q By whom are you employed?

A Texas Pacific Coal and Oil Company.

Q In what capacity with that company?

A Primarily as their attorney.

Q Are you an officer of the corporation?

A I am.

Q What office do you hold?

A Vice President and general counsel.

Q Mr. Adair, in connection with your association with Texas Pacific Coal and Oil Company, are you acquainted with the, generally with the history of the oil and gas wells drilled and now owned and operated by that company in southeastern New Mexico in the general area of the Jalco, Langmat, Eumont and Arrow gas pools as presently defined?

A Yes, Mr. Campbell, I am. At this time I would like to make it clear, however, that I am not attempting to qualify as an expert witness or a technical witness. I merely want to present for the record our company's recommendations with respect to gas proration in that particular area where those leases and our wells are located.

Q Mr. Adair, how many gas wells does Texas Pacific own in this area?

A In the Jalco and Langmat Pool I believe that we have forty wells on the gas proration schedule.

Q How many oil wells on the present oil allowable schedule do you own and operate in that area?

A I believe there are thirty-nine oil wells.

Q Are those oil wells all located in the Jalco, Langmat area or are they in the other areas also?

A No, I believe that there are five or six wells in the Arrowhead area, but the rest of the wells, oil wells, or wells appearing on the oil schedule are in the Cooper-Jal, Langlie-Mattix and South Eunice areas which are in the Jalco and Langmat areas.

Q Mr. Adair, historically speaking, when were the earliest wells of Texas Pacific drilled in this area?

A About twenty-five years ago.

Q Do you know generally how those wells were completed at that time?

A So far as our records are concerned, yes, I am generally familiar with the way the wells were completed.

Q Were those wells drilled at that time completed in the same manner as you would complete a well now?

A No, in some instances in an attempt to open casing to production gun, perforations were not known at that time, or at least they were not known to us. We, having cased through productive formations, had to shoot the pipe in some of our earlier wells, shoot the pipe with nitroglycerin in an attempt to open the well into production and through a sone that had been cased through.

Q Is it not a fact that based on the records that were generally maintained at that time and required at that time, that you can not tell with certainty at this time exactly where those wells are completed, where they are producing from?

A That is correct. I am sure that is not only true of our wells, that is true of most of the wells drilled in those days.

Q What would be the result of that with reference to going in now and reworking the wells and dually complete them, for instance?

A We have had some rather unfortunate experiences in attempting to rework or dually complete these older wells. Usually we have found that we could drill a new well cheaper than we can rework or dually complete. The pipe, the casing, we don't know what is in the well to start with, the pipe and the casing is in many cases in

such poor condition that it collapses, or we lose a well before we get through with it. We also found that in reworking or plugging back wells that the deliverability or producibility of the well is not as good as it would have been had we drilled a new well on the same acreage. For mechanical reasons the gas or the oil will not come through the cement or what other material might be behind the pipe, particularly where in the early days we had blowouts, where we pumped sacks of cement and other materials into the ground in an attempt to remedy the blowout.

Q Mr. Adair, you heard me state to the Commission generally what the suggestion of Texas Pacific Coal and Oil Company would be with reference to prorating gas in this area. I am going to go down through those five propositions that were suggested and ask you to explain to the Commission and to the interested parties here, what your recommendation is and why you make it. First, with reference to the definition of pools. Your experience, as I understand, your studies have been confined to the wells which you own in the Jalco and Langmat gas areas, is that not correct?

A That is right.

Q Have you made any studies with reference to the Arrow and Eumont Gas Pool areas?

A We made no study with respect to the Eumont area. We made only a cursory study in connection with the Arrow or Arrowhead area.

Q With reference to the study that you had made in connection with the Jalco, Langmat area, what is your suggestion as to how the matter should be handled with reference to the delineation of pools there?

A We believe that almost all, if not all, the problems of gas proration in the Jalco, Langmat area would be greatly simplified and possibly solved by designating the entire area, that is both Jalco and Langmat areas, as an oil and gas pool, both laterally and vertically.

Q Laterally and vertically? A Yes.

Q I presume that you are not excluding the possibility of including the Arrow and Eumont areas in there, but you have no information, your company, that they should or should not be included, is that correct?

A That is correct. That is our position. We have no objection to their being included if they belong in it, we do not know.

Q It is the opinion and belief of your company, and recommendation of your company, that by virtue of original geology or development in the area, that this has become essentially one oil and gas pool?

A I think that is true. And historically, I think that has been recognized by the Commision as shown by some of the orders we put in evidence in the other case. I don't believe there was any real difference of opinion among the experts that testified in the hearings held up to the present time.

Q Mr. Adair, assuming the designation of this area as an oil and gas pool, the entire area, I presume that as a correlary to that it would then be necessary to define a gas well, is that not correct?

A It would, and as a correlary, to define an oil well as being a well that produces oil and not a gas well.

Q What is your suggestion with reference to the definition

of a gas well?

A We have found that a definition that we have in Texas works very well. It is statutory in Texas, it is any well that produces oil at a gas-oil ratio rate of greater than 100,000 feet per barrel of oil is a gas well. We throw that out here. We don't say we think it should be 100,000 feet, maybe it should be 150, maybe it should be 200,000. We believe that you should define gas wells in that manner and then as a correlary to that, define all other wells which produce oil, as oil wells and prorate them as such.

Q You are suggesting, then, that you proceed to prorate the gas wells that are defined as such as gas wells?

A Right.

Q And prorate the oil wells as oil wells?

A Right.

Q How would that affect, Mr. Adair, affect the many wells which have recently been dually completed in this area?

A I think it would protect those wells. Otherwise, if you consider, as has been suggested and has been recommended by one or two operators, that if you consider the entire vertical area productive area in the Jalco, Langmat area as being a gas pool, you, in effect, are going to have to do away with the many dual completions that the Commission has heretofore approved. Because both of the productive zones would lie within the one gas zone if you so define the gas zone.

Q Assuming a definition of the pool, the definition of a gas well and the prorating of gas wells as such and oil wells as such, what is your suggestion with reference to the control of gas withdrawals from the oil well?

A We, frankly, wanted to concur with Mr. Macey and some of the members of the technical staff of the Commission in their suggestion that some such withdrawal, or to put it another way, that a gas-oil ratio limitation should be imposed on all wells. However, at the time it was brought up we did not think it had any particular place in that particular case, so we kept quiet about it. We have found by checking our wells the some thirty-nine wells that appear on the oil schedule, and assuming that those wells are representative wells of the wells in the area as a whole, we have found that the producing ratio is somewhere in the neighborhood of 25,000 feet per barrel of oil. We suggest that as a starting place, 25,000 feet per barrel of oil, gas-oil ratio limitation. That is considerably greater than some fields which has 6,000. It is considerably less than no ratio at all, which is a condition which prevails in most of the Jalco, Langmat area.

Q Speaking from a cold calculated economic point of view, have you made a study to see what effect that would have on your wells and the recovery from them from the point of view of economics?

A I have had such a study made.

Q What is your study?

A We started out with 6,000 foot ratio which I believe is in effect in the Eumont or Eunice-Monument. We have no wells in that field. To impose a 6,000 foot ratio limitation on our wells would result in a loss of revenue to us from our oil wells of 32 percent. Assuming that our wells are representative, which I think that the same loss would probably carry throughout the area where our wells are located. The 10,000 foot ratio limitation would result in a revenue loss of 22 percent. A 20,000 foot ratio limitation would result in

a loss of revenue of 12½ percent. Our engineers feel, and if this case is continued, or later on we expect to put them on, feel that the most efficient rate at which these old oil wells can be produced is the actual producing rate. We do not feel that imposing the gas-oil ratio limitation upon them is going to get the oil at any better ratio. It is just going to get it slower, that is all. Possibly if the gas is associated with the actual gas well gas, it possibly could result in the draining off of the reservoir energy which is one of the things Mr. Macey was concerned with at the prior hearing.

Q I don't think you said what the effect of the 25 to 1 ratio would be on your picture.

A We did not calculate it. It would be somewhere in the neighborhood of 10 percent loss of revenue to us, 25,000 to 1 ratio. From those particular wells.

Q For present purposes, you are suggesting the 25,000 to 1 gas-oil ratio on the wells which would be defined as oil wells with this procedure followed. A Yes.

Q Mr. Adair, with reference to the next step that you are suggesting which is the establishment of proration units, what is your suggestion to the Commission as to how proration units and exceptions thereto can be obtained without the large number of hearings which are now being required?

A I think the problem there is that most of the contracts and many of the wells, gas wells, particularly the newer wells, have been drilled and developed on 160 acre basis. On the other hand, the testimony that we have heretofore heard has been that one well will adequately drain 640 acres. If that is true, then to require a

producer to drill more than the necessary wells to drain his acreage or to put it more accurately, to assure him of getting his share of gas out of the common reservoir, would be in our opinion an economic waste. Therefore, we feel that the problem can be greatly simplified and many of the exceptions that the Commission is being forced to hear at these hearings for the past few months can be eliminated by allowing a producer to attribute to any gas well which he has any acreage that he wants to that is contiguous to it within section lines. That the Commission could issue an order or an administrative order without the necessity of a hearing, allowing such a producer to attribute anything up to 640 or anything within section lines to such a gas well unless the offset producers after ten days', we'll say, written notice protested to the Commission and requested a hearing. In other words, it is just a question of where the burden is. If you put the burden on the producer whose well will drain 640 acres to get waivers from his offset operators, he may not be able to do it. On the other hand, many offset operators will not ask for a hearing, but will allow him to go ahead and do it without a hearing. At least that is our feeling.

Q Why is it that you are suggesting that approach leaving the 160 acre standard unit as we now have it rather than suggesting that we go to 640 acre proration unit?

A As you pointed out, one of the reasons is that the contracts have been written on a basis of 160 acres. The Commission has already started out prorating gas on a basis of 160 acre units and many of the wells have been drilled on that basis as well as many operators have proceeded to get pooling agreements or attempt to work out their problems on a 160 acre basis as a result of the

Commission rules in effect at the present time.

Q In other words, you feel that would require less adjustment on the basis of proration since January first than to move now to 640 acres?

A I think it would require very little adjustment in any event, and certainly less than going to a 640 proration unit as a standard unit.

Q That leads us to the last suggestion that relates to the protection in some manner of the contractual rights requiring a gas purchaser to take or pay for a certain minimum amount of gas. I wonder if you would explain to the Commission for the record, your concern in that regard and why you feel that some protection should be given in the proration orders by means of a minimum allowable to protect you against the possibility of loss in that manner.

A Of course our main concern is that the allowable, or gas allowable, does not drop below the minimum take provisions of our contracts. I believe in most of our contracts that is 500,000 cubic feet of gas per day averaged out over the year. Any time that the allowable was set at a figure less than that those minimum take provisions of our contract would be abrogated in our opinion. There are other provisions in our contracts which I think we as producers, and all producers, are interested in seeing remain in full force and effect. Those are the provisions relating to low pressure gas. We fear, and we have already seen it suggested, that some deliverability factors may be imposed or adopted which could abrogate the low pressure gas provisions of our contract. At the moment any well that we have that will produce gas against 100 pounds pressure under our contract, the gas purchaser must take 50 percent of the amount

that the well will produce against 100 pounds pressure. In no event will he take less than 500,000 cubic feet of gas per day. We feel that this will prevent premature abandonment of wells and actually prevent waste as well as to protect contractual rights if the Commission will, by rule, establish what for want of a better term I will call a marginal gas well rule, and say that in either its general rules or in each proration order which it issues, that the Commission will not set an allowable less than 500,000 cubic feet of gas per day, nor will it set an allowable less than what that well will produce against one-half of what that well will produce against 100 pounds pressure, protecting both the minimum take provisions of the contract and the low pressure provisions of the contract. That 500,000 cubic feet of gas per day is based upon the 160 acre standard unit. If you had forty acres, it should be reduced proportionately. If you had 640, it should be increased proportionately, provided the well would make it.

Q You feel that a provision of that kind would offer you some protection against the possibility of the purchasing companies taking the position that by setting the allowable below the take or pay provision of the contract, the Commission had abrogated that provision and the purchaser did not have the obligation to pay for the gas it did take? A That is correct.

Q Do you have any other statement that you want to make at this time in connection with the recommendations of Texas Pacific?

A What I have suggested is a solution. We do not say that it is the best solution. We do not say it is a perfect solution. We do think it is a good starting point. We would suggest that the producers present carry it back with them and apply it to their

properties, because after all, that is going to be the final test how our suggestion works when actually applied to each individual producer's wells and come back here at the next hearing, and if they have something better, let them put it on at that time and we certainly would be interested in hearing it.

MR. CAMPBELL: That is all I have from Mr. Adair at this time.

MR. SPURRIER: Are there any questions of Mr. Adair?

MR. STANELY: I would like to ask one question.

CROSS EXAMINATION

By MR. STANLEY:

Q Mr. Adair, I would like to clear up one point for future study of the Commission which we are doing at this particular time, and let's assume that you had a gas allowable on your particular well of one million cubic feet of gas per day. Offsetting you is a well, I am actually reading production figures, that makes 31 barrels of oil per month but has a ratio of two million to one, or has produced approximately during that month, a little over 60,366 MCF. Would you say that that well was getting more than it's fair or prorata share of the reservoir energy?

A I prefer to answer that this way, Mr. Stanley. If my suggestions were followed, the well making 31 barrels of oil per month would automatically be classed as a gas well, because it's ratio is more than 100,000 feet of gas per barrel. And it would be prorated as a gas well. That would solve the problem.

MR. STANLEY: That is all I wanted to know.

MR. SPURRIER: Anyone else?

A I might say also in connection with your question, that setting anallowable at a million feet a day, or as was set in

February, one million four I think in Langmat, one million plus in Jalco, does not assure the producer of going to market with that gas. We found in our February production, for example, that although we had an allowable in Langmat of one million four, and in Jalco of one million one, or approximately that, that the average take from our leases in the area was 686,000. That is based on the 160 acre unit and based upon nominations now which we have heard from April, if the allowable is set paying attention solely to those nominations, we will be already below our minimum take provisions of our contract.

MR. SPURRIER: Mr. Hinkle.

MR. HINKLE: Clarence Hinkle representing Humble.

CROSS EXAMINATION

By MR. HINKLE:

Q I would like to ask a question or two. I believe you stated that you would like to see the Jalco and Langmat areas consolidated into one and that they would be, you advocate, a limiting ratio on the oil wells of 25,000 to 1, is that right?

A I believe more accurately I suggested, and I think one is a correlary of the other, if you don't do one, don't do the other, I suggested that the Jalco, Langmat area be consolidated and defined as an oil and gas pool. And that the oil wells therein be subjected to a gas-oil ratio limitation of, we suggested, 25,000.

Q Would you also take in the Arrow field in connection with that?

A Our study has not shown that the Arrow is part of the Jalco, Langmat area. It may be, Mr. Hinkle. We just haven't gone that far with our study.

Q What about the Eumont?

A Nor have we gone that far with our study. We have no properties in Eumont.

Q Your statement then, is limited to --

A (Interrupting) To our own properties where we know a little something about what we are talking about. We do recognize this, Mr. Hinkle, if you threw it all in one pool, that is Eumont, that the vertical interval in Eumont is so much different than your vertical interval in Langmat and Jalco that we might have some problems. We haven't thought that through.

MR. SPURRIER: Mr. Montgomery.

CROSS EXAMINATION

By MR. MONTGOMERY:

Q If the vertical limits be defined on the gas and oil in this area, if they could be defined, what problems would be involved then?

A Well, you have difficulty in defining, or at least we do. We don't know for sure where our oil is coming from. We think that is probably true of most of the wells, that is oil wells in the area. We know where the well was originally completed. But I am afraid that you would wind up with a number, a large number of small oil fields in a gas pool. We think it is simpler, we think it serves every purpose that the Commission has in mind, that is in prevention of waste and protection of correlative rights to throw the Jalco and Langmat areas together and call them an oil and gas pool. That also has historical basis and precedent too, and define the gas wells as wells that produce gas, or define the oil wells as subject to 100,000 to 1 limitation. That is if I make myself clear there, any well that produces oil at a ratio greater than 100,000 to 1 or

200,000 to 1 if the Commission imposes that, would be a gas well and prorated as a gas well. What I have suggested serves this purpose. It is going to permit the producers who have three or four wells on a 160 acres, we have quite a few cases like this ourself, to know what is going to be an oil well and what is going to be a gas well, and it is going to enable him to have some idea about what his plans are in recompleting and attempting to get gas production as well as oil production.

Q What problems would be involved if the vertical limits could be defined of the gas and oil zones?

A If they could be separated I don't see any problems. But the testimony, and undisputed thus far has lumped them altogether in the Jalco, Langmat area.

Q The only problems would be in the old wells where you couldn't go back in and repair where you have gas, dry gas zone and oil zone producing from the same well bore. Would that be your problem?

A Yes, I can see a lot of problems there that you wouldn't have under the method that I have suggested. I believe if you try them and apply them to your properties you will see the same thing. I think the Commission, I certainly know the technical staff of the Commission is aware of the way the wells have been completed and the danger of trying to rework them to make them conform to any vertical, certain definite vertical interval.

MR. SPURRIER: Anyone else?

CROSS EXAMINATION

By MR. HINKLE:

Q I have another question or two. I believe you testified

that the evidence here clearly shows that one well will efficiently, effectively and economically drain 640 acres, is that right?

A I don't believe that was quite it, Mr. Hinkle. I said that the testimony that the Commission had received thus far indicated that.

Q If that is the case, why is that you would advocate any other unit for proration purposes than 640?

A I tried to answer that question in response to Mr. Campbell's question. One is, we started out gas proration on 160 acre basis. Two, most of the producers have contracted their gas production on 160 acre unit basis, to be enlarged to 640 acres if the acreage is contiguous. The third thing is that many producers in obedience to the gas proration rules that have been, already been in effect have attempted and actually formed units by pooling or unitization units of 160 acres or less.

Q Isn't it true that those units have not yet been approved by the Commission?

A I don't know about that.

Q Is there any reason why you can't just as effectively assign acreage to the wells which are already drilled within a section and have them set up as standard unit of 640 acres as you can take 160 and add to it or rearrange it?

A I think that the administrative problems of the Commission and also of the gas purchasers as well as the producers in auditing their contracts and producing their gas would be greatly simplified by staying on 160 acre standard unit basis. I see know objection if you wanted to go to 640.

MR. HINKLE: That is all.

MR. SPURRIER: Mr. Kelahin.

MR. KELAHIN: Jason Kelahin, representing Continental Oil Company,

CROSS EXAMINATION

By MR. KELAHIN:

Q Mr. Adair, in connection with your recommendation of minimum allowable, is it your suggestion that this Commission can require a pipe line company to take less than the market demand?

A No, but so long as this Commission establishes a marginal gas well definition which in effect would establish a minimum allowable, then the producer may look to the pipe line purchaser for payment under his contract.

Q Whether the gas is produced or not, is that what you mean?

A Yes, sir.

Q Assuming that your nominations or your market demand fell below the minimum allowable. It is not your recommendation that that gas be produced?

A Not produced, absolutely not.

Q It is up to the pipe line company to pay for it whether they get it or not?

A That is right. We think those are valuable provisions in our contract and you do too. It took us a long time to work them out. We feel that you share that feeling with us too.

RE-DIRECT EXAMINATION

By MR. CAMPBELL:

Q Isn't it true that the statutes of Texas and the regulations of Oklahoma and Kansas both, I believe, have a minimum allowable arrangement for oil?

A They do in Texas. I am not sure of Oklahoma and Kansas. They have a marginal well statute.

MR. CAMPBELL: That is all

RE-CROSS EXAMINATION

By MR. SELINGER:

Q May I ask Mr. Adair a question? You made a recommendation, Mr. Adair, with respect to the Jalco, Langmat as to a gas-oil ratio using as a basis the Texas procedure. We don't have any particular quarrel with your recommendation, but if this Commission issues such a regulation, don't you think that they should incorporate the entire Texas rule rather than just the one part that you quoted?

A What part now are you referring to?

Q You know, that the gas-oil ratio, the gas definition in Texas is composed of two parts, not of one part. The first part, if I might refresh your memory.

A You are talking about a definition of a gas well?

Q That is right. A Not gas-oil ratio?

Q The first part is pure out and out 100,000 foot and the second part is that there are many gas wells that are classified whose ratios do not equal 100,000 with respect to the gaseous phase in the reservoir which also is a basis for a definition of a gas well. Would you be willing or unwilling to insert the whole Texas rule here?

A We haven't given any study at all or any thought at all, to the second part of the statute. Just only the first as applied here. By classifying the pool as an oil and gas pool, Mr. Selinger. I think you get away from the necessity of that.

Q No, there are many gas and oil wells in the same field in

Texas where that classification works for gas wells. It works both on the basis of 100,000 cubic feet to one and also on the basis of the gaseous phase in the reservoir. I particularly point out one of the largest fields is Carthage where we use that, but it is in the statute. It is in the Texas rules and regulations and I was just inquiring whether you had any objection to incorporating the entire rule rather than just a portion of the rule.

A I think I would prefer to defer my guess on that until I have had a chance to think about it. I do not believe or recall any testimony in the Jalco, Langmat area that would indicate that there was any fluids in gaseous state in the reservoir. I may be wrong about that. Bear in mind that we are talking here primarily about Jalco and the Langmat area. That is where our properties are located. Of course that is where our primary interest lies.

Q Of course, Mr. Adair, if you are talking about just these two fields, the Commission is likewise faced with a similar ruling in the other fields and there may be situations in these other classified fields which you may have to resort to the second part of that classification.

A That is entirely possible.

Q Mr. Adair, do you feel that the productive capacity of gas wells exceed the market demand?

A Unrestricted production of gas wells probably does exceed the market demand.

MR. SELINGER: That is all, that you.

MR. SPURRIER: Mr. Macey.

RE-CROSS EXAMINATION

By MR. MACEY:

Q I am not quite sure that you want to answer this question. Did you include the Queen section in that?

A Yes, sir.

Q Were you here when we had some testimony on the Falby-Yates Pool when we created that pool?

A No, I was not here.

Q The Commission received some evidence to show that the bottom hole pressure in the Queen zone, and I am grabbing these from memory, the bottom hole pressure in the Queen in the Falby-Yates was about 350 to 400 pounds. The Yates gas section was eight or nine hundred pounds. We opened up the entire zone and said that that is a common reservoir. Don't you think it would be a little wasteful if an operator was to, say, deepen the Yates gas well, say to get a little bit of oil out of the Queen in one well bore?

A It would be, still if you had a ratio of 100,000 to one, it would be prorated as a gas well.

Q I agree with you there.

A And I think if the owner had oil under his property he had a right to produce it.

Q Do you think that the differential in pressure of 5000 pounds represents a common reservoir?

A I am not qualified to answer that.

Q Let me ask you about the contracts, what are the specific points in the contracts pertaining to minimum take, take or pay provision?

A I don't believe I have got the contract with me. It is in evidence in the Jalco case. You have got it with the exhibits.

Q I am sure we do. Here it is.

A Do you want that read into the record?

Q What I am interested in mainly; as I understand it, if the El Paso Natural Gas Company does not take the minimum allowable. You said it was 500,000. I think it is 550, I may be wrong, but nevertheless, if they don't take it they have to pay for it during that calendar year, is that right? Every adjustment is made on a calendar year basis?

A Yes, I believe that is right. They have a right to carry over and take it up in the following years, but the Commission, by setting a minimum allowable of 500,000 for the 160 acre unit, automatically --

MR. SPURRIER: Can you speak up?

A By setting a minimum allowable of 500,000 per standard 160 acre unit, you automatically take care of the minimum take provisions without bothering with the carry over part of it. That is, the carry over of the make up provisions of the contract need not be the concern of the Commission unless it wants to make it it's concern. You are affording the producer full protection when you set the allowable at 500,000 or more.

MR. SPURRIER: Anyone else have a question of Mr. Adair? Mr. Montgomery.

RE-CROSS EXAMINATION

By MR. MONTGOMERY:

Q How can the Commission prevent an operator from the vertical limits of the oil and gas zone, if you call the vertical limits the same, how is the Commission going to prevent an operator from drilling into the dry gas and drilling into the oil section and preventing the dry gas at a pressure of 1,000 going into the oil section

which has pressures --

A I think that is the same question Mr. Macey asked. I am not qualified to answer that.

Q The thing I want to point out there is an oil zone below the gas zone.

A In some places.

Q Then possibly the vertical limits of the oil zone and the gas zone can be determined?

A Possibly. We think the way we have suggested is a simpler way of handling the problem. We think it is a more practical way and we think it also recognizes a method which the wells have been completed.

Q At the present time the vertical limits for the Langmat and the Langlie-Mattix Pool are the same and some wells are able to produce quite a bit of oil and quite a bit of gas. In fact, one well has the dry gas section open and the oil section open and is able to produce forty million cubic feet. It sold forty million and five hundred thirty-four barrels of oil in one month. If we continue to have these vertical limits the same, we are not going to be able to get away from that situation.

A That sounds like the ratio there is over 100, 100,000 to 1, isn't it?

Q Well, slightly less than 100,000 to 1.

A Well, if our suggestions were followed through, that particular well would be prorated as an oil well and gas-oil ratio limitation of 25,000 to 1 would be imposed, resulting in a cut of the oil allowable.

Q Preliminary investigations indicate that this oil zone, this dry gas zone can be separated, do you think it would be warranted to continue the

study to try and make the separations?

A Let me make myself clear. If it can be done we see no objection in doing it. Possibly the solution is -- I don't know what the solution is, but possibly a solution would be to say that the Yates and Seven Rivers formation was an oil and gas pool. And that the Queens formation was an oil pool. But when you say that you immediately are faced with the situation where you have the Queens and Seven Rivers both open in many wells, possibly. What we are trying to do and what I think should be done is to protect the manner and method in which hundreds of these wells have been drilled and completed. We don't think that our, we don't pretend that our solution is perfect, but we do think it is a good starting place.

By MR. FOSTER:

Q Do I understand you to say that if you define a gas well and then define an oil well, that that would go a long ways toward solving our problem?

A We think it would, yes, sir.

Q Would you explain to the Commission why you think that is so?

A We have many instances, I know of other producers also who have wells drilled that we don't know whether they are oil wells or gas wells. We do not know whether they should be prorated or produced as oil wells or gas wells. We have two or three wells that are connected to the gas purchaser that he doesn't, the purchaser doesn't know whether to pay us under the dry gas contract or under a casinghead gas contract. We think that it would simplify matters for the producer as well as for the Commission to

establish these rules, to follow the Texas, or one-half at least of the Texas statute and definition of gas wells and say that all other wells that produce oil are oil wells and prorate them as such. That in effect, is what is taking place right now. We don't think that, we don't think there would be too great a change. We hope there isn't. I don't think that the Commission wants to disturb, I should not think they would want to disturb the way things are going now so long as they can accomplish the aims of gas proration.

Q I am not unsympathetic to a lot of your suggestions, but isn't it true that the classifying of the wells, that is the defining of this well as a gas well and this well as an oil well is only for the purpose the Commission exercising it's regulatory authority in prorating that well either as a gas well or as an oil well. That is about as far as that goes, isn't it?

A That is possible, yes, sir.

Q It seems to me, and I think you have the same idea about this as we have, what we are confronted with, is that we have an area, whatever the area may be, finally determined to be in which you have oil wells that produce gas, and in which you have gas wells that produce gas but produce no oil. As far as the record now stands, the evidence is that this gas production, whether it comes from an oil well or whether it comes from a gas well, it is all coming from a common source of supply. The problem, it seems to me, is that we have to find some equitable or acceptable method of adjusting gas production as between the wells that are producing both gas and oil and those wells that produce only gas. Do you see that as essentially our problem here?

A I think what I have suggested.-

Q However it may be solved, that is a problem.

A I think what I have suggested goes a long way to solve the problem that you have posed.

Q I think first --

A (Interrupting) I realize, of course, Judge Foster, that the individual producers are going to have to apply our suggestions to their individual properties before they are going to know how it affects them, and until such a time as they know how it affects, they are not going to know whether the problem is being solved or made worse.

Q You mean they are not going to know whether they are for it or against it? A That is right.

Q How it may affect an individual producer doesn't furnish any measure of, or basis for determining whether this or that formula ought to be adopted, does it?

A Well, I think it is extremely important to the producer.

Q No doubt about that.

A Whether or not the Commission should consider how it affects an individual producer is something else.

Q That is what I am saying. It really isn't going to be solved on that basis.

A We have to bear in mind, at least what I have in mind, is that the entire gas proration project is done for one purpose, and that is to prevent waste, and to protect correlative rights. If we go on any other basis, I am not qualified or prepared to talk about it.

Q I wouldn't know any other basis to put it on. I think that is the only basis the statute puts it on. Of course that limits

the provision in whatever delegation they have under the statute in prorating the pools. They prorate both to prevent waste and protect correlative right. One other question I wanted to ask you. That is about the position that you take on the contract rights that you say that you have, that is I am not clear whether you are saying that the Commission doesn't have the power or jurisdiction to so prorate this field as to abrogate those contractual provisions or minimum provisions, is that your position?

A No, sir, my position is that the Commission has such power to abrogate them to prevent waste. But absent waste, we feel that those provisions of our contract should not be abrogated.

Q Assuming there is no waste, is it your position that the Commission is without power or jurisdiction to so prorate the field as to protect correlative rights, that they can't in doing that, abrogate the minimum take provisions of the contract?

A I would prefer not to argue the legal question of whether the Commission has authority to prorate gas solely for the purpose of protecting correlative rights.

Q Well, I am not asking you that question. I am asking you whether or not it is your position that the Commission can not so prorate gas to protect correlative rights only as to abrogate the minimum take provisions of your contract?

A I don't believe the Commission can, no.

Q That is your position?

A That is my position, yes.

Q I want to get your position. You suggested here a marginal well definition as being a well that would be permitted to produce, say, 500,000 cubic feet of gas per day. Did I understand

that correctly? A That is part of it, yes.

Q In other words, you would allocate to every proratable gas well in a gas pool a minimum allowable of 500,000 cubic feet of gas daily?

A That is based on a standard 160 acre unit.

Q Whatever you base it on.

A Go up and down with the size of the acreage.

Q I am not concerned about that. Every gas well would be allocated at a minimum of 500,000 cubic feet of gas daily, that it would be permitted to produce, is that correct?

A It would be permitted to produce that providing the gas was used for beneficial gas.

Q I am assuming that we don't --

A (Interrupting) Lawful use of the gas. Yes, sir.

Q It is entirely possible that the marginal wells would take up the entire market demand or gas allowable for the pool?

A That would be every well, though.

Q I understand each well would -- I am saying that it is entirely possible that that would occur?

A I think it already has occurred, based upon the April nominations.

Q Well, I don't quite follow that. You mean now that every well in the field is getting less than 500,000 average?

A I am talking about Jalco and Langmat.

Q Just take any pool.

A The nominations in those two pools, as I understood them this morning, were less than 500,000 cubic feet of gas per day.

Q Isn't it also possible that the minimum allowable take

from those wells might exceed the market demand for gas?

A Apparently it already has.

Q Apparently already has? A That is what I say.

Q Then you would have to qualify the amount of gas that might be taken from a gas well to either 500,000 cubic feet or to an amount equal to the market demand?

A No, the 500,000 cubic feet of gas per day would be a permissive figure at which the producer could produce if he could find a market for it.

Q Of course I understand that. If my question assumes that the total of the marginal wells, the allowable would exceed the market demand, how could you then regulate the production from all of those wells?

A By setting a minimum allowable of 500,000 cubic feet per well.

Q When you add up all the 500,000 you have more gas than you have market demand.

A It is already more. The producer would have to depend on his contract to protect him. The Commission can not do it. The Commission can not force the purchaser to take the gas.

Q I have lost the stirrup or either one, I don't know which. We are going to give each well a marginal allowable?

A That is right.

Q Whether it is 5,000 or anything else. Suppose that the allowable exceeds the market demand for gas for any given period?

A All right.

Q How are you then going to regulate the production from the so-called marginal wells?

A Just the way it has been regulated, let the purchaser take what he is going to take. That is all he is going to do anyway.

Q You have to have some means of limiting him to less than 500,000 for each marginal well if taking 500,000 would exceed the market demand.

A No, I don't agree with that.

Q You just let him take the 500,000 whether he has the market for it or not?

A No, I am not suggesting that 500,000 cubic feet of gas be produced.

Q It is an allowable production that would be assigned to the well?

A It is a permissive allowable that the producer can produce if he has a market for it.

Q Then what you are saying is that if you didn't have a market for it, then you would have to write in to the rule a provision that even though he had a minimum allowable, that that would also have to conform to the market demand?

A No. That doesn't serve the purpose at all, for which it is--

MR. FOSTER: That is all.

MR. FOSTER: Let me just ask this one question. I am talking about the exercise of the regulatory functions of the provision, I am not talking about the private contractor. Between the producer and the purchaser of the gas.

A I know what you are talking about.

Q I don't see how you are going to establish a lawful allowable for all the wells in the field in excess of the market demand with the possibility that the market demand may be in excess of the

minimum allowed and at the same time not permit gas to be produced in excess of the market demand, unless you limit also to market demand whether it is 500,000 or less.

A Under your hypothetical situation, if the allowable was limited to the market demand, then the minimum take provisions of the contract would be abrogated, that is what I am trying to prevent.

Q Then you are saying to me on that basis that is the point I am trying to make is that you are going to permit gas to be taken from a well up to the minimum contract provisions whether it is more or less than the market demand? A That is correct.

Q Well, of course you know that is defined as waste.

A If the gas, no, not unless the gas is actually taken. I don't believe that.

Q It certainly is. Any take in excess of market demand is defined by the statute as waste.

A We don't share that belief with you.

Q You mean you don't interpret the statute that way?

A We don't believe the statute says that.

By MR. SELINGER:

Q May I make an obeervation here while Mr. Adair is on the stand? The statute in Section Two states, as used in this account, "The term waste in addition to it's ordinary meaning shall include E: The production in this state of natural gas from any gas well or wells, or from any gas pool, in excess of the reasonable market demand from such source for natural gas of the type produced, or in excess of the capacity of the gas transportation facilities for such type of natural gas". By terminology of the statutes, Mr. Adair, in answer to a cross examination question that the full

production capacity of the gas wells is in excess of market demand, has admitted by his own definition that there is waste now.

A No, you misinterpreted what I said. We can go back and have the reporter, George, read my answer to your question, but what I said was this, you asked me if and what my answer was that the unrestricted production from gas wells in Lea County probably exceeded market demand. In my opinion it would. But in the situation that I have been talking about and the situation that Judge Foster mentioned, there would be no waste because there would be no production in excess of what the purchaser wanted. Absent production there can be no waste.

MR. SPURRIER: Anyone else have a question of Mr. Adair?

By MR. YOST:

Q In order to get an exception to a proration unit, you think that the producer should show any particular grounds therefor, or is it just given under the automatic, under the circumstances that you have outlined?

A We are assuming that the acreage is known to be productive. That is the entire acreage that essential to attribute to the well and if he is not, well some of the offset operators are going to object and you are going to have a hearing.

Q Do you have to show any particular grounds that would result in confiscation of property or be detrimental to correlative rights?

A I think that when you recognize that the well will drain 640 acres, that is as far as you have to go. The only reason for staying on 160 acre is one of convenience and because we started out on that basis.

MR. YOST: That is all.

MR. SPURRIER: Any other questions?

By MR. STANLEY:

Q Don't you mean if you did assign a minimum allowable to 500,000 per day and the transporter did not take that amount of gas, let's make a hypothetical case out of it, he would only take 300,000, you could carry your overage into the next month and carry it from one month to another until you come to the winter months, it is where your demand was great, then you could abolish your overage at that particular time?

A It probably could be worked out at that time, that is correct.

MR. SPURRIER: Anyone else? Mr. Macey.

By MR. MACEY:

Q Mr. Adair, I think I understand your problem, but I would like to know if I have interpreted your ideas correctly. Suppose the market demand, I am talking about 160 acre units, suppose the market demand for a unit was 250,000 to 1, 250,000 for every one unit. When assigned an allowable 500,000 cubic feet for that unit, the pipe line company is not required necessarily to take that 500,000, is he?

A No, he certainly is not. He is required under the contract to pay for it even if he doesn't take it.

Q Couldn't he take under that condition, couldn't he take 500,000 from your neighbors well and leave yours all shut in during the month? A He can do that now.

Q Suppose you rock along over a considerable length of time and you build up a considerable underage you have under produced your well completely, yet your neighbor has sat there and

produced his well at the normal allowable, he is not going to get paid for any make up gas, is he? A No.

Q But you are? A That is correct.

Q And yet all that time his well has been produced and if that is a common reservoir he theoretically could be taking gas out from underneath your property?

A Except that I would be paid for my gas whether he took it or not.

Q I agree with you there. The point I am getting at is that an operator under your problem doesn't have any protection as to gas which is in place under his property, does he?

A I don't think he has any now, Bill. Let me give you a hypothetical example. This is rather a strained one. Let's take a two well gas field just to make it simple, we will say that purchaser X is connected on to one of the wells and purchaser Y is connected to the other. Purchaser X nominates on the basis of 500,000 cubic feet per day for the month of April, we'll say, and purchaser Y nominates on a million feet. You are going to set the allowable, if you just pay attention solely to those nominations, at a figure that will average 750,000 cubic feet for the two wells. Which is more than purchaser X wants and not as much as purchaser Y wants. Purchaser X may or may not take the full 750,000, purchaser Y may take it all. The fact that you make the nominations, the fact that you set the allowable, doesn't assure the producer of going to market with his gas at all. The only thing that assures him of going to market is his contract, and that is what we are trying to protect. For example, in February the allowables in Langmat, for example, were more than twice what was actually taken by the purchasers, or the

purchasers from our wells.

Q Let's carry your case a little further, suppose we ran that same situation over a long period of time and the well with the smaller, that is connected to the purchaser who only wants to take a half a million, that well builds up a tremendous underage. He has not taken, the purchaser hasn't taken that gas and he has been allocated 750,000, binds up a great amount.

A I don't know of any way you can force him to do except possibly through some sort of ratable take order. I don't know how you can force a purchaser to take gas that he doesn't want.

Q That is what I am getting at, if that well builds up a large underage and over month by month the allowable assigned the other well in the pool connected to the purchaser who wants to take a million, his allowable will be cut back to the extent that he can't get enough gas out of that well. He has to get it somewhere and the only other place he can get it is through an interchange through pipe line.

A I don't know how those work. You get into FPC and other things when you run into interchanges of gas. They have interchanges of oil as we know. I don't know how it works out in gas.

Q I don't either.

A There is no easy, there is no easy, no simple solution to the problem you pose or to any of them. In the final analysis, the producer has to fall back on the terms of his contract to insure his going to market with his gas, or either that or being paid for it.

MR. SPURRIER: Anyone else have a question of Mr. Adair? If not, the witness may be excused. We will take a recess.

(Witness excused.)

MR. SPURRIER: The meeting will come to order. Mr. Campbell.

MR. CAMPBELL: If the Commission please, it is our understanding that a number of operators want to produce evidence in connection with this Case 673, and certainly that is the purpose of the case. In all likelihood the Commission will continue the case until next month's hearing for the purpose of allowing these people to produce their evidence. We would like to suggest this possibility that the Commission, in proceeding on this case, follow a definite line of attack. In other words, that we first introduce, receive evidence with reference to pool delineations and we receive evidence in connection with the definition of a gas well if the Commission wishes to, the gas-oil ratio limitations on oil wells, the establishment of proration units and exceptions thereto and then this contractual question so that everybody will know the order in which these things will be presented. In the light of that, Mr. Russell is going to offer at this time some evidence relating to pool delineation from Case 582 with one exception, all of these exhibits refer to pool delineation. We are offering them at this time so that other operators and the Commission will know those exhibits which we intend to use in this case. The witnesses that were available in that case are available now and will be available at next months' hearing for anyone interested in this. We are following this procedure, hoping that it will shorten the hearing in this case. Mr. Russell is going to offer the exhibits by number and by description.

MR. SPURRIER: Before I forget, do you move for a continuation to April 15, or next month?

MR. CAMPBELL: Yes, I think we should have a continuation until next month. I think everyone will have ideas they want to thresh

out and evidence they want to present at the next hearing.

MR. YOST: In your statement of these matters on which we should hear evidence, we feel that it is basic in connection with this matter that we hear evidence on the question of waste and correlative rights.

MR. CAMPBELL: I am sorry I neglected to mention that one. First, the delineation of pools and then abuse of correlative rights and prevention of waste.

MR. DAVIS: May I ask Mr. Campbell a question? Quilman Davis. It has been our opinion that in considering these, or re-opening these pool cases that it might be advisable for the Commission to actually make a determination as to pool delineation before we are tempted to get into the pool rules or allocation formula. There may be ideas one way or the other that would affect your thoughts on the allocation formula if you knew the pool delineation.

MR. CAMPBELL: So far as Texas Pacific is concerned, I am sure we concur in that. I doubt that anybody can properly appraise their situation unless they know first what the definition of the pool is going to be. I think that is the reason the statute is written like it is.

MR. KELLAHIN: If the Commission please. Jason Kellahin representing Samedan Oil Corporation and Continental Oil Company. We ascribe to Mr. Campbell's motion that the case be held open for the April hearing. However in outlining his order of procedure, I would like to state in behalf of Samedan that we have some brief testimony to present at this time on waste and we would like the opportunity to present it today, because we may not have the witness available next month. It will only take about twenty minutes.

MR. CAMPBELL: We have no objection, it is entirely up to the Commission. I was just hoping that maybe next month we could procedure in the fashion that everybody would be aware of at that time.

MR. HINKLE: I would like to know what the status of the record is at the present time in connection with Case 673. That is to say whether or not all of the evidence heretofore introduced in connection with these orders leading up to the proration of the gas in the Jalco, Langmat, Eumont, Arrow fields and also in connection with rehearing of case 582 are to be considered as a part of the record in this case.

MR. SPURRIER: They haven't been introduced, so we can't consider them yet.

MR. HINKLE: Was it your idea to introduce parts of the record in case 582?

MR. RUSSELL: Yes. Leaving out things that were not pertinent to this hearing, in our opinion.

MR. HINKLE: I would like to make a motion that all of the evidence heretofore introduced in connection with the orders that have heretofore been entered in connection with the Jalco, Langmat, Jalco, Langmat, Eumont, Arrow Pools be incorporated and considered as a part of the record in Case Number 673.

MR. CAMPBELL: You are just talking about the evidence?

MR. HINKLE: All the evidence leading up to proration orders in these specific cases.

MR. YOST: In what cases?

MR. HINKLE: In the cases providing for the orders in the, provided for in the Jalco, Langmat, Eumont and Arrow fields.

MR. YOST: Can you specify the cases?

MR. HINKLE: I don't have the numbers right now.

MR. DAVIS: I am a little bit confused by Mr. Hinkle's request. Does he mean the entire record put in cases 582, three, four and on down?

MR. SPURRIER: I don't know. Is that what you mean? From 582?

MR. HINKLE: That is right. 582.

MR. DAVIS: That was the first case, the Jalco 582.

MR. SELINGER: Case 582 to 589.

MR. YOST: Do those cases, do they come within the scope of the notice of this hearing?

MR. SELINGER: Not all of them, no.

MR. HINKLE: Your notice in this hearing as I understand it, that some of the other fields might not be affected. I think it ought to be limited to those cases that are specified in this particular hearing.

MR. DAVIS: In Case Number 673 we are only considering the Jalco, Langmat, Eumont and Arrow Pool. For the reasons that I have stated awhile ago, we would like to have a final determination of the pool delineation by the Commission before we introduce or change our testimony as to the proper allocation formula. We naturally oppose any request of anyone to simply carry over all evidence and all testimony introduced even in these four cases into Case 673, because our testimony there might not be the same if we have a single or two pools out of the four.

MR. SPURRIER: The Commission will sustain Mr. Davis objection. As we go along, testimony can be introduced or offered, but to make a blanket offer of all the testimony, the Commission will sustain

Mr. Davis.

MR. FOSTER: Mr. Chairman.

MR. SPURRIER: Mr. Foster.

MR. FOSTER: I would like for the Commission to be considerate of the matter. One of the principal objections in the Texas Pacific case was that there just wasn't any evidence in the record for anything. They went back in detail to a lot of different hearings, gave the case numbers and the order numbers and then said, "Well, there just never was any testimony here to support any of this". He went back there to Case Number 200 or something. I don't remember all of those numbers. Then we came in Case 582 and put on a lot of testimony which I think is very pertinent here to Case Number 673.

MR. CAMPBELL: We are going to offer that.

MR. SPURRIER: That is the point I am trying to make. Let's take it in as it is offered without saying all the testimony.

MR. FOSTER: That way you just leave it up to Mr. Campbell to put in there what he wants in.

MR. SPURRIER: You can offer yours.

MR. FOSTER: I don't have any independant recollection of all the testimony that went in there. I can't see any reason why all of the testimony that was offered in 582 insofar as it is material here to the 673 shouldn't be received by the Commission just on a general offer of it. I can't see where that violates anybody's rights, or I can't see where it is prejudicial to anybody. If it is there, it is there and you can take it and look at it and put up whatever argument you want, based on it. This is not a court.

MR. YOST: Maybe I could explain our thoughts on it. Case 582, there was objection to the form of the notice and so forth and

that we were going outside the scope of the hearing to receive certain evidence. We have now called a new hearing to reconsider all matter regarding gas prorationing in these four pools. The offer was to put in all the records and the prior proceedings in several cases into the record in this case. To that we had an objection. The parties present here may not have participated in all those hearings, may not have had an opportunity to cross examine witnesses, and we feel that by over-ruling that objection we would be jeopardizing the record in this case. We are going to do everything we can to get the record in this case. We would like very much for the relevant testimony in Case 582 presented by all sides be made a part of the record in the case, but as long as there is objection to it we don't feel like it would be safe to do so.

MR. FOSTER: I don't see how anybody could complain about it.

MR. SPURRIER: Somebody did.

MR. DAVIS: Since I complained, suppose I answer your question.

MR. FOSTER: Let me ask him and then I will get to you. These rulings here before this Commission are more or less arbitrary. If you don't see fit to permit us to put into this record all of the record in 582, there is no place we can go to explain abut it. That, likewise applies to Quilman's objection.

MR. YOST: The Commission has no objection to the records of 582 being made a part of the record in this case providing nobody objects.

MR. FOSTER: Why be arbitrary as to kick it out because somebody might kick it out, because it might do something to them. That is the point I am making. For whatever it is worth, it seems to me it ought to be in the record. Whether somebody objects to it or whether they don't object to it. I can't see how it can

hurt him. If it don't apply, it just doesn't apply. If there is something in there that isn't material, it can't hurt him. I can't see the objection to putting all the previous testimony in from 582. I had intended if Mr. Hinkle hadn't made the motion, to make the motion myself. I think the record ought to be complete. Whether anybody has had a chance to cross examine the witnesses or not, they had a chance when the witnesses were here and if they are still here, if they aren't satisfied, they can recall them and re-cross examine them if they wish. I don't think that is a good procedure.

MR. SPURRIER: Mr. Davis.

MR. DAVIS: You ready for me now?

MR. FOSTER: I am ready for you.

MR. DAVIS: Judge, I am not objecting to Phillip's introducing any part of their testimony. As I recall, you had very little in these cases except for statements, but what I am objecting to is someone else putting any testimony that we offered into these cases which are totally different from Case 582. We may or may not want to put or propose the same allocation formula. We have offered testimony supporting an allocation formula based on the Langmat and Eumont Pool. We may or may not want to follow the same procedure, depending on pool delineation. We are not interested in having all of your testimony simply transposed over to this record without our own offer.

MR. FOSTER: If what you put in before just doesn't apply under the facts, I don't see how you are hurt.

MR. DAVIS: If they apply under the facts, if they do, I shall ask that the Commission incorporate our record into this case.

MR. KELAHIN: Samadan Oil Corporation, we were the primary objectors to Case 582 and the basis of our objection was that we were without notice or opportunity to be heard. We do feel at this time that the Commission is following the proper procedure. We have the opportunity of cross examination, we have had notice, for that reason I would like to state now that we withdraw any objection, we have no objection to the introduction of the record in Case 582 in this case.

MR. SPURRIER: Judge Foster, do you want to offer your testimony in 582 in this case?

MR. FOSTER: I do. But I think all of the other testimony ought to go in too. I don't think we ought to just, I don't think the Commission ought to be placed just at the mercy of somebody that offered the testimony and wants to re-offer it here at this time. I think you ought to have the benefit of whoever has come here and testified -- and certainly this Commission is intelligent enough to distinguish between what is relevant and material and what isn't.

MR. WALKER: Don't you think we are going to take that into consideration when we read the record?

MR. FOSTER: It isn't in there.

MR. YOST: Would you have any objection to its being placed in evidence providing you had an opportunity to explain any part of the past transcripts?

MR. DAVIS: With the understanding as to any part of our testimonies introduced in 673.

MR. ADAIR: Off the record.

(Discussion off the record.)

MR. FOSTER: I move that all of 582 be placed in 673.

MR. WOODWARD: We would like to speak on that motion in favor of it and further make a statement with regard to our understanding of the use to which the record in past cases can be put. It is our understanding that that record doesn't belong with anyone, not even the people that testify, that is a matter of record. If the Commission finds it of probative value, it is up to them to pass on whether they will admit it in a general hearing or not. It should not be controlled by any body other than the Commission itself. As a practical matter here, the only difference is that, that in order to get all of the relevant and valuable information in, somebody has to sit down and screen all the records come forth, introduce portions of them. The alternative is to introduce the records, the material irrelevant portions, or those which have no probative value can be ignored, those that have some value are in the record, or if necessary are available to the Commission for supporting any action that it takes. It is difficult to go through there and screen out everything that may relate to some action the Commission may want to take. Put it another way, you heard a lot of testimony, your judgment will be affected by it, but if you try to go back and see what portions of the record you are basing that judgment on, it would require you to brain wash yourself of everything that does not appear in that record. There is no necessity of taking on that burden. We see no possible objection or prejudice. The Commission, incidently, has the power to call some of these witnesses if somebody wants to cross examine them. There is no notion that the proponent owns his testimony or the portion of the record.

MR. SPURRIER: Mr. Davis.

MR. DAVIS: I would like to answer one question. I believe

673 is a new case. I don't believe that the Commission needs to have authority. If they want to introduce the testimony in these other cases, I don't have objection so long as my rights of taking that part of the testimony in the Langmat and Eumont Pools out insofar as it is inapplicable to our condition. Case 673 is a new case. You don't go in and pull all the records that may have been introduced before this Commission in every case that has been held out here to support 673.

MR. SPURRIER: Mr. Girand.

MR. GIRAND: If the Commission please, W. D. Girand on behalf of Metex. I was only interested in the Eumont pool during the many hearings covering the nine pools or delineated pools. I have been here in the hearing room during the 582 procedure. I did not take any part in it because I necessarily did not want to be bound by what went on in that hearing. We are now confronted with the fact that in Case 673 they propose to offer in evidence exhibits and testimony that was pinpointed to the Jalco area and have it apply to four different areas. We feel that the Commission can only consider it in regard to the Jalco area and not to the Eumont or any of the other pools. We object to its being offered insofar as it affects the Eumont Pool.

MR. CAMPBELL: If the Commission please, there is not an iota of evidence in that case that affects the Eumont Pool.

MR. GIRAND: That is correct. If it is adopted that a four-pool hearing, unless it is pinpointed to apply to Jalco, we object.

MR. CAMPBELL: It must be limited.

MR. FOSTER: There is nothing in there that bothers him, why is he objecting?

MR. SPURRIER: In order to save time, the Commission will consider all the evidence up to this point in 582 for this case. I mean we will accept it. Now, Mr. Davis and everybody else for that matter, has the absolute right to get up at any time and object to whatever they want to, and at that time we will decide on the motion.

MR. CAMPBELL: That takes care of Mr. Russell's problem.

MR. RUSSELL: Did you have a question?

MR. SPURRIER: I wondered if you had anything further.

MR. RUSSELL: Did Mr. Campbell answer it satisfactorily?

MR. SPURRIER: He did. Did you have some testimony at this time?

MR. CAMPBELL: With this record from 582 in the case for present purposes, we are going to conclude,we may want to offer some testimony at the next month's hearing if the case is continued in connection with the other testimony offered here.

MR. SPURRIER: Mr. Kelahin, you have some testimony?

MR. KELAHIN: Yes, sir.

G. E. TRIMBLE

having first been duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. KELAHIN:

Q Will you state your name, please?

A G. E. Trimble.

Q By whom employed? A Samadan Oil Corporation.

Q What position? A Petroleum engineer.

Q Have you testified before this Commission before and been qualified as an expert in petroleum engineering?

A I have.

MR. KELAHIN: Are the witness's qualifications acceptable to the Commission?

MR. SPURRIER: They have and they are.

Q Mr. Trimble, in connection with your duties with the Samedan Oil Corporation, are you familiar with a well designated as Samedan Hughes B Well Number 1? A I am.

Q Are you familiar with a well offsetting that designated as Gulf Janda G?

A I am to the extent of the available data.

Q Have you prepared a plat showing the location of those two wells? A I have.

Q Would you mark that as Samedan's Exhibit Number 1.

(Marked Exhibit Number 1.)

Q Would you state briefly to the Commission what that plat shows?

A This plat shows a portion of the Langmat gas pool in Lea County, New Mexico, particulary with respect to Section 24, 23, 36, Section 19, 23, 37. In 19, 23, 37 the Samedan Oil Corporation has a gas well located in the northwest one-quarter of the Section. In Section 24, 23, 36 the Gulf Oil Corporation has a gas well located in the northeast one-quarter of that section. This would make the wells offsetting wells.

Q Tell us what the color reflects.

A The color red indicates or shows the Samedan Well, the color yellow shows the well owned by Gulf Oil Corporation.

Q Are those wells connected with any gas pipe line facilities?

A They are.

Q Do you know what facility that is?

A The Samedan well is connected only to the facilities and transmission system of the El Paso Natural Gas Company. The Gulf Oil Corporation, the Janda G-1 is connected to El Paso and it also has another, what might be termed, a connection. It is tied into what is commonly known as Gulf's, the gas lift transmission system.

Q Have you compiled any data on the completion and casing program of those two wells? A I have.

Q Would you mark that as Samedan Exhibit 2?

(Marked Exhibit 2.)

A The Samedan Hughes B Well Number 1 was completed 7-25-48, elevation of 3327 feet, 5½ inch casing was set at 2755 feet, the total depth was 3350 feet. The gas pays were 2800 to 2890 feet, 2940 to 3080 feet and 3280 to 3350 feet. The Gulf Janda "G" Well Number One was completed in 6-2-48 with an elevation 3355 feet, 5½ inch casing set at 2816 feet, a total depth of 3352 feet. Gas pays as submitted to the Commission were as follows: 2870 to 2945, 3010 to 3130, 3155 to 3240, and 3275 to 3315.

Q Does that exhibit reflect that both wells are producing from the same formations?

A The Commission records for the Gulf well show the well to be producing from the Yates and Seven Rivers sections. The log on our well indicates that the well is also producing from the Yates and Seven Rivers sections.

Q What pool, desiganted pool are those wells located in?

A At the present time this is known as the Langmat Pool.

Q Have you compiled any data on gas withdrawals from those two wells? A I have.

Q Would you mark that as Samedan Exhibit Number 3?

(Marked Samedan Exhibit Number 3 for identification.)

Q Would you state briefly to the Commission what that exhibit reflects?

A Before I do that I would like to say this, that the testimony that I am about to give from here on in is in no way to be taken as a criticism of the operating procedures of the Gulf Oil Corporation. It is only to show that waste is present, that correlative rights are not being protected and that the waste and the protection of correlative rights will give the Commission a means by which they both may be reduced to a minimum, or completely eliminated.

Q Before you start commenting on that exhibit, what is the source of those figures, Mr. Trimble?

A The Samedan well, the Hughes "B" 1-G, the source of these figures have been taken from the monthly gas report which we filed with the Commission. On a pressure basis of 15.025 p.s.i. I have another well in the Gulf Janda "G" 1, the source of these figures were taken from the records of the Gulf Oil Corporation in Ft. Worth, Texas, were on a 15.025 p.s.i. pressure base. Prior to that time I had compiled the production data for the ulf well from their dry gas reports and with the exception of a minor percentage deviation, the figures compared, or agreed.

Q Does that exhibit show the production figures for another well than the two you have mentioned?

A It does. Another well is placed on here.

Q For what purpose did you place that on there?

A This well is the Continental Stevens B-18 Well Number 2 which is indicated on the plat as the north offset to the Samedan well. The purpose for which this was placed on the data sheet is

for this reason. Originally Samedan negotiated a contract with the El Paso Natural Gas Company and the acreage in this contract was 40 acres even though we were producing from 160 acre unit. Therefore, we had no basis on which to compare production from the Gulf well since the El Paso contract with Gulf was on the basis of 160 acres. Therefore, we felt it best to select a well which offsets not only our own, but offsets the Gulf well to the northeast. The Continental Stevens well is the outlet for gas from this well is to the El Paso Natural Gas Company only, and since it does have a 160 acreage stipulation in the contract, the withdrawals from this well could be compared to the withdrawals from the Gulf Janda G-1. In November of 1952 we renegotiated our contract with the El Paso Natural Gas Company. Our acreage was increased from 40 to 100 acres. Therefore, we are not going to bring the last two months of 1952 in, but we are going to state that during the year 1953 our acreage, our 160 acreage allocation in the El Paso contract was the same as that of the Gulf Oil Corporation so that we, therefore, could compare withdrawals on an equal basis.

Q What does that exhibit reflect in the way of withdrawal?

A In the total year, 1953, the Samedan Oil Corporation sold 280,423 MCF to the El Paso Natural Gas Company. The Gulf Janda G-1 for the year 1953 produced a total of 891,501 MCF.

Q You stated that Samedan sold to El Paso the amount you quoted. Was that the total production from that well?

A That is correct, that is the total production from that well.

Q Have you anything further to add to that?

A Yes, I do. To justify the statement that correlative rights are not being protected, it was our opinion that it would be

necessary to show that inequitable withdrawals, that those withdrawals would be, what I might say is this, that the production from the Gulf well was affecting, or indicated communication in our well which would mean that the acreage under the Samedan well was being drained as a result of these unequitable withdrawals.

Q Have you made a study of the bottom hole pressures of each of the wells involved? A I have.

MR. KELAHIN: Would you mark that as Samedan's Exhibit Number 4.

(Marked Samedan's Exhibit Number 4 for identification.)

A I would like to say that this exhibit marked "Comparison of Static Bottom Hole Pressures", I would like to say that these bottom hole pressures were calculated from the shut in pressures as submitted to the Commission office and theoretically they may be criticized since, I mean a bomb wasn't actually run to the bottom of the hole and a formula was used which took in the surface pressure and from this formula the bottom hole pressure was calculated. This formula was taken from the Spanghang book and I don't have the formula with me, but it is available in the handbook. Previous experience, why this formula fairly well will agree with actual bottom hole pressure bomb tests.

Q Does that reflect a regular decline --

A (Interrupting) It does. I have plotted this on a --

(Marked Samedan's Exhibit Number 5 for identification.)

Q What does Exhibit 5 reflect?

A Exhibit 5 is a curve showing static bottom hole pressure, p.s.i. versus time and years. On this exhibit the static bottom hole pressure is calculated in Exhibit Four, is plotted for both the Samedan well and the Gulf well. Even though that Samedan was on a

40 acre, what might be said allocated unit, and Gulf was on a 160 allocated unit; the total cumulative production from the Samedan well from its completion date to January 1st, 1953 was 579,988 MCF, the total production from the Gulf well from its completion date was 2,874,017 MCF.

Q In your opinion, does that reflect that there is communication between the two wells?

A In my opinion this reflects that a well on 160 acres is capable of draining far more than that 160 acres and that this production data in my opinion shows that excessive withdrawals from the Gulf well has definitely reflected withdrawals from under the Samedan 160 acres.

Q Or in other words, there has been drainage of the Samedan lease? A That is correct.

MR. KELAHIN: I offer in evidence Samedan's Exhibits one through five inclusive.

MR. SPURRIER: Is there objection?

MR. CAMPBELL: If the Commission please, for the present purpose of the record, we would like to have the record show objection to this evidence upon the ground that it does not constitute evidence of waste, upon the further ground that statutes do not authorize the Oil Conservation Commission to prorate gas lift gas inasmuch as it is not delivered to a gas transportation facility.

MR. KELAHIN: If the Commission please, we do not agree with Texas and Pacific's position that the Commission can not prorate for the purposes of protecting correlative right. On the basis of the testimony offered up to now we propose to show waste. If the counsel will reserve his objection until we have completed, I feel

sure he will see our position.

A During the year 1953--

MR. CAMPBELL: I will withhold my evidence until he has completed.

MR. KELAHIN: You prefer I withdraw the introduction of the Exhibits?

MR. CAMPBELL: I don't care.

MR. SPURRIER: We will note the objection and the Exhibits will be admitted.

Q The testimony you have given up to the present time, Mr. Trimble, indicates that correlative rights have been affected. Do you have any further evidence which would show that the excessive gas withdrawals from the Gulf Janda "G" well had resulted in waste?

A I do. As heretofore pointed out, I stated that the production from the Gulf well was going both to the El Paso Natural Gas Company and to what Gulf calls their Teague transmission system. I have taken the C115 as submitted to the Commission by the Gulf Oil Corporation for December 1953 to determine what happens to this gas after it goes into the Teague transmission system. I have some leases here I am not positive that they are all the leases, but I think there are enough leases here to illustrate that waste is occurring as a result of the gas lift gas. On the LaMunyon lease, they show wells 6, 7, 8, 9, 10 and 12. Said all wells gas lift except Number 7. Total gas produced from six wells, 44,605 MCF. Five MCF used on lease, 45,600 MCF sold to El Paso Natural Gas Company. Input gas from Teague gas system, 8,869 MCF Well Number 6, 4,268. For Well Number 8, 6,184 MCF to Number 10, 6,787, to Number twelve and 7,034 MCF to well Number 9. No waste occurred

from gas lift gas on that lease. The Travis leaselisted wells Number 1 gas lift.

Q The Travis lease listed to the Teague transmission?

A Yes, sir. Total gas produced, 13,682 MCF. Eight MCF used on lease. 5,674 MCF sold to El Paso Natural Gas Company. 8,000 MCF blown to air. Input gas from Teague gas system, 12,230 MCF. There are two other leases, I don't think there is any need to go on because --

Q (Interrupting) Go ahead and put those in evidence, Mr. Trimble.

A The Saltmount lease Number 1 gas lift, total gas produced, 10,138 MCF, 5 MCF used on lease. 6,898 MCF sold to El Paso Natural Gas Company, 3,235 MCF blown to air. Input gas from Teague gas system, 8,087 MCF to Well Number 1. The Hillis Well Numbers 1, 2, 3 and 4, 1, 2 and 4 gas lift. Total gas produced, 40,628 MCF. Ten MCF used on lease. 29,446 MCF sold to El Paso Natural Gas Company. 11,172 MCF blown to air. Input gas from Teague gas system, 8,045 MCF, to well Number 1, 19,866 MCF, to Number 2, and 8,070 MCF to Well Number 4. That completes that data.

Q In your opinion, then, is gas which is produced from Gulf Janda "G" well contributing to gas that is being vented on other leases? A It is.

Q Do you have any evidence showing any other waste?

A No, sir.

MR. KELAHIN: That is all.

MR. KELAHIN: I again offer Samedan's Exhibits one through five in evidence.

MR. SPURRIER: They will be admitted. Does anyone have a

question?

MR. MALONE: Ross Malone of Gulf Oil Corporation. Mr. Trimble, you stated, did you not, that the gas connections on the Gulf Janda "G"-1 was to the Gulf gas lift system and the El Paso Natural Gas?

A Yes, sir.

Q Those are the only two sources to which gas from that well is being delivered?

A From the dry gas report, that is correct.

Q It is correct, is it not, that all of the gas was put to beneficial use? A Produced from the well?

Q That was produced from the well used in the gas lift system with the exception of the amount that you testified was vented?

A Yes, sir.

Q It is also correct, is it not, that if Samedan had had a gas lift system through which it might have used a portion of the gas from it's well, that it might have produced a greater proportion of gas from the reservoir? A Yes, sir.

Q You used the term waste with reference to the withdrawal of gas from the Janda well? A No, sir, I did not.

Q In what connection did you use that term?

A I used the term the waste that the gas was being vented to the leases where the gas lift transmission system was tied into those leases at the gas lift wells.

Q That was the only respect that you intended to use the word waste in your testimony? A That is correct.

A Have you been able to compute the amount of gas from the Janda G-1 which has been so vented? A No, sir.

Q It isn't possible for you to testify actually that any

portion of the gas from Janda G-1 was so vented?

A We do not say that. We say it contributed to the waste.

Q Your testimony then, is that the venting of gas which occurred on the leases to which you referred, constituted the waste to which you were testifying? A Yes, sir.

Q The source of that gas you are unable to testify to?

A It is the gas wells tied into the system. Any well that would be tied into that gas lift system would certainly be contributing toward that waste.

Q The extent of the contributions or the other conditions which might contribute to it are not within your knowledge, are they?

A That is correct.

MR. MALONE: If the Commission please, the Gulf Oil Corporation would like to move that the hearing on this case be left open to April in order that we may verify some of the records that were produced in evidence. We do not have available the information to verify their correctness.

MR. SPURRIER: The Commission will grant your motion. This case, the whole case has already been continued, but we will specifically refer to that which you just mentioned.

MR. SPURRIER: Mr. Stanley.

MR. STANLEY: Mr. Trimble, are you familiar with Rule 404 of the Commission Rules and Regulations?

A Not by number I am not.

Q I would like to read this rule into the record. "Rule 404, Natural Gas Utilization. After the completion of a natural gas well, no gas from such well shall be first permitted to escape to the air, secondly, used expansively in engines or pumps and then vented.

Thirdly, used to gas lift oil wells unless all gas produced is processed in a gasoline plant or beneficially used thereafter without waste. Or four, used for the manufacture of carbon black."

MR. SPURRIER: Anyone else have a question of Mr. Trimble? Mr. Macey.

By MR. MACEY:

Q In connection with what Mr. Stanley just read, does, if you have got a gas well, you have to have a gas pool, you have to have a common source of supply before you can have a gas well.

A State that again.

Q You stated that the Janda well and your well were gas wells?

A Yes, sir.

Q Why did you say they were gas wells?

A Because the check upon these wells, what you might say, I mean including that gas being fluid that fluid produced from this reservoir at this particular location is in a gaseous phase in the reservoir and to all practical extent is in a gaseous phase when it is produced at the surface.

MR. KELAHIN: If the Commission please, the Commission itself has defined the Langmat as a gas pool. As far as I know that order is still in effect and has not been rescinded. The witness has testified that these are producing in the Langmat Pool.

MR. MACEY: I agree with you Mr. Kelahin, but the question is before this Commission in this case.

MR. KELAHIN: Yes, sir. If his testimony can be helpful, I have no objection to it. I just wanted to point out that he referred to them as gas wells, they are in a gas pool and on a gas proration schedule.

MR. MACEY: In order for the Commission to enforce the provisions of Rule 404 pertaining to the gas produced from the gas wells, they have got to have a gas pool before they have got a gas well, haven't they?

A It all depends how you look at it.

Q I am talking about the definitions. We have a definition of a gas well. The definition reads, "A well producing gas or natural gas from a common source of gas supply as determined by the Commission". A Yes.

Q In order for us to prohibit the Gulf from venting that gas we had to have that gas pool, did we not?

MR. KELAHIN: I don't believe he is qualified to answer.

A Whether it was a gas well in an oil reservoir, it appears to me as long as you have waste that it can be set up as such, then.

MR. MACEY: I have no other questions.

MR. SPURRIER: Does anyone else have a question of Mr. Trimble? If not, the witness may be excused.

(Witness excused.)

MR. KELAHIN: That is all we have to offer at this time. We would like to also join with the other companies in asking that the case be held open to April and perhaps have a right to offer further evidence at that time.

MR. SPURRIER: Does anyone have anything further in this case to present?

MR. FOSTER: Mr. Chairman.

MR. SPURRIER: Just answer my question yes or no. Do you, Judge?

MR. FOSTER: Yes.

MR. SPURRIER: We will recess until 9:00 o'clock tommorow in this same room.

MORNING SESSION, MARCH 18, 1954, 9:00 A. M.

(Whereupon the Hearing in Case 673 was resumed as follows:)

MR. SPURRIER: Meeting will come to order, please. Mr. Ainsworth.

(Witness sworn)

MR. AINSWORTH: W. E. Ainsworth, Omaha, Nebraska. Mr. Stahl and myself have some suggested changes in certain rules that were issued in conjunction with Cases 582 and 589, Orders 368-A to 375-A. These orders, 368-A to 375-A were identical, except as related to separate pools, and there are seven rules on which we would like to suggest the changes be made. The first one is Rule Number Two, which now requires, or prohibits the drilling of a well on less than 160 acres. When viewing the deletion of that rule in its entirety, Rule Number Seven, we suggest a few minor changes, one of which is to take into consideration those along Township 21, where more than 640 acres are involved, and to waive the requirement that a standard proration unit be 160 acres. The other changes would require that the Secretary of the Commission grant exception to Rule Seven without formal notice and hearing, assuming that certain conditions have been met. Rule Eight, the changes we recommend there eliminates the need for filing preliminary and supplemental nominations except as the preliminary nominations are found to be wrong.

MR. SPURRIER: Let me interrupt. Do you have any more copies of your--

MR. AINSWORTH: I brought about a hundred copies and I thought everyone got copies yesterday. I have about three or four

extra copies here, one of which I would like to introduce as our Exhibit, the others are available for distribution.

(Marked Exhibit Number One for Identification)

MR. AINSWORTH: Back to Rule Eight, the way it is written now, we are required to file preliminary nominations, then to duplicate them as a supplemental nomination, whether or not our requirements change. Rule Number Nine, again deletes some portions that require supplemental nominations in addition, suggests the change in the Rule that requires the recomputing two months later of allowables that have been already assigned. Rule Number 10 has to do with the cancellation of under production. The way it is written now, if a well goes into one balancing period, five million under, for example, and into the next balancing period 10 million under, the original five is cancelled, whether or not it was made up in the interim. Rule Number 11 is essentially the same thing except it has to do with over production, and Rule 14 is simply to eliminate duplication of reports to the Commission by the operators and the gas purchasers. That is the substance of the changes that we recommend.

MR. SPURRIER: Off the record.

(Discussion off the record.)

MR. SPURRIER: Go ahead.

MR. AINSWORTH: Well, I simply wanted to distribute these suggestions at this hearing and give everybody a chance to think them over, and maybe next month, if they want to correct or talk to us any further about the changes, we would be glad to go into it. That is all I had.

MR. SPURRIER: Without objection, they will be admitted. Does anybody have a question of Mr. Ainsworth? Mr. Macey.

MR. MACEY: In connection with your recommendations, Rule Nine, the suggested revisions which you have suggested would simply allow the Commission to adjust, basically would allow the Commission to adjust the allowables as in the second months, on the second month following the period in which your shortage would occur?

MR. AINSWORTH: That is right. You would adjust your March allowable to conform with your January period, and April with February performance rather than going back two months later and recomputing the January allowables.

MR. MACEY: All right. Now, in connection with that, yesterday, Mr. Adair suggested a minimum allowable. Under your proposal, could you work a minimum allowable and be able to balance a pool or what do you know about it?

MR. AINSWORTH: Well, if the minimum allowable is greater than the market demand, I don't see that you can, I mean if you set a minimum allowable at five hundred thousand and the market demand is only three, I don't see how it can be handled rateably. I haven't given that much thought, frankly.

MR. SPURRIER: Anyone else have a question?

MR. ADAIR: Eugene Adair, Texas Pacific Coal and Oil Company. I believe your statement was you didn't see how you could take rateably in a minimum allowable higher than market demand. What would prevent you?

MR. AINSWORTH: Well, if one pipeline was all that is involved that could be done. Where Permian and El Paso connect on it

at a rate of three hundred thousand at the connection, there is no rateability.

MR. ADAIR: Is there a rateable take under the present proration system?

MR. AINSWORTH: I think so.

MR. ADAIR: You are taking just as much as El Paso.

MR. AINSWORTH: Oh, no. Per well you mean?

MR. ADAIR: Yes.

MR. AINSWORTH: I don't know that.

MR. ADAIR: Then you don't know whether or not you are taking rateably, do you?

MR. AINSWORTH: I know that over a period of time we will certainly have to.

MR. ADAIR: Suppose the allowable is two million feet per day, suppose you take a million and El Paso takes five hundred thousand.

MR. AINSWORTH: You say the allowable is two million?

MR. ADAIR: We will say that.

MR. AINSWORTH: Well, how did the allowable get that high if each of us are taking less than that?

MR. ADAIR: Are you trying to say what you take fixes your allowable?

MR. AINSWORTH: Over a long period of time.

MR. ADAIR: Under February, Langmat was one hundred four thousand feet, Jalco, one million plus per day, did you or did you not take the allowable?

MR. AINSWORTH: I don't know, sir, I think we did, but I don't have the February take figures with me.

MR. ADAIR: The figures we have on El Paso that took an average of about 689,000 feet per day from our wells.

MR. AINSWORTH: Well, if I may be allowed to guess, I would guess that we took about a million per well per day.

MR. ADAIR: Then, your takes and, between the two lines, was not rateable, was it?

MR. AINSWORTH: No, not in a month, but if that were to continue for a year, one of us would find ourselves badly under and the other over produced and we would have to work out some sort of inner connection, exchange gas, balance out.

MR. ADAIR: Have you ever done that?

MR. AINSWORTH: At Hugoton, Kansas, many times.

MR. ADAIR: You think it is permissible under contracts?

MR. AINSWORTH: Under contracts?

MR. ADAIR: Yes.

MR. AINSWORTH: I am quite sure that our contracts do not forbid that.

MR. ADAIR: Is that permissible under your dedication of gas?

MR. AINSWORTH: To exchange gas.

MR. ADAIR: In New Mexico, on this particular gas we are talking about?

MR. AINSWORTH: I don't know anything to the contrary.

MR. ADAIR: Would you be willing to look into that and at next month's hearing give us a statement?

MR. AINSWORTH: I sure would.

MR. ADAIR: That is all.

MR. SPURRIER: Anyone else? Mr. Macey.

MR. MACEY: Are you familiar with El Paso's minimum take provision of their contracts?

MR. AINSWORTH: Only what I have heard here in the Court room.

MR. MACEY: You heard some testimony to the effect that they have approximately a hundred thousand minimum take provision per day, which is over a one year period. In other words, if they do not take five hundred thousand per day over one year period, they have to pay for the difference they did not take?

MR. AINSWORTH: Yes, sir.

MR. MACEY: Let's assume that we have a pool and in that pool we have two wells on 160 acre units, side by side. The allowable which this Commission would normally assign to those wells which we must assume are capable of producing a considerable amount of gas each, with equal reserves, the Commission takes no nomination and determine that the per unit allowable per day is 250,000 feet of gas. Now, if we set a minimum allowable of 500,000 feet of gas, there is nothing that says you have got to take that gas, necessarily. But let's assume that the pipeline company, or pipeline companies in the area, one of them, takes 125,000 from one of the wells and the other one takes 375,000. Now, over a year's period, those two operators will get the same income won't they, because they will have to pay for the gas they don't take, does that follow?

MR. AINSWORTH: Yes, sir, they are both going to be paid for 500,000, as I understand it, all the dnes selling three seventy-five

and one seventy-five, they are.

MR. MACEY: Now, if that situation continues over a long, long period of time, the one well, even though the operator has gotten the same amount of income for his well that his neighbor has gotten, that one well will have considerably less volume of gas under his property than the other well, isn't that true?

MR. AINSWORTH: That follows, certainly.

MR. MACEY: If they started out with equal reserves?

MR. AINSWORTH: I am not an engineer and may not be capable of answers to further questions.

MR. MACEY: What I am getting at is strictly a pipeline problem, I believe. If you are taking ratably or El Paso taking ratably, do you think you can approach a minimum rate of take within a pool?

MR. AINSWORTH: I do not.

MR. SPURRIER: Anyone else?

MR. ADAIR: What difference would it make, Mr. Ainsworth, whether you had a minimum take or not, set the allowable at 500,000 or whatever you want, under Mr. Macey's hypothetical situation, what difference would it make whether you had a minimum allowable or not, as long as you take 125,000, and El Paso 375,000, that situation is going to exist regardless of what the minimum allowable is, would it not?

MR. AINSWORTH: Are you assuming that both pipeline companies have that pipeline?

MR. ADAIR: Leave that out entirely. Let's assume that

you have an allowable set at 500,000 feet per day, and let's assume, as Mr. Macey has assumed in his hypothetical situation, that you take only a 125,000 feet and the other 375,000 per day, you are going to wind up in the same situation as Mr. Macey has described, are you not? In other words, the minimum allowable has nothing to do with the fact that one purchaser takes more than the others, regardless of whether you paid for a certain quantity or not, is always going to result in inequity, is it not?

MR. AINSWORTH: If you fix the allowable consistently at a greater figure than you know the demand is going to be, you might make that minimum two million, or five million.

MR. ADAIR: There is nothing about the allowable that requires a purchaser to take the gas, is there?

MR. AINSWORTH: No.

MR. ADAIR: You actually take what you need?

MR. AINSWORTH: That is right.

MR. ADAIR: Regardless of what the allowable is?

MR. AINSWORTH: But your nomination is a forecast of what your needs are going to be.

MR. ADAIR: But you don't know what your needs are going to be until a period is passed, do you?

MR. AINSWORTH: Well, we don't know to the MCF, but we know pretty accurately what our requirement might be.

MR. ADAIR: Do you have any idea how much gas you took per unit from either the Jalco or Langmat?

MR. AINSWORTH: A million per day per well, a guess.

MR. ADAIR: Let's assume that is a good guess. Then in the Langmat, where the allowable is 1,044,000, or something in that order, you did not take the full allowable, did you?

MR. AINSWORTH: If those figures are accurate, that is right, I don't have any way to check them now.

MR. ADAIR: So, setting the allowable, except the place above which you can not go except in an emergency?

MR. AINSWORTH: Well, you have flexibility to go above that.

MR. ADAIR: You do have that flexibility?

MR. AINSWORTH: Sure, the reserves provides six times the current allowable.

MR. ADAIR: The point I am trying to make now, I am not trying to trap you, or anything like that, all I am trying to get out of you is this setting the allowable, that has nothing to do with your actual take of gas.

MR. AINSWORTH: During the current month, that is right, during this month of March what the schedule shows the March allowable to be may not have very much to do with how much we are going to take during the month of May, but what we fail to take, or do take, is going to reflect in our May schedule.

MR. ADAIR: When did you intend taking the 44,000 that you did not take in Langmat when did you intend taking that?

MR. AINSWORTH: I am sorry --

MR. ADAIR: (interrupting) You were somewhere in the neighborhood of a million feet per day per unit?

MR. AINSWORTH: That is a guess.

MR. ADAIR: The Langmat allowable was a million forty-four thousand, approximately, you didn't take that. When did you intend to take it?

MR. AINSWORTH: Maybe this month, if not next month.

MR. ADAIR: Is it in a part of your nominations for the month of April?

MR. AINSWORTH: Our nominations are what we expect to take in total.

MR. ADAIR: During the month of April?

MR. AINSWORTH: Had they been current or what?

MR. ADAIR: So in effect, you have ignored that 44,000 that you did not take in February?

MR. AINSWORTH: No, sir, there are some rather complicated computations that Mr. Macey and I have spent some time on, so the exact method of making adjustments for the overage and underage, I think you have to understand them before you can understand what I am trying to say. One pipeline could in one pool, suppose it is us with our requirement for 10 million a day, three hundred million a month, suppose that pool had a underage of a hundred million at the beginning of the month, all the wells in the pool had a combined under production of a hundred million, we want three hundred million, so the Commission then sets two hundred million of current allowable among all the wells in the fields, adds to that the under hundred million.

MR. ADAIR: That is just a bookkeeping matter?

MR. AINSWORTH: That is right.

MR. ADAIR: You do take only what gas you need, regardless of what the allowable is, is that correct?

MR. AINSWORTH: By month, in one particular month, that is right.

MR. ADAIR: Do you, as a pipeline company, have any objection to the Commission writing an order setting the minimum allowable at your minimum pay provision of your contract, with the understanding now that you don't have to take the gas and you are not going to take the gas unless you need it?

MR. AINSWORTH: No, sir, we do not.

MR. ADAIR: You take only what gas you need, regardless of what the allowable is?

MR. AINSWORTH: That is right.

MR. ADAIR: Now, do you, as a pipeline company, have any objection to the Commission requiring you to live up to the terms of your contract?

MR. AINSWORTH: I don't know whether I should answer that or not, whether I am competent to answer it or not. If you want me to answer for myself, I will say that I don't like a minimum allowable of any size.

MR. ADAIR: But you are willing to contract to one?

MR. AINSWORTH: We strive to fulfill our contract obligations.

MR. ADAIR: For a period of some 20 years or more?

MR. AINSWORTH: We do.

MR. ADAIR: You should then have no objections whatsoever to the Commission's setting an allowable that would permit you to fulfill your contractual obligations?

MR. AINSWORTH: I don't know the answer to that. I think that the pipeline companies, certainly, we must have enough flexibility that we may underproduce these minimums in summer months when your market demands are low and your whole system is going through an overhaul, and to undertake such minimums, since, naturally, within time you have met the annual requirement. Certainly, we expect to do that.

MR. ADAIR: Then if you expect to meet the annual, then you should have no objection whatsoever to the Commission permitting you to do that?

MR. AINSWORTH: Over a year's time or month by month, or with a minimum of 500,000 per well?

MR. ADAIR: Whichever way your contract is, I understand it is a yearly basis, is that right?

MR. AINSWORTH: That is right.

MR. ADAIR: So that it would average over a year.

MR. AINSWORTH: I don't see the need for such an order, if the time should come, then I think the operators might probably come and make a case to the Commission.

MR. ADAIR: Well, if you don't intend to vary from the terms of your contracts, then you as a gas purchaser certainly should have no objection to the Commission setting the allowable in such a manner as will permit you to live up to your contract.

MR. AINSWORTH: I have to ask you again if you mean 500,000 feet a day every day every month, or do you mean some annual lump sum?

MR. ADAIR: If the Commission sets the allowable at 500,000 feet per day per month every month will not that permit you to live up to your contracts?

MR. AINSWORTH: We don't have such contracts as that, and personally I would hate to see that, because we are going to require less than that.

MR. ADAIR: You have testified that you haven't taken the allowable, you take only what you actually need, regardless of what the allowable is. If the Commission sets the allowable at a figure that permits you to live up to your contracts over a year's time, or El Paso, over a year's time, serving you as a gas purchaser, you have no objection to the Commission setting the allowable in such a fashion it would not in any wise cause waste, would it?

MR. AINSWORTH: If they fix the market demand.

MR. ADAIR: Regardless of what the allowable is.

MR. AINSWORTH: I also testified that these amounts that we return one month are going to be made up the following or the second following. They are not going to become cumulative as they would in your proposal, as I see it, if you continually set the allowable greater than demand, you are going to have a pyramiding under production that never will be made up.

MR. ADAIR? Let's look at it this way, let's assume that

you have considered to take a hundred and 80 thousand MCF a year, per unit. Now, if my figures are correct that would average out about 500,000 feet per unit per day, would it not?

MR. AINSWORTH: That is right.

MR. ADAIR: You intend, as a gas purchaser, you have considered to take that unit to live up to your contract, right?

MR. AINSWORTH: Right, we do.

MR. ADAIR: As long as the Commission writes that up and sets the allowable 500,000 per day per unit, how are you hurt, how is the Commission hurt, the production hurt?

MR. AINSWORTH: On July first, underages are going to be cancelled.

MR. ADAIR: I am talking about your actual takes and what you are contracted to take. Let's forget for a moment what is under and what is over, as long as the Commission gives you an opportunity to get a 180,000 MCF per year, the Commission has permitted you to do all you want to, has it not, as long as they permit you to take that much gas, that is your only interest isn't it?

MR. AINSWORTH: We might require three times this minimum that you are talking about.

MR. ADAIR: During one month, I understand that.

MR. AINSWORTH: We might require half of that in other months.

MR. ADAIR: As long as the Commission sets its wells in such a manner as to permit the producer to produce against you if

you do not live up to your contract, do you as a gas purchaser have any objection to the Commission setting an allowable?

MR. AINSWORTH: I think the Commission should set every month what the allowable will be of all the companies buying gas in the pool.

MR. ADAIR: Under the hypothetical situation that I give you, do you think the Commission should set an allowable of 180,000 MCF for a year?

MR. AINSWORTH: No, sir, not necessarily.

MR. ADAIR: In other words, you think the Commission should set an allowable at a different figure than what you have considered to take?

MR. AINSWORTH: At a figure, the total of which will be all nominations, whether they be more or less than one month.

MR. ADAIR: Regardless of the terms of your contract?

MR. AINSWORTH: That is right.

MR. SPURRIER: Anyone else?

MR. MACEY: You have been asked a lot of questions and you didn't answer all of them. I would like to elaborate a little bit about this business of calculating your allowable. Now, as Mr. Adair, to use his example pointed out, the Langmat pool for January was one million, four hundred thousand per well per day, approximately, and you agreed that you took about a million.

MR. AINSWORTH: That is for February.

MR. MACEY: Well, any month you want to name. All right, February. Now, you set your nominations, you will have already

filed with this Commission your nomination for the month of April?

MR. AINSWORTH: Yes, sir.

MR. MACEY: You failed theoretically to take 400,000 cubic feet of gas in February from a well. Now, if the total allowable for the month of April is reduced, the total current allowable for the month of April which is computed by taking the nomination and dividing among all the wells is reduced by that 400,000 average, you will in effect be taking that February allowable that you didn't take, isn't that correct?

MR. AINSWORTH: That is right. Assuming that we are going to take a million, still, we will in April, we would be taking 600,000 and 400,000 in under production.

MR. MACEY: And your nominations are based on actually what you want to take satisfying preceeding months at all, is that correct?

MR. AINSWORTH: Total takes.

MR. MACEY: So that at the end of April, if you take exactly the allowable, you in effect, would have taken exactly the allowable that has been assigned during a period?

MR. AINSWORTH: The February allowable and the April allowable.

MR. MACEY: That is all.

MR. SPURRIER: Anyone else have a question of Mr. Ainsworth? If not, the witness may be excused. Mr. Foster, did you have some testimony you would like to put on?

MR. FOSTER: Yes, sir.

MR. SPURRIER: Are you ready?

MR. FOSTER: Yes, sir. If it please the Commission, I want to congratulate Jack Campbell a little bit. I kind of like what he said yesterday, and the way he said it, although I didn't agree with all of it. I think it is helpful to everyone to kind of briefly outline what we expect to prove. Mr. Grimm here has heretofore testified to these pool delineations and today he will testify to the same matter. We are going to attempt to show that the vertical limit of the Jalco, Eumont, Langmat and Arrow Gas Pools, as presently delineated by the Commission, should be abolished and the vertical limits extended as one pool to include Yates, Seven Rivers, Queen, Grayburg and San Andres. We will offer by another witness, testimony regarding this matter of minimum well allowables. We will also attempt to show that the real question involved here is how best to limit the gas production from the gas wells and the gas production from the oil wells producing from this common source of supply. We will further attempt to place in the record here, that with as little history and background as we have on proration of gas in New Mexico, that we must of necessity produce largely on a trial and error basis, as a means of finding the point of equalization of reservoir voidance of space between the gas wells and the oil wells. One other remark that I want to make here, it may appear a little bit out of line, that we seem so far out ahead of the parade here in taking such an active part in presenting testimony in this case, when our

interest is relatively speaking, in all these areas, small as compared to other producers' interests. But we kind of got into it and we don't want to just quit and walk off. I think these records ought to have some facts in them and sometime, I don't know how much time should elapse, but we ought to get out of the talking stage on this matter of proration. This has been sort of a running affair for over a year now, and we don't seem to be getting anywhere, except just to meet and talk about our problems. Now, we are going to put the facts in here and if somebody else has got any testimony, and doesn't agree with it, they can put the facts in. We think we owe that duty to the Commission.

MR. SPURRIER: Let's take a recess, Judge, before you start.

(Recess)

MR. SPURRIER: Meeting will come to order.

R. D. G R I M M

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. FOSTER:

Q Would you state your name to the Commission?

A R. D. Grimm.

Q And you have testified here before, haven't you, and stated your qualifications, haven't you, Mr. Grimm?

A Yes, sir.

Q I want you to mark these exhibits here now, that you have on the boards, and on the wall, in the order in which you will

testify regarding each one, starting with Number One and continuing until you have finished.

A (Witness complies.)

Q Directing your attention there, Mr. Grimm, to the Exhibit which you have identified as Exhibit Number One, will you tell the Commission what that Exhibit is?

A Exhibit Number One is a map of the area of southeastern New Mexico, consisting of Townships 19, 20, 21, 22, 23, 24, 25 south and Ranges 36, 37, 38 east. On this map we have indicated the wells which have been drilled as oil wells in the area, or as a supplemental oil or gas well, in addition to gas wells that are on here. Then we have designated the wells in the individual field areas as the Commission presently delineates them for oil pools. The different colors encircling each oil well symbol were put on in order to more easily delineate the field in which the wells are presently listed. However, we did not use a different color for each field, but merely a different color for fields adjacent to each other which are not separated by a non-producing oil area. In other words, the Monument area, the Eunice Monument field, the oil wells are encircled in red and the Eunice, they are encircled in blue; however to the east of the Eunice Monument area, both the Skaggs and Hardy wells are circled in red. However, the Hardy and Skaggs are separated from each other and by Monument, by a non producing oil area simply south of Eunice. I have the southeast Eunice wells encircled in red and the area ahead encircled in red. However, they are separated from each

other by a non producing area insofar as oil is concerned. The same type of designation is carried through, all the way down to the Texas, New Mexico area, or boundary.

Q Let me ask you this. What producing oil areas are shown there on the map, can you name them?

A Producing oil areas?

Q Presently delineated by the Oil Conservation Commission.

A Those which are presently delineated by the Oil Conservation Commission and which are encircled on the map are the Eunice Monument, Skaggs, Hardy, Penrose Skelly, Langmat, Falby, Leanord, South Leonard, Eaves and Rhodes.

Q Now, as presently delineated, what gas producing areas are indicated on the map?

A The gas producing areas shown include all of the gas pools now under the names of Eumont, Langmat, Jalco, and Arrow.

Q Just these four pools?

A Yes, sir, but they are not separated one from the other.

Q I understand that, what is your source of information, with respect to the facts reflected on Exhibit Number One?

A Allowable schedules of both oil and gas.

Q Now, I notice there that you have the oil wells circled. How have you designated the gas wells in this area that you are talking about, these four pools?

A The gas wells are designated by a star symbol made

with a brown colored pencil, with the acreage supporting or allocated to each individual gas well, X'd or crossed with the brown colored pencil.

Q Now, again, your information, with respect to that which is reflected on the map was obtained from what source?

A Oil Conservation Commission proration schedules.

Q Now that map, as I look at it, reflects gas wells throughout the entire area of these four pools that you have named, is that correct?

A Yes, sir.

Q And in this area, how many oil wells and how many gas wells are there?

A Within the area and including only the wells so designated in the pools previously mentioned, there are 2306 oil wells and 383 gas wells.

Q As presently reflected on the schedules of the Commission?

A That is not the March schedule, because it was not available to me, that is previous to March.

Q On the February schedule?

A Yes, sir.

Q Now, for what purpose did you prepare that map, Mr. Grimm?

A I prepared the map for the purpose of aiding me in delineating what I believe to be a common source of supply of oil and gas, or hydrocarbon material within this area.

Q Within the four pools that are presently designated as oil pools and gas pools, is that correct?

A Within the four pools presently designated as oil pools and some, I don't remember the number, eight or ten oil pools, but the area goes outside of the presently designated gas pool limit.

Q Now, you say the area, you mean that laterally?

A Yes, sir.

Q And vertically?

A Yes, sir.

Q Now, directing your attention there to Exhibit Number Two, will you tell the Commission what that is?

A Exhibit Number Two is a structural contour map constructed on the top of the "H" formation, having a contour interval of 100 feet.

Q That is the structural map that would overlay the area you have just talked about, as reflected on Exhibit Number One, is that true?

A That is correct.

Q Now, you have prepared some cross sections of these areas that you have been talking about.

A Yes, sir, I have, and they are located on this map and the cross sections themselves are on an individual exhibit placed on the wall.

Q And you prepared east and west and north and south cross sections?

A I prepared one north and south cross section, top area of the Eunice Monument field and continuing on down to the Texas, New Mexico line in the south end of the Rhodes Oil pool, and three east-west cross sections, one across the center of it as reflected on the structure map in the Eunice Monument pool. One goes along the south part of the Eunice portion of the Eunice Monument pool and from there over just north of the Arrowhead pool and continuing on to the Penrose Skelly Oil Pool and the three east-west cross sections are across an area between Cooper Jal and the Langlie Mattix Oil Pools.

Q As regards the vertical limit of these four gas pools, that are presently delineated by the Commission, what producing formation are we talking about?

A We are talking about the Yates, Seven Rivers, the Queen, the Grayburg and the San Andres in the entire area.

Q Now, have you prepared a cross section, north and south cross section of these producing areas for the purpose of demonstrating here to the Commission that all these producing formations that you have mentioned are contained in one common source of supply?

A Yes, sir, that is, I think I have marked it as Exhibit Number Three.

Q Will you go up to Exhibit Number Three and, you may have to speak a little louder, and explain to us the north and south cross sections of these gas producing areas that you have mentioned?

A Starting in the north edge, north of the Monument Oil Pool, Section 19, Township 8, South, Range 37, east.

Q Now, just so that everybody will get a little orienated will you come to Exhibit Number Two and point out where that would be on your contour map?

A Just north of this area right here. This cross section then goes in a southerly direction through the Kelly Number One, Phillips Lambert, Gulf Number Six Mathews, Atlantic K, State, Continental 2-B-18 Meyer, Shell State, Atlantic et al. Selby, and ends in the Continental Number 2-W10 Eaves, in the northwest of the southeast of Section 30, Township 26 South, Range 37 East, just above the Texas-New Mexico line on the very southern edge of my map.

Q That is on Exhibit Number Two.

A I might say this cross section is along the western edge of the structure as it is so mapped on Exhibit Number Two in order to stay comparatively close to the presently designated limit between the Jalco and Langmat gas field.

Q How did you select the particular wells that are delineated there on Exhibit Number Three?

A I did not select any particular wells when I first laid out my cross sections, but I exhibited the position in which I wanted the cross section to be drawn. Then the wells were estimated from information which we had in our own office and from wells on which we had logs and were not meant to take in every well that we had that information on, but merely to show a cross section in a north south direction and get enough wells on there to show approximately the tops of the individual formations and to show the continuity from north to south, as far as our information made it

available.

Q From what source did you obtain the information, with respect to the wells that are shown on Exhibit Number Three?

A These well locations which we secured from the individual well logging service companies.

Q Do you regard that as a reliable source of information?

A Yes, sir.

Q There is nothing unusual about that, it is standard practice in the industry, is it not?

A That is my belief.

Q If the same information was available from the individual company itself, there would be no substantial bearing on that and the information you get from the individual companies, would there?

A That is right.

Q There shouldn't be, at least, should there?

A No, sir.

Q Now, these several wells that you have identified there on Exhibit Number Three, they are not to be taken as the only wells which would reflect the information with respect to the producing formation, are they?

A No, sir, there are a lot of other wells.

Q You could have gotten the same results as is reflected on Exhibit Number Three, there, by the means of using other wells, could you not?

A That is right, it would be. A similar cross section would not have been identical, however.

Q You have used somebody else's wells, it would have been

designed to reflect the same information as reflected by the use of wells shown on Exhibit Number Three, is that it?

A That is right.

Q Tell us what Exhibit Number Three shows.

A That the north end of this trend of oil and gas reservoir, the Yates, Queens, Seven Rivers and San Andres have been penetrated by gas wells, I beg your pardon, partly by gas and partly by oil wells.

Q Yes, sir.

A The Exhibit also shows as you go in a southerly direction wells of approximately the same depth do not penetrate, maybe I better should say wells to approximately the same subsea depths do not penetrate.

Q What is the subsea data you are using there?

A In Exhibit Number Three, the horizontal line at the top of the cross section is at a plus 11 hundred feet above sea level, that line was used to line up all of the individual wells in their relative position.

Q All right, now, go ahead and tell us what it shows.

A It shows that these formations --

Q What formations are you talking about?

A The Yates formation, for one, is continuous from the north edge of the field to the south edge of the field, and has been penetrated by the wells on this cross section. I might say right here that we, in our office, do not pick a Seven Rivers Point, I mean a combination of the Yates-Seven Rivers formation that is named in various publications.

Q You didn't separate it?

A That is correct.

Q O. K.

A The Queen formation is productive of both oil and gas in the north edge of the area as depicted on this cross section and as you approach the area in the southern edge of Township 21, South, Range 36 east, it is getting down below the productive interval of the individual wells.

Q About what point would that be, on Exhibit Number Two?

A Well, that is about the point of Shell State well, which is in the southwest, southwest Section 32, Range 36 east.

Q Will you indicate where that would be here on your contour map, Exhibit Number Two, or go over here on Number One.

A Right here, (indicating).

Q Where is that on Number One, cross over there.

A Right in the south edge of the Eunice field, which is right there.

Q South edge of the Eunice field, with a producing formation.

A I was talking about the Queen formation as is shown on this cross section, however the Queen picks up again in Section 34, Township 23, South, Range 36 East, as is shown on the Grayburg, Number One, Stephens Well. It also picks up again to the east of the position which I have on my cross section. The Grayburg shown on this cross section on the north end of the section is productive of both oil and gas on the Eunice Monument area and disappears from production standpoint approximately in the peak of

the Continental Number Two Meyer Section 28, Range 36 East. The Grayburg is also productive on the East Skelly area.

Q Now, indicate where the Grayburg becomes non-productive on the north and south cross sections here with respect to Exhibits Number One and Two.

A Approximately in this position on Exhibit Number Two, and across here on Exhibit Number One.

Q O. K.

A Simply the San Andres is productive of very little gas, mainly in the oil zone in the Eunice Monument area and disappears from a productive standpoint at about a mile south of the division between the boundaris of the Eunice Monument Pool and the Eunice area, Eunice Monuments. It also is productive further east of the Skaggs Pool, but only in the oil pool, to my knowledge.

Q Now, turning to your east-west cross section, with respect to these formations that you have identified, what do you find there?

A On my east-west cross sections, which are identified as Exhibit Number Four, Five and Six, in this hearing, I show that the individual formations of Yates, Queen, Grayburg and San Andres, are continuous in an east and west direction across this inner trend. However my cross section as I go south, pick up fewer of these individual formations, by reason that the wells did not penetrate them. They are not productive in the south end. However, I do not mean that the formations are not there.

Q Yes. Now, on Exhibit Number Four, there, what wells do you have shown there, Mr. Grimm?

A Exhibit Number Four, there shows on the western end of the cross section numbered in red, in the northwest, northeast Section Three, Township 20, Range 36, East. It goes east to the Anderson Carpenter Number One Bryant and ends with the Tidewater Number One, Northwest, Township 20 South, Range 38, East.

Q Was the source of your information and what is reflected, the same as your source of information regarding the wells on Exhibit Number Three?

A Yes, sir.

Q And what wells are shown on Exhibit Number Five?

A Starts on the western end in the Amerado No. 1-A-WE-State, Section 12, 21 South, Range 35, East, goes easterly through the Continental 2-B-18 Meyer, and Stanolind Number 1-T State and Amerada 1-Warlick and ends with the Gulf 8-C Eubanks, Section 22, Township 21 South, Range 37, East.

Q Now, your source of information with respect to that exhibit is the same as your source of information regarding the other exhibit, is that correct?

A Yes.

Q Now, going to your last east west cross section there, what wells are reflected on that?

A On my Exhibit Six, which is my western end with the Sinclair Number Four Hanagar, which is Northeast, Northeast, Southwest, Township 25 South, Range 36 East, goes in an easterly direction through the Olson Number One Calley, and Anderson-Pritchard Number Four Langlie and ends on the eastern end with the western Natural Number 1-E Eaton in the Southwest of the Southwest of

Section 12, 25 South, 37-E.

Q What formations are reflected on that Exhibit Number Six?

A I have only the Yates and a small portion not seen on the eastern edge of the cross section.

Q And your source of information is the same with regard to this exhibit as the others, is that correct?

A That is correct.

Q Now, have you made a study, or do you have information from any other source, with regard to the studies that you have made here for the purpose of determining whether or not all these areas that you are testifying about are one common source of supply?

A Yes, sir.

Q Will you state what those sources are?

A The sources are all the production records, numerous sample well logs, as well as samples themselves.

Q And when you say samples themselves, what do you mean?

A Samples from the wells that were retained as the wells were drilled, and also a number of core analyses, the individual bottom hole pressure, surveys taken on these individual oil pools as presently designated, and as turned into the Conservation Commission, well head pressure surveys from the same source as well as individual company records which we have accumulated in our own department, that are probably too numerous to mention here.

Q Now, will you tell us what some of your core analyses reflected?

A Core analyses reflected a very wide range of both porosity

and permeability distribution. It would be rather hard to put those into limits, but they probably go from zero to 30 percent porosity and from less than a tenth a millidarcy permeability to several thousand millidarcies with according varied water contents which would vary from zero to a hundred percent.

Q Based on all these studies that you have made, Mr. Grimm, I will ask you to state whether or not in your opinion, the Yates, Seven Rivers, Queen, Grayburg and San Andres is all one common source of supply.

A Within the area of the oil and gas pools which I have mentioned, with the exception, or the possible exception of the Skaggs oil pool, which is in the San Andres, it is my belief they are all one common source of supply. They are limited in both lateral and vertical extent, partly by structure and to a large extent by porosity and permeability limitations.

Q Would you recommend to the Commission that the vertical limit of the Jalco, Eumont, Langmat and Arrow Gas pools, which are presently delineated by the Commission, be abolished?

A Yes, sir.

Q And would you further recommend that the vertical limits be combined as one pool to include all these producing formations that you have mentioned?

A Yes, sir.

MR. FOSTER: I believe that is all.

MR. SPURRIER: Does anyone have a question of Mr. Grimm?

By MR. MONTGOMERY:

Q Would you attempt to correlate?

A Not on these cross sections, no, sir.

Q Do you think you would have a different interpretation if you attempted to correlate those?

A Not in as far as the cross sections are concerned, no, sir.

Q I notice on the Corbett Number One, I can't see too well from here, but is that the proper title for Yates there, that is down in the lower left hand cross section?

A That is our correlation, yes, sir.

Q Well, the next one down?

A That is the Queen.

Q Is that the proper title?

A According to our correlation, yes, sir.

MR. SPURRIER: Anyone else? Mr. Campbell.

By MR. JACK CAMPBELL:

Q Jack Campbell, Texas Pacific Coal and Oil Company. Do I get these figures correct in this entire area which I understood includes something beyond the presently defined geographic limit, there are 2306 wells on the oil allowable schedule?

A Yes, sir.

Q 383 wells as gas wells?

A Yes, sir.

Q Have you made any effort to break that down by the producing formation in which those wells are now producing?

A No, sir.

Q You say you consider this to be one common source of supply. Are you in a position to express an opinion as to whether

you consider it a common source of gas or oil, or both?

A I would say it is a common source of gas supply and a common reservoir for both oil and gas.

Q Now, if there are 2306 oil wells and 383 gas wells, isn't that sort of a case of the tail wagging the dog, to define it as a gas source of supply?

A Not to me, it isn't, it is a source of supply for both oil and gas.

Q That is what I say, why do you call it a gas source of supply then?

A Well, I can break it down into either oil or gas, as far as the source of supply.

Q Could you break it down in a common supply of oil and gas?

A Yes, sir, common reservoir.

MR. SPURRIER: Anyone else? Are you through, Mr. Campbell?

MR. CAMPBELL: Yes, sir.

MR. SPURRIER: Anyone else? Jason Kellahin.

By MR. KELLAHIN:

Q Jason Kellahin for Continental Oil Company. Mr. Grimm, how many core analyses did you have available to you for this survey?

A I am afraid I can't answer that question, I would say, oh, all told, I probably have seen maybe 25.

Q Those 25 though that you examined were all used in connection with these cross sections?

A No, sir.

Q How many did you have for your cross sections?

A I didn't use any in connection with the cross sections. If I gave that impression, I am sorry.

Q Are any of those wells included on your cross section?

A I can't say.

MR. SPURRIER: Anyone else?

By MR. JIM TOWNSEND:

Q Jim Townsend for Stanolind. Did you testify that you had studied the bottom hole pressures and well head pressures surveys on some or all of these wells?

A Yes, sir.

Q Did you note any difference in pressure between the Yates, Seven Rivers and Queen formation in the Langmat and between the Queen and Grayburg formation in the Monument area?

A No, sir, not as such. Of course, ever since any production has been obtained from the areas as a whole, you have had difficulties in pressures both between wells and property between wells which may be in different formations as they are presently delineated. I did not note any difference as between formations as they are presently designated any more so than would be any normal difference in any common reservoirs.

Q If such differences were in existence and were substantial would you attribute any significance to that fact?

A I would if there were substantial difference that you would have a zone of low permeability.

Q Is that all?

A Yes, sir.

Q What about these differences, wide differences, in porosity in permeability that you noted, did you gather that, the fact there was such a difference, was that the conclusion on which you based that fact there was a common source of supply?

A I don't believe, if I get your question correctly, that I based that on the differences.

Q You stated there was wide variation in both.

A Yes, sir, there is wide variation in both porosity and portable water content and the same wide differences are evident in any gas pool which I have studied, of this nature.

Q Were the variations sufficient, in your opinion, to separate the various formations?

A No, sir.

Q At no point that you observed?

A At certain points that may be separated by zones of low permeability, but I don't believe to any great extent.

Q Do you know what those points are?

A No, sir.

Q Would you state the basis for your conclusion or restate it, if you already have, that all these pools are within a common source of supply?

A The main reason is that I could find no bearing of any great extent in addition as so shown on Exhibit Number One, the pools as presently designated, you can go from one well in one pool to one well in the next pool, or from one well in one pool to a well in the same pool, which, from a structural standpoint would

have to be in different formations as designated on the cross sections, and yet they are producing in my opinion from a common source of supply and they have been so designated before this Commission for some 20 years.

MR. TOWNSEND: That is all, thank you.

MR. STANLEY: I would like to ask you a question. Do I understand you correctly when you group Grayburg and San Andres formation as a common source of supply, would you penetrate and expose these formations with one well bore?

A I would penetrate and expose them with one well bore if they were all strictly in the gas zone and I wanted to make a gas well, and if they were all in the oil zone and I want to make an oil well, I would do the same thing, I would not expose them if part were in the oil zone and part in the gas zone.

Q Let's take the Monument zone, for instance, overlying Yates formation, overlying your oil formation and have the Yates producing gas, would you go ahead and expose it?

A Down to the top of the oil zone, yes, sir.

Q Are you familiar with the Monument pool itself?

A Yes, sir.

Q What formations are producing from the Monument pool?

A As a part of Eunice Monument pool, the Grayburg and San Andres.

Q Is it a very active water drive formation?

A That is probably right, yes, sir.

Q That is the usual case throughout the Monument pool, in fact, you are familiar with the fact that every day operators are

hooking on wells in the Monument pool that are unequitable, due to the great production of water?

A That is true, that is also true of the other zones.

Q Then you would expose these formations and allow this water to flow up into the Yates formation?

A I would not ever expose a water producing zone within a well, if I left that impression I didn't mean it. If and when it would come up into the bottom of the well, I would insist on it being plugged back, if it were my say so.

By MR. MACEY:

Q Following along Mr. Stanley's question there, you said you would allow a gas zone down to the top of the oil connection to be exposed in one well bore, is that correct?

A Yes, sir.

Q As you withdraw that gas from the gas zone, the oil is going to move up in the structure, isn't it?

A Yes, sir.

Q Is that good conservation practice?

A No, sir, not if you withdraw the gas at a higher rate than you are withdrawing from the oil pool. I didn't mean to infer that I would proceed only from the gas zone, I would recommend at least a small pressure differential in favor of the oil zone.

Q That would require a constant bottom hole pressure analysis would it not, over the entire area?

A Not necessarily bottom hole, you could do the top hole Ekometer but it would require a periodic check, once a year perhaps.

Q You use the word common source of supply, what do you mean by common source of supply?

A Common source of supply, I mean a reservoir which is not limited in its effective permeability to the hydrocarbon fluids contained therein.

Q All right, now, did you mean by saying this entire area was a common source of supply, did you mean there are not any single barriers at any one of the zones in this area?

A I meant there are no barriers within any of these zones in my opinion, which extend from edge to edge of the reservoir, or which completely shut off the reservoirs in its entirety from any other portion of the reservoirs, with the probable exception, I might say probable exception of the Skaggs, San Andres area which lies in the eastern half of Township 20, Range 37, I guess, and I do not have for, across that particular area to tie in the San Andres Oil pool with the San Andres oil or gas produced to the west of it.

Q Now, with reference to the Yates formation, are you familiar with the difference in pressure in the Yates, from the Arrow, well, for example, down around the town of Jal which is in 25,37 to the town of Monument which is about 19, 26 and 30, 27, how is that pressure differential set?

A Off hand I couldn't say, I can look it up.

Q Well, if a great pressure differential existed, do you still think that is a common source of supply, if there is as much as an eight hundred pound differential?

A I would rather expect you might even find more than that from one area to another, yes, sir. Well, in any producing area of this extent, you can find that much pressure differential in extreme cases of low permeability. I have seen as much as two thousand pounds difference between two offsetting wells, it was in my opinion, was considerably a tighter formation than this one and probably there may be isolated small zones of porosity in the very top of the Yates which might not be in the rest of the reservoir. However, I think that is minor, that no one would want to complete a well alone.

Q Now, are you familiar with the area in 24 South, 37 East where we have created the Falby-Yates pool?

A Yes, sir.

Q It is in 24, 26, I believe and stands partly in 37.

A I was not here on your hearing creating that pool, however.

Q In that area of the Queen zone, bottom hole pressure in evidence shows that Queen bottom hole pressure is, say in the neighborhood of three or four hundred pounds, whether it is a gas well or oil well, and the Yates zone in the neighborhood of nine hundred pounds, whether it is an oil or gas zone, in the Yates do you think it is proper procedure for this Commission to allow a well to be completed with both zones open in the same bore hole, suppose they were both gas wells?

A If they were both gas zones I believe it would be proper proceedure.

Q Wouldn't you get migration?

A Probably the migration would get down there; in my opinion it might have to go quite a ways around.

Q You answered Mr. Campbell about the dog and the tail. Do you compute the number of producing wells which are in the Monument area and the number of gas producing wells in the Eunice Monument area?

A Yes, sir, as a number I would have to count them too, I don't know the exact number.

Q Isn't it a fact there is a large undeveloped gas area presently designated Eumont pool?

A There is a large area which does not have gas wells, as such, completed in them, that is right.

Q It is potentially gas productive, is it?

A Yes, sir.

Q Now, of course the Monument pool at the present time, Eunice Monument pool is chiefly developed on a 40 acre basis?

A Yes, sir.

Q And essentially on a 160 acres?

A Yes, sir.

Q Is that entire, throughout?

A To my knowledge, yes, sir.

Q There may be isolated cases where it isn't, but they are rather limited, isn't that true?

A That is correct.

Q How about the gas through the entire area?

A Throughout the entire area, the gas zone has relatively few completions in it.

Q Now, from an acreage standpoint, taking the entire area, is the area more productive of oil, or is it more productive of gas?

A You are again limiting it to the Eunice Monument, or the whole --

Q The whole thing.

A Gas.

Q Is it from a vertical standpoint of the vertical limit volumetric standpoint, is the porosity, does it have more gas, or more oil in it?

A The porosity available for oil and gas accumulation within the reservoir is filled with gas to a far greater extent than filled with oil.

Q And that is what you based your answer to the question on, whether you thought it was a gas pool or oil pool, is that correct?

A Well, on that basis, it would be more of a gas pool than oil pool, I didn't understand that I answered that question as such.

Q I may have misquoted it.

A I think I answered to the --

Q I asked whether you thought it was a common source of gas or oil supply and you answered gas.

A Either one or both, I mean to me you could answer that

in two questions and I would answer yes to both of them, or you could ask one and I would answer yes, and I think what I did was answer one question yes, and didn't clarify the other part of the second question.

Q That is all I have.

MR. FOSTER: One other question, on the question of whether there is an oil or gas pool, do you know of any formula by which you can determine whether a particular producing area is an oil or gas pool?

A I do not know of any formula that you can do that, and say it is either one or the other, unless you are producing only one or the other, or if only gas is present in the reservoir. That is, however, true only within my knowledge of a gas pool, I do not know of any oil pools that do not produce some gas.

Q Now, you did obtain the reserves of these figures of these oil areas, did you not, from the reports of the New Mexico Oil Conservation Commission?

A Yes, sir, I have them within the records.

Q What are the reserves figures as compiled by the New Mexico Oil Conservation Commission on oil?

A I will have to read them into the record. As shown by the Oil and Gas Reserves Report, December 1st, 1953, as put out by the New Mexico Oil Conservation Commission, and prepared by the staff of the Commission under Mr. Spurrier and Mr. Macey, the reserves of the fields in question are set out by fields as follows:

Arrow, 26,918,000; Eumont, 508,939,000; Langmat, 982,522,000; and Jalco, 527,479,000.

Q Have you got a total for all those?

A I do not have.

Q All right, now the oil reserves.

A Eaves, 6,200,000; Eunice Monument, 105,800,000; Hardy, 210,000; Langlie-Mattix, 15,430,000; Leonard, 23,600; South Leonard, 426,000; Penrose-Skelly, 4,600,000; Rhodes, 775,000. That is all.

Q With those reserve figures in mind for both oil and gas, did you make a computation as to what the value of the oil is, and what the value of the gas is?

A I made a rough computation that the value of the oil was approximately twice the value of the gas, under the prices as presently in effect on the oil and using a 10 cents per thousand value on the gas for both dry and associated gas.

Q Do you have the figures that you arrived at?

A No, sir.

Q Now, then, as far as the volume of the two substances in the reservoir is concerned, you say the ratio of the volume is about two to one as between the oil and gas?

A That is right.

Q And as to the volume of space that is occupied in the reservoir, what is the ratio?

A I don't have that figure, but it is many times more for the gas than it is for the oil.

Q Well, within limits, how many more times?

A Oh, I would say between three and four times, as a minimum.

Q In other words, the gas occupies, say three to four times as much space in the reservoir as the oil?

A That is correct.

Q Now, without somebody giving you some sort of formula by which you can determine whether the tail is wagging the dog, or the other way around, you don't have any way to tell, do you?

A That is right.

Q Do you know of any formula that you can come up with a sensible answer as to whether it is a gas or oil field?

A I know of no formula in common useage.

Q As a matter of fact, we are not determining this is a gas field or oil field; we are determining whether or not is is one common source of supply, isn't that true?

A That is right.

Q And once that determination is made, or the limits of that determination is defined, we are then concerned with the problem of what equitable basis, or on what equitable basis you can restrict gas production from gas and oil wells, is that the problem as you see it?

A Yes, sir.

Q And bring about, as far as gas restriction from oil wells, the matter of placing some ratio limitation of gas production on the oil wells, would it not?

A Yes, sir.

Q You heard the testimony here yesterday, I believe, by Mr. Adair. He suggested you place a limiting gas-oil ratio of 25,000 to one; you heard that testimony, did you not?

A Yes, sir.

Q Based on your studies of this field, what do you think about that sort of recommendation?

A Based on my studies of the field, it is my opinion that that is too high.

Q Would you say it is way too high, or just a little too high?

A I would say that it is two to three times higher than it should be.

Q Now, it is obvious, isn't it, that some method must be found by which the owners of the gas wells may be permitted to produce their gas without injury to the well reservoir, and some method must be found by which the owners of the oil wells will be permitted to produce their oil wells and the gas necessary in the production without injury to the gas well, isn't that true?

A Yes, sir.

Q Now, are you or are you not prepared to tell the Commission within that limitation those production limitations should be imposed on the gas to the oil level?

A I believe I have an opinion that I would be glad to give.

Q Would you give us that opinion, based on your study of these things.

A In my opinion, the gas demand should be prorated to the reservoir on an acreage basis, with the provision that the gas allowed to the individual gas well be reduced by the amount of gas produced from oil well or wells on the same acreage.

Q Now we haven't touched this year, I have never looked, since this is another year; what in your opinion is the proper drainage area of a gas well in this common source of supply that you have

testified to?

A It is my belief that a gas well can drain at least 640 acres.

Q Maybe more? A Yes, sir.

Q Would you recommend to the Commission that the proration unit in this area be fixed at 640 acres for gas wells?

A Yes, sir.

Q Now, it is true, isn't it, in this area that we are talking about, you find oil wells that are also completed so as to produce gas?

A Yes, sir.

Q What would be your recommendation with respect to the gas allowable from the gas wells that are located on acreage on which there is also located an oil well, which is producing both oil and gas?

A I think I previously stated that the gas allowable as allocated should be reduced by the amount of gas which is produced from the oil well which has the same common acreage, or wells which have the same common acreage.

MR. SPURRIER: Can you find a break there, so we can recess?

(RECESS).

MR. SPURRIER: We will change the order of the docket a little bit. Now, we want to recess Case 673 until 1:30 and any of you that want to go now, may do so, and we will take the next case, Case 674.

(Whereupon, the hearing in Case 673 was recessed until 1:30 p.m.)

March 18, 1956
1:30 PM
Afternoon Session

MR. SPURRIER: The Meeting will come to order. Off the record.

(Discussion off the record.)

(Whereupon the hearing in Case 673 was resumed as follows:)

MR. SPURRIER: By Judge Foster.

Q Mr. Grimm, you testified in 582 that there was waste occurring in the Jalco and Langmat Gas Pools as presently delineated by the Commission. Do you find evidence of waste in the other two areas, the Eumont and Arrow, the same as you have previously testified to with respect to the other two pools?

A Yes, sir, I think as shown on one of my exhibits in 582 as far as the Eumont and Arrow fields were concerned there are certain gasoline plants that were connected to those also, to those pools also, which were popping gas. In addition there are other gasoline plants in the area whose reports to the Commission on C-114, show a certain amount of gas being wasted.

Q You have also testified in 582 that in your opinion it was necessary to prorate the gas production from these gas wells in order to protect correlative rights. That testimony at that time, I believe, was limited to the Jalco and the Langmat Pools. Are you also of the opinion that it would be necessary to prorate gas from this common reservoir that you have testified to in order to protect correlative rights? A Yes, sir.

Q You testified, I believe, in Case 582 that you found evidence that the pipe line companys were not taking gas ratably as between the Jalco and Langmat Pools as presently delineated. Do you also find that same evidence with respect to the rest of the

area that you have included in the common reservoir?

A Yes, sir.

MR. FOSTER: At this time we would like to offer in evidence Exhibits one through six, if the Commission please, and with the request that we be permitted to withdraw Exhibit Number One. That is the only one we got. That is as far as we got with it and it is just a rough work map and we want to make other copies of it without having to go back to the original source material. Just have some girl or somebody make those copies and then we will send them back just as soon as we can do that.

MR. SPURRIER: Can you bring, I was going to say, can you bring them back later? Is there objection on the offering of these Exhibits and the withdrawal of Exhibit One? Without objection they will be admitted.

MR. FOSTER: That is all.

MR. SPURRIER: Anyone have a question? Mr. Campbell.

By MR. CAMPBELL:

Q Mr. Grimm, you will be present at next month's hearing, will you not?

A I can be if necessary.

MR. SPURRIER: Mr. Campbell, may I interrupt, I have got a little legal statement I want to read about this testimony. This concerns what testimony will be and will not be allowed. This announcement, I hope, will clarify the ruling of the Commission yesterday relative to the introduction and incorporation of the record of Case 582 in Case 673. The incorporation of the record in Case 582 is subject to the following conditions and qualifications: One; Any party who introduced testimony and evidence in Case 582

may change, qualify or summond it's position previously taken by the introduction of new or additional evidence and testimony in Case 673. Two: Parties who introduced evidence in Case 582 shall at some time during the hearing of Case 673 have present their witnesses who testified in Case 582 so that those witnesses may be cross examined by other interested parties.

MR. CAMPBELL: I was referring particularly to the Exhibits offered here so that the people here will have an opportunity to examine them in connection with their own record and ask questions next month in connection with them.

MR. FOSTER: Mr. Grimm will be available barring any unforseen circumstances that we don't know anything about right now.

MR. CAMPBELL: Mr. Grimm, I don't think I am quite clear on some of the suggestions you made, I assume that the suggestions are the suggestions of Phillip's Petroleum Company in connection with the approach to this problem before the Commission, is that correct?

A I believe that is correct.

Q As I understand it, you consider that this entire area of these four presently designated gas pools and some additional acreage, I presume, on the edges of it is all one common reservoir?

A Yes, sir.

Q I was not clear whether you proposed at this time or had any recommendation with reference as to whether it should be classified as a gas pool. May I explain, Mr. Grimm, what I am getting at? Perhaps it will help you in your statement. Under the definitions in New Mexico as they now stand, any well within a common source of gas supply is automatically defined as a gas well. That would not be true with this pool defined as an oil and gas pool.

That is the reason I am asking you whether it is your recommendation that this be defined as a gas pool or as an oil and gas pool.

A I think it would be much better defined as an oil and gas pool.

Q Then I suppose that if that is your suggestion then you will have to have some method of determining which wells within the pools are oil wells and which are gas wells, is that correct?

A That is correct.

Q Do you have a recommendation as to how that can be done?

A My opinion, any well that makes, that produces liquid from the well head which is also liquid in the reservoir is an oil well.

Q Irrespective of the gas-oil ratio?

A That is correct.

Q Is, does any well producing from the five zones that you have said are all one common reservoir that produces from the well head hydro-carbons which are liquid in the reservoir as an oil well?

A Yes, sir.

Q Anything else then will be a gas well?

A Yes, sir.

Q Do you suggest that the only wells that are prorated under the gas proration schedules shall be the wells that you, under your interpretation, call gas wells? A Yes, sir.

Q How do you propose to handle the production of gas from the other wells, the oil wells?

A On a limiting gas-oil ratio.

Q I understood you to say that you proposed or suggested a 10,000 to 1 limiting gas-oil ratio.

A I don't think I actually said -- I would say some place

between 6 to 10 would be a good limiting ratio.

Q How did you arrive at that? What studies did you make?

A Well, in arriving at that I had available to me studies that were made on the total oil and gas, casinghead gas production for the area in the pools involved and the area as a whole varied somewhere between there, I think that the actual average was a little less than 8,000. I am not sure.

Q You are taking the average of the present gas-oil ratios throughout that entire area? A Yes, sir.

Q You didn't make any study with respect to the most efficient rate at which the wells in any part of this area could or should be produced?

A Well, and also I took into account the top allowable and the fact that a top oil allowable and the fact that an oil well is prorated on 40 acres and that it would not be equitable to give an oil well on 40 acres any appreciable, any more gas than a comparable quarter of a gas well on a 160 acres.

Q Now we are getting to the point I am trying to find here. Is that the basis on which you arrived at this gas-oil ratio suggestion? A Partly, yes.

Q In other words, was it based on an attempt to equalize the withdrawal of gas from gas wells and oil from oil wells or was it based on the most efficient rate at which the oil could be recovered from the reservoir?

A It was based on equalizing the withdrawals.

Q You have made no study with reference to the best way to get this oilthen, and get this oil that is in the reservoir/ out of the ground?

A I have made such a study but I have not so testified here.

Q Isn't it true that as a general engineering proposition that you should recover the oil in a reservoir of this type while you still have an adequate gas pressure to recover it?

A Yes, sir.

Q And that being true, wouldn't it be the best from the point of view of conservation setting aside for the moment the problem of the owners of gas wells, from the point of view of conservation, wouldn't the proper test of gas-oil ratio be the point at which we could recover the greatest amount of oil by initial effort and still not allow an unlimited amount of gas to be withdrawn from the reservoir through an oil well?

A There is a breaking point there where your increase in ratio would be more than, probably would be more than offset by the loss in energy that you would have from your gas production and you would have to put the energy back in the gas for transmission purposes by using part of it to compress the gas back up to transmission pressure.

Q Yes.

A However, that is probably a matter of economics and I don't have any quick way of saying exactly what that is right now.

Q But for the purposes of your suggestion as to a proper gas-oil ratio, those factors that you have just mentioned you didn't consider. You considered how we could reduce the ratio on oil wells so that they wouldn't be getting any more gas than a corresponding gas well on the similar size unit next to it, didn't you?

A That is correct. However, in limiting your ratio you have to also allow the same ratio on all wells and as between wells, if you can force the gas to a low ratio well, you are going to get a

more efficient use of your gas than you are from a high ratio well. For that reason, there should be some optimum point.

Q You have made your study to the effect that to say that what you are suggesting is the optimum point, have you?

A What I am suggesting, I would say this, as between the twenty and twenty-five thousand and ten thousand ratio, I think you should try to get the gas over to the ten thousand ratio well. The twenty-five thousand ratio well will use up the gas much faster and get less oil than if you save it and push it out of the ten thousand ratio well. Of course, that goes on clear on down to less than that.

Q You mentioned this morning in connection with your suggestion that if you had a 160 acre unit with a gas well on it and with an oil well or oil wells on it, that you would reduce the allowable for the gas well by the amount of gas that was produced through the oil well or wells, is that correct?

A Yes, sir.

Q You also stated that this entire area in large part has been developed, or was originally developed, as an oil area?

A Yes, sir.

Q On 40 acre spacing? A That is correct.

Q If what you propose were put into effect, what would be the advantage of anyone drilling gas wells at this stage of the game on 160 acre unit that has an oil well on it?

A There are numerous oil wells which even though limited by gas-oil ratio could not make as much gas as if they had, per acre, as if they had a gas well on them. In that case I think it would be advantageous to the operator as well as to assure him to protect

his correlative rights as if he put a gas well or dually completed his well, oil well, if he were able to get the oil up to the --

Q (Interrupting) That is hardly unlikely under the present limitation. Assuming 400,000 cubic foot take from wells of oh, a 160, the point of view of economics, that wouldn't be very practical, would it, if you were required to produce from that the gas that you produced from a gas well on the same 160 acres?

A Well, I do not think that it would be too practical to drill a new well. However, it is my experience that essentially all of those wells, the oil wells have bradenhead connections right now. They may not be classified as gas wells, but that has been because of the operator's option, but they could be cleaned up and made into gas wells and get the remainder of any allowable that might be coming to them and do so economically, if they can't do it and pay out their investment, then obviously it would be useless for them to do it.

Q What you are actually doing, Mr. Grimm, by your suggestion, is it not by relating the amount of gas you can produce from a gas well to the amount of gas you produce from an oil well is prorating casinghead gas, isn't that right? A No, sir.

Q Well, you are basing your gas-oil ratio not on the engineering aspects, but upon the relationship between the approximate amount of gas that a gas well will get on a gas unit.

A Well, I don't quite follow the question. I was basing it on equal withdrawal.

Q Yes.

A I don't think as such that I was prorating the gas, the casinghead gas.

Q No, you are not calling that.

A I was limiting the gas production by not prorating it.

Q Let me ask you one more question with reference to your suggestion here. You have told us what you would do if you had an oil well or oil wells and a gas well on the same 160 acre unit. Suppose you have four oil wells on 160 acre unit and you have one gas well on the adjoining 160 acre unit. What then would you do with reference to production from the oil well?

A That is assuming that 160 acre is the basic allowable unit?

Q Yes.

A I would allow the oil wells to produce oil to the extent of their allowable providing their gas-oil ratio didn't cut them off.

Q In other words, you would limit the gas that could be used from the unit that had four oil wells on it to the amount of gas from a unit adjoining it with one gas well?

A Well, I don't believe I said that.

Q Well, what did you? That is what you, I understood and I am trying to get it clear.

A But I would not allow them to produce any more than the gas unit. That is correct.

Q So you would be controlling the production of the oil by the allowable for the gas, wouldn't you?

A I think very probably that it might work the other way around.

Q How could it?

A If you set the limit up first, on your gas-oil ratio for your oil and produced that, then the remainder of the market would be divided amongst the gas wells. The gas acreage which would take

the whole acreage, then the gas acreage would be allowed to produce their amount, I will back up one step. The gas acreage would be allowed to produce that much plus what had already been limited, less what the oil wells had produced.

Q These oil wells I am talking about are on an entirely different unit. A That is all right.

Q Five, four oil wells and I am producing under an unlimited gas-oil ratio now and I am selling all my casinghead gas , it is being marketed and it takes an amount of gas in excess from each of those wells, in excess of the allowable on your gas unit to produce that oil, what would you do?

A Well, I still --

Q (Interrupting) Would you cut the oil production back or shut down the wells?

A I would cut the oil production by a limiting ratio, yes, sir.

Q You would base the limiting ratio on the amount of gas that was being allowed to that gas unit?

A No, sir, what is left would determine what would be given to the gas well.

Q I don't want to labor the point, but the ultimate effect of that is that you intend to treat this reservoir as a gas reservoir and control the oil production by the use of gas proration, isn't that the ultimate effect? A No, sir. No, sir.

Q Suppose the gas company purchasing from the 160 acre unit with a gas well upon it does not nominate any gas from that unit. What would you do with your oil wells on the adjoining unit?

A I would let them produce up to their oil allowable providing they didn't go over their limiting gas-oil ratio.

Q In other words, you would let any oil well in this area, once the gas-oil ratio is established, produce up to the amount of oil it could get under that limiting ratio?

A Yes, sir. Insofar as the gas would be used to beneficial uses.

Q Irrespective of how much gas was taken from an adjoining gas unit? A That is correct.

Q That is what I wanted to find out, your proposal.

MR. CAMPBELL: I think that is all.

MR. SPURRIER: Mr. Woodward.

By: MR. WOODWARD:

Amerada would like to cross examine Mr. Grimm with respect to the vertical and horizontal delineations of these pools, but before it undertakes to do so, to eliminate any misconstruction or wrong inference from it's questioning, we would like to point out that we have for some time been engaged in a study of just this problem and as yet we have not completed that study and are not in a position to state an opinion either way. In other words, until we do know, until we do feel that we have the facts in mind, we are not taking a position that this is one common source rather than several, but we are simply questioning Mr. Grimm to cast an additional light and to clarify our understanding of the basis on which he reached his conclusions. With that qualification in mind, Mr. Grimm.

Q In the area shown on Exhibits One and Two some of the wells, I believe it has been stated, penetrate several pay zones of gas or oil and gas. A That is correct.

Q These pay zones are separated by several feet and in some cases several hundred feet of impervious section in various wells.

A In some zones, yes, sir.

Q That is true. I believe you testified that there were wide differences in permeability, porosity and pressure within the same formation and between different parts of the field, is that correct?

A Yes, sir.

Q Is there a diversity in the lithology of the individual formations in which these pay zones are found?

A To a certain extent, yes, sir.

Q What do you mean, to a certain extent, could you indicate the extent at all of that diversity?

A Well, there is a diversity in this way that the accumulations are found in both dolomite and sand sections and either one or both may have a considerable amount of different type of material such as anhydrate or shale and to that extent there is a diversity.

Q It is within the same formation you may have a dolomite and some shale and sandstone? A Yes.

Q Which results in different chemical and different physical properties of the formation in various parts of the field?

A Yes, sir.

Q Were there differences, or are there indications of the differences in the geological conditions under which these formations were deposited in your opinion?

A Yes, sir, certain differences.

Q What characteristics do these various pay zones that underlie this area have in common?

A Porosity and permeability.

Q In other words, they have in common the fact that they are all part of the same common source? A Yes, sir.

Q Do they have any other physical or chemical characteristics that you could point to? I believe you said there was wide diversity in porosity and permeability in different parts?

A Naturally they have a certain amount of affinity for contained liquids. They have, all of them have impervious portions of the reservoir, that is the grains of dolomite or sand are impervious within themselves, the shales are made up of a lattice work type of material which may be called both permeable or impermeable, depending upon your lower limits. They all have surface tension properties.

Q Are these characteristics of all the shales by definition or are these common characteristics of shales in the same common source?

A Which those particular characteristics, I believe they are characteristic of the one that I mentioned. I mean the lattice work type material is probably characteristic of a laminated branch of the shales and would be true in wherever you might find that particular type.

Q It is characteristic of that particular type of shale wherever you might find it?

A That is right.

Q Not necessarily the shale of the same common source?

A That is right.

Q You would normally expect different pays in the same common source to have some common characteristics, would you not, or would that necessarily follow?

A I think they should have.

Q They should have?

A Yes, sir.

Q They at least should have some common connection, these pays should they not?

A That is correct. There may be in an area of this kind a rather diverse change from one end to the other, but within contiguous portions the change would be rather slight I would think.

MR. WOODWARD: Off the record for just a moment.

(Discussion off the record.)

Q I am interested here in where the connection is between these pays as when I, which as we stated were separated in some cases by several hundred feet.

A I would say the connection is through varied and diverse tortuous path of the permeability which unfortunately, or fortunately doesn't always go in a vertical direction. It can go out sideways and go straight down and in any direction from the vertical or the horizontal. The zones themselves are laid one on the other without any common impermeable section of any great lateral extent. The dolomites and sands as such which make up by far a greater proportion of the total volume are in no place, to my mind, completely impermeable, they may have certain characteristics which render them impermeable for short distances due to their containing liquids, but as reservoirs themselves, they are not impermeable and for that reason I believe that they are one common source of supply.

Q Can you point out any particular place where these pay zones get together? A Pay zones?

Q Yes.

A Well, I think that you will find as you go from the Eunice Field heading south, or Eunice-Monument Field heading south, starting approximately say the south edge of Section 13, Township 20, Range 35 East, as you go south from there into the southern edge of the present field of south Eunice, you will find you will go location,

by location from one well to the other one, you are producing oil from each location and yet as you go south you step from one zone to another as the zones dip into the water level and out of the oil zone.

Q That, in your opinion, substantiates the intercommunication between different pays? A Yes, sir.

Q What is the oil and oil-water contact in this one big common source?

A It is approximately -- the oil-water?

Q Yes.

A Is, oh, I would say about a minus four hundred plus a minus one hundred fifty feet.

Q Is that a range, or is that approximate?

A That is a range.

Q In other words, is the oil-water contact throughout this area one common level?

A No, sir, in this or no other field that I know of this nature.

Q It is at different levels? A Yes, sir.

Q What did you indicate was the range?

A I said a minus four hundred plus or minus a hundred or fifty.

Q Be about five hundred feet?

A No, I am sorry, a minus four hundred feet below sea level plus or minus one hundred fifty, in other words, from a minus.

Q A hundred fifty to a minus four hundred?

A Yes. No, minus 350 to a minus 550. Minus 250.

Q Between two and three hundred feet variations?

A Yes, sir.

Q That doesn't militate against this being one common source?

A No, sir.

Q What explanation do you give as to why it varies?

A Well, one of the big reasons of course is in the permeability differences that you run into that there are places where you are not even permeable to a liquid that is down in the oil zone and therefore you go maybe from a gas into nothing, that is into an impermeable section and right on down in the first liquid you pick up maybe water, it may be some oil and depending on what is tested or produced into the well bore you would call your contact. In other words, the first contact of water would be the first water you got. It may be down 150 feet in an impermeable section and yet if that same impermeable section were within the gas zone and is of a sufficient height above the oil zone or above the water zone to render the water content low enough, you could have gas production.

Q And this uneven water table in a single common source, I believe you stated, is a fairly common phenomena?

A It is essentially common within a dolomite type of reservoir.

Q What is the gas-oil contact in this source?

A The gas-oil contact is at approximately a minus two hundred feet below sea level and it would also vary probably one hundred fifty.

Q It will vary too? A Yes, sir.

Q For the same reason that the --

A (Interrupting) Yes, sir.

MR. WOODWARD: That concludes our line of questioning on that phase of your testimony. The other question deals with a statement, I believe you made, that one gas well would drain at least 640 acres.

A Yes, sir.

Q Is that assuming that there are no other gas wells on a 640 acre tract, or is that assuming an area that has not already been developed to a density of 160 acres?

A That is assuming that that gas well is the only gas well, or the only well producing gas from the acreage. The fact that others might be completed would have no affect on it other than if they were producing wells also, you would have an interference of drainage areas so that each one, I mean the sum total of the wells would divide up the drainage area.

Q In other words, if you had a gas field that was 640 acres in extent and one well would adequately drain that field, but if the 640 had been completed in it, each one of those wells would not drain 640 acres, would they?

A Would you restate your question?

Q I am assuming certain physical facts. The physical facts are that the field is 640 acres in area. It is a fact further that one well completed in the field will completely drain the gas to its economic limit. Let us suppose it is also a fact that there are 640 wells in that field, will each one of them, if they are all producing, drain 640 acres?

A No, sir. If they are all producing at the same time each one of them would drain their proportionate share.

Q Yes. In other words, your effective drainage area depends not only upon your engineering facts but also such facts as what wells are in existence in a given area, is that not true?

A Yes, sir, that is correct.

MR. WOODWARD: That is all we have.

MR. SPURRIER: Anyone else? Mr. Montgomery.

By MR. MONTGOMERY:

Q Are you familiar with the Phillip's Falby lease, the Phillip's Yates lease in 24 south, 36 east, Section 24?

A Phillip's, what lease?

Q Phillip's Yates Number One, 24 south, 36 east.

A What section?

Q Section 24 southeast and southeast.

A I think very probably you are mistaken. I don't believe -- I think that is an over-ride lease that probably we have.

Q Are you familiar with that general area?

A Yes, sir.

Q I believe that well was producing out of the Yates formation, oil.

A I think that is correct.

Q Has Phillip's condemned all the zones below that zone that horizon?

A I would have no way of knowing.

Q Do you think it has future possibilities of production?

A Below that horizon?

Q Yes.

A I imagine it potentially may have.

Q If the Commission adopts your recommendations for putting all the Yates and San Andres horizons in one pool, how will the Commission be able to give that well an additional allowable for each new horizon find of oil?

A That well?

Q Yes, sir. Not that well, but that lease or that area.

A You would have to drill a well to it.

Q Sir?

A You would have to drill a well to it.

Q Your recommendations are that the Commission adopt that

interval from the Yates down through the San Andres as the vertical limits for that pool?

A Only in -- I may have stated that. I meant only insofar as the hydrocarbon accumulation is present and I certainly did not mean down in the south edge where you go into the water long before you hit the San Andres or the Grayburg.

Q Perhaps we should define this pool on some other basis than the formation of names then? A Probably.

MR. MONTGOMERY: Thank you.

By MR. STANLEY:

Q I would like to ask you a question please, Mr. Grimm. I was confused yesterday, today I am beyond that state and I am really fouled up. Let's assume that this Commission writes an order stating that the Yates-Seven Rivers-Queen-Grayburg and San Andres are a common source of supply and in reality are one producing horizon. Do you advocate that this order, can an operator set pipe above the Yates and suppose the Yates-Seven Rivers-Queen-Grayburg and San Andres formation --

A (Interrupting) For what kind of production?

Q (Continuing) -- in one well bore. I want you to tell the Commission how you would write the order.

A Insofar as it was gas production, yes, sir.

Q What if you have gas and oil production?

A I would never advocate opening a gas reservoir or a gas cap directly into a well bore where you have an oil zone underneath and open into the same well.

Q Well, now, how would this Commission write this order so that we could go ahead and enforce that regulation?

A I think that they, well, I will put it this way. If I were writing the order I would make it permissible to open a well bore within the gas zone from the top of the Yates to the bottom of the gas producing horizon, but that if the well penetrated the oil zone then I would say that only within the same casing string could the gas or the oil be open to the reservoir or to the well. I realize that leaves you the possibility of Bradenhead connections, but as far as I am personally concerned, that is the same as two wells.

Q Would you get two allowables out of the one well?

A You would get one acreage allowable for oil and one acreage allowable for gas.

MR. STANLEY: That is all.

MR. SPURRIER: Anyone else? If not the witness may be excused.

(Witness excused.)

H. T. WHITE

Having first been duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. FOSTER:

Q Will you state your name to the reporter and the Commission, please? A H. T. White.

Q Where do you reside, Mr. White?

A Bartlesville, Oklahoma.

Q You are employed by Phillip's Petroleum Company?

A Yes, sir.

Q In what capacity? A Gas engineer.

Q What educational training or qualifications do you have as a gas engineer, Mr. White?

A Graduated from the University of Texas in 1935 with an

engineering degree.

Q What experience have you had in the practice of your profession?

A In that year I started with the Railroad Commission of Texas in the panhandle field. Worked with them slightly over a year, then I joined the Phillip's Petroleum Company in 1937 and have been with them in some end of the gas business continuously since that time.

Q Has your experience with Phillip's Petroleum Company been in the matter of the proration of gas generally?

A Yes, sir, it has.

Q Somewhat particularly has it not?

A Yes, sir.

MR. FOSTER: I will submit the witness is qualified to testify if the Commission please.

MR. SPURRIER: I think he is.

Q Mr. White, I just want to ask you on a few questions on one phase of this case. It has been proposed here that the Commission should allocate a minimum allowable of 500,000 cubic feet of gas a day to each gas well in the common source of supply. First I want you to tell me whether you would recommend such a procedure and if you don't, tell me why you don't.

A As I understand the problem of proration as related to the Commission, they have a duty established by law of regulating production for two purposes. One to prevent waste and one to protect correlative rights. An allowable of 500,000 cubic feet per day is not designed to do either one of these things.

Q Are you saying that any minimum allowable would not be related to the prevention of waste?

A No, sir, I am not saying that.

Q You are just saying that a minimum, that there be no reasonable relationship between the prevention of waste and the minimum allowable of 500,000 cubic feet per day?

A I don't believe there is, no, sir.

Q Yes. In some areas in which you have had experience, wells have been assigned a minimum allowable either by an order of the Railroad Commission or under statutory authority, what relationship is there between the prevention of waste and minimum gas well allowables?

A The only connection that I can see is that it would prevent the abandonment of many small wells or prevent a man from plugging his well on account of not being able to produce.

Q What you are saying is that within proper limits, you could have minimum gas well allowables for the purpose of preventing premature abandonment of wells?

A Yes, sir, keep him in business until he could get a connection that was profitable.

Q Can you think of any other reason for assigning a minimum allowable to a well? A No, sir.

Q Premature abandonment of a well would constitute waste, would it not?

A Well, it would be wasteful to the man who owned the well. It wouldn't necessarily waste the gas as such. It might be unprofitable for someone else to drill an additional well, in that sense it would be wasted.

Q What you are saying is that the gas would still be down there if it wasn't produced through one well, it would be produced

through some other well? A That is correct.

Q Then on that basis the assignment of a minimum allowable to a well might also tend to protect correlative rights, might it not?

A Yes, sir, it would.

Q Now there has been a good deal of testimony here in this case about these minimum take provisions in certain contracts of the producers in these fields here. Do you see any relationship between the minimum take provision in a contract between the purchaser and the producer and market demand?

A Not necessarily, no, sir.

Q If there is any such relationship, it would be purely co-incidental, would it not? A I think it would.

Q If this Commission would for any of the reasons that you have mentioned, fix a minimum allowable for a gas well, have you any suggestions as to what minimum allowable should be, or let me put it this way first. In these areas that we are talking about, do you see at the present time any necessity for the establishing of a minimum allowable in these gas wells?

A I have not conducted an investigation along that line. However, I haven't heard of anyone who has necessarily about to lose his well on account of non production, but then that doesn't mean there are none.

Q If you were for any of the reasons that you have mentioned, going to allocate a minimum allowable to these gas wells, within what limits would you confine that minimum allowable?

A Oh, to enough gas to keep his operating expenses and lease in operation as far as his royalty owner is concerned.

Q Enough so as to make it a commercial well within the terms

of the lease? A Yes.

Q So that the lease might not terminate because it was not producing gas in commercial quantities? A Yes.

Q Now that amount might under various circumstances, vary from time to time, might it not?

A That is correct. It may depend on how his lease reads. Of course I don't think the Commission could take all of those things into account.

Q I understand that. But they would have to relate to some power that they had in administering the conservation laws of the state such as waste prevention or the protection of correlative rights? A Yes, sir, I think so.

MR. FOSTER: I believe that is all.

MR. SPURRIER: Anyone have a question of this witness?

MR. ADAIR: Will the witness be here next month?

MR. FOSTER: I can't say about that. I wouldn't know whether it would be possible for him to be available or not. We get spread a little thin now and then.

MR. ADAIR: We have no questions at this time.

MR. SPURRIER: If no further questions, the witness may be excused.

(Witness excused.)

MR. FOSTER: That is all we have.

MR. SPURRIER: We will take a short recess. Is there any other testimony or witnesses in this case today? We will take a recess. (Recess.)

MR. SPURRIER: The Meeting will come to order, please. I assume that no one has any further comment in Case 673, is that right, at this time. You understand then that it is continued to

the regular hearing in April, April 15. The next case on the docket is Case 676.

* * * * * * *

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

WE, Ada Dearnley and Helen Purcell, Court Reporters and Notaries Public, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission in Case 673 on March 17 and 18, 1954, was reported by us and that the same is a true and correct record of the proceedings.

IN WITNESS WHEREOF WE HAVE AFFIXED OUR HANDS AND NOTARIAL SEALS this 27th day of March, 1954, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Ada Dearnley

My Commission Expires:
June 19, 1955.

Helen Purcell

My Commission Expires:
December 18, 1957.

BEFORE THE

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

Santa Fe, New Mexico

* * * * *

TRANSCRIPT OF PROCEEDINGS

CASE NO. 673

Regular Hearing

BEFORE THE
OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO
Santa Fe, New Mexico
April 15, 1954

IN THE MATTER OF:

(Continued from March 17 hearing) Application of the Commission upon its own motion for an order amending, revising, or abrogating existing Rules and Regulations of the Oil Conservation Commission, and/or promulgating Additional Rules and Regulations relating to gas pool delineation, gas proration, and other related matters, relating to the Jalco, Langmat, Eumont and Arrow Gas Pools.

Case No. 673

TRANSCRIPT OF PROCEEDINGS

MR. SPURRIER: In this Case, first, let me say that the Commission or I or Mr. Macey or no one else noted the fact that tomorrow was Good Friday. I find a lot of you are quite impatient to go home, as someone says, you want to keep the reservations you have. It appears there is no possible way to finish the testimony in this Case 673 at this time. We also note that on the 19th of May we have a pretty full docket considering, well, Case 330, the San Juan proration case may take a lot of time. We can't have it the day before the regular hearing because the Commissioner has his land sale on that day. We can't always get this Hall at our convenience. We do find out on the suggestion of some that we can get this Hall on the 6th and 7th of May. We investigated a lot of other dates and that is one of the few dates that we find, That Case alone would be heard; there is one other short Case set for the 7th. On the 6th and 7th, that would be the only case that we

would need to give any attention to. I would like to say right here that we cannot set the dates apparently for a hearing that will satisfy everyone.

MR. MALONE: On behalf of Gulf, who had expected to lead off in 673 -- we are all anxious to get home and there is nothing to be gained by proceeding with this case at the present time. If the Commission would entertain a motion that 673 go over to May 6th, I would make such a suggestion.

MR. SPURRIER: May 6th, nine o'clock in this hall. Is there objections?

MR. DIPPEL: I don't want to object because we certainly feel it is highly desirable to give this Case a special setting. That presents some serious conflicts for us. We were wondering if it would be possible maybe to have it on the 10th and 11th?

MR. SPURRIER: Do you want to ammend Mr. Malone's motion?

MR. DIPPEL: I didn't offer a motion. We will be here any date you will set. If it isn't going to bother anybody else's convenience. I don't care to amend the motion. I don't want to appear to be at all an obstructionist about it.

MR. MALONE: I will accept the amendment which was offered and withdrawn.

MR. SPURRIER: Without too strenuous objections then, we will continue the case to May 10th at nine o'clock in Mabry Hall. We will go on to Case 693.

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

I, Ada Dearnley, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 19th day of April, 1954.

Ada Dearnley
Notary Public, Court Reporter

My Commission Expires:

June 19, 1955