

# GAS POOL DESIGNATIONS

OIL CONSERVATION COMMISSION

STATE of NEW MEXICO

TRANSCRIPT OF PROCEEDINGS

CASE NO. 245

April 24, 1951

2 (2)

E. E. GREESON  
COURT REPORTER  
UNITED STATES COURT HOUSE  
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ALBUQUERQUE, NEW MEXICO

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2000 ft. deep which has been continued twice for lack of better sites to designate and as pools of sea, land and shallow bays.

...and the case is to be continued twice and this time on the 11th of the month.

1. Name of Party and Name of Applicant(s)

... is the continental margin.

... and the, sir. ... name is ... ..  
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... all right, sir, we are ordered.

and others, appearing for defendant  
William Duff, and for: Paul J. Hollister, from Chicago;  
John Carson, from New York; and Peter Bailey, from Illinois.

of the                      of                      you may prefer.

11. When all you hear the witnesses, please  
 12. 12/15/54

... a distance of about 100 miles ...  
... proposed to improve evidence on the ...  
... New Mexico, above the ...

Under Rule 601, the Commission was required to initiate proceedings to name, classify and define the limits of all the known producing gas pools. Accordingly, the Commission of its own motion issued a call in Case No. 245 a hearing on December 22, 1950. That was continued to March 15, 1951, by the request of Continental Oil Company and was again continued until this date. In order to make a study for the benefit of the Oil Conservation Commission, Continental Oil Company, who is appearing in its own behalf with the assistance of geologists and engineers from the Atlantic Refining Company, Stanolind Oil and Gas Company and Standard Oil Company of Texas, has made a study of the subsurface formations and gas pools above the San Andres Formation in south eastern Lea County. They made a study covering the period of six months and they examined about 2000 well logs, both electrical and sample. The results of the study are presented to the Commission for whatever action it deems necessary or wishes to take.

As a result of this study, we have come to the conclusion that the gas pools could fall in approximately four pools. We, in this testimony, will call in areas one, two, three and four. In outlining these various areas we have used the 100 acre unit of the survey which is also the state wide gas unit, I believe. After we had completed our study, on April 12, a meeting of the engineers of, I believe the Lea County engineering Committee was called and at that time we presented evidence, not evidence, but a report to them of our findings as a result of our study. We have made a study, as I said before, over a term of six months and the

engineers of all interested parties were invited to sit in, so this testimony will not come as a surprise.

With those preliminary remarks, I would like to proceed to put on testimony. I would first like to question Mr. Henry Forbes.

H E N R Y F. F O R B E S.

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. SANDERS:

Q Your name is H. F. Forbes, is it not?

A Yes, sir.

Q You are employed by Continental Oil Company?

A Yes, sir.

Q In what capacity?

A Area Petroleum Engineer.

Q Do you have a degree in petroleum engineering?

A Yes, sir.

Q Where did you get that degree or take that degree?

A Colorado School of Mines.

Q What year did you finish?

A 1938.

Q What course did you take?

A I took general engineers course in petroleum engineering.

Q Did you study any courses in geology?

A Yes, sir.

Q What were those courses?

A Plain geology and structural geology, mineralogy, field geology,

and such subjects.

Q Have you had any experience in subsurface engineering in the Permian Basin of West Texas and New Mexico?

A Yes, sir.

Q About how many years?

A Approximately six years.

Q Have you - are you still working with the subsurface engineering in that particular area, the Permian Basin?

A Yes, sir.

MR. SANDERS: Is the Commission satisfied with the qualification of the witness?

CHAIRMAN SHEPARD: Yes.

Q Mr. Forbes, you are familiar with the study made by the Continental Oil Company, are you not?

A I am.

Q Will you proceed in your own words to give the Commission a report of that study?

A Yes, sir. Mr. Sanders just mentioned many well logs were studied, approximately 2000, and those of you that know some of the sample logs in Lea County know it was rather difficult in making exact correlations. As a result of studying these logs, we drew three cross sections north and south from Township 20 on to the state line. Then we drew cross sections across each township east and west cross sections across each township down to the state line in order to get some sort of an idea as to the

general over all geology of the area.

Before we start on the study, I think it better to define oil pools as set forth by the Commission. This is definition No. 44, as found on Page 5 of the Rules and Regulations of the Commission. "Pool means an underground reservoir containing a common accumulation of crude petroleum oil or natural gas, or both. Each zone of a general structure, which zone is completely separated from any other zone in the structure, is covered by the word "pool" as used herein. "Pool" is synonymous with "common source of supply" and with "common reservoir"."

We shall use the term "Pool" as thus defined in this report with the following additional consideration. It is our opinion that Yates and Seven Rivers and Queen formations were separate reservoirs. However, due to development throughout southeastern Lea County, these pools have been connected together by hundreds of well bores. Therefore, it is virtually impossible, at least we believe it is impractical, to separate that by zones, individual zones within a formation.

As Mr. Sanders stated, as a result of this study, we came out with four major gas pools in this area. There are some more gas pools probably in southeastern Lea County but they have not been defined.

First, I would like to present a structural map of southeastern Lea County contoured on top of Yates. We call that exhibit No. 1. This gives the general over all structural relation of these various pools and will be of use to us later on in our

report here.

During 1927 on up through 1930 shallow development extended from Texas on up through Lea County. Until about 1930 the entire area was fairly well drilled up. At that time due to economic conditions, drilling ceased to a large extent and was resumed about 1935 to 1936 from 1935 to 1940 the area was more or less completely drilled up.

At the same time the El Paso Natural Gas Company was taking gas from some of these gas wells. However, their outlet was rather limited. I believe it just went through El Paso and in 1946 it was extended on to California markets which enhanced the gas markets and more drilling, particularly in these gas areas, have taken place.

In outlining this study, I would like to give a little bit about stratigraphy. The first geological formation encounter is Rustler Anhydrite and dolomite and is rather thin, approximately 150 feet. The Salado is the salt formation that you generally find in this area and is from 1200, approximately 1200 feet thick. Under that is the Tansill formation which is about 175 feet thick of anhydrite and dolomite. Below that is the Yates which is the first formation we will consider in our study here.

The Yates is approximately 200 to 300 feet thick. It is sand and anhydrite and dolomite. Underneath that is the Seven Rivers formation which is about 400 feet and consists of dolomite in the place of sand lenses and dolomite and some anhydrite.

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underneath the River. River is the Queen formation which is  
predominantly sand although we classify it into sand dunes with  
dolomite in between them. This member is approximately 300  
feet thick. Immediately below that is the Grayson which  
contains 250 feet thick and then the Oak Knobs. This study  
covers now including the Oak Knobs.

As much as the geology of the area lies in, we believe  
very closely with the pools that we have outlined, I would like  
to give a general description of the area.

In Exhibit 1, you will notice there is a ridge running  
from north to south from Township 21 to state line and approximately  
six miles east of that is another ridge running from approximately  
22 to state line. This eastern ridge, the one we previously  
mentioned, is the eastern portion of the Capitan reef which  
extends on west towards Carlsbad. The eastern ridge of Exhibit 1  
is part of the General Basin Platform. Between these two  
ridges there is what we call a trough area and you can notice  
on - I am going to call this Exhibit 2 - generalized east and  
west cross sections. You will notice that as we come up through  
here (indicating), we have our structures and more or less trough  
area and then on to the larger and the anticlinal structure of the  
General Basin platform. That holds true until this point is  
reached (indicating). This ridge then broadens out into a larger  
anticlinal which is the Peckree-Skelly pool. The fourth structural  
feature in this study is the Lunice-Comment pool which is the  
anticlinal type.

In defining gas pools we have started with the Capitan reef. The oil was originally laid down in what we believe to be a common reservoir oil gas <sup>let</sup> out there on the western side of the reef, probably all of these small structures that you see along the reef, high, and probably the same gas, -oil and water-oil contacts. Since that time, they have been disturbed by development and withdrawals. As you cross the reef, you come into what we just previously mentioned as the trough area. These zones carry over the crest of the reef fairly well. That is the Yates, all the various sand members of the Yates, and the upper portion of the Seven Rivers. However, when it comes to troughed area, you have a lithological change in your section and it becomes tighter, less permeable and your anhydrite showing above your Yates starts dipping down into your Yates formation. Since practically all the production from this area here is from the Yates and Seven Rivers, we have used that as the vertical thickness in the Yates and Seven Rivers formations for that pool.

At this time I would like to introduce Exhibit No. 3, the gas pool designation map, suggested gas pool designation map. Area one colored in orange; area two colored in green; area three in blue; and area four in red.

You will notice that the contours on the reef follow very closely to our colored area on our gas area map. We have also made another separation on this reef area from our back reef area and that is that we find that the sulphur content and the gas is generally higher in this reef structure than it is in area

two or the back reef part.

Area two has been defined as a separate gas pool and includes the Yates and Seven Rivers formations. All but the lower one hundred feet of the Seven Rivers formation, the boundary, the eastern boundary on this area two was defined by the lack shows in the Yates and Seven Rivers formations on wells on this side. Wells on this side generally showed Yates and Seven Rivers gas. Continental on their Jack leases down here completed a gas well on this side and a dry hole on that side which extended from the boundary on up. This boundary as it goes between Arrowhead and the green area is defined by poor wells, lack of shows and edge wells on the Arrowhead and was brought up in that map. We don't have too much development in that area.

To go back a little further, to show why we did not extend the eastern portion of the area, or the green area further I would like to explain on this cross section, on Exhibit 2. As you come over the top of the reef structure into what we call the trough area and start up your flank of your larger anticlinal you find that your permeabilities decrease and very little gas shows are found in the Yates and Seven Rivers formations. In the meantime you will encounter oil in the Queen formation as you come east and the major portion of the production in the Langlie-Mattix and Penrose pools are from the Queen formation. We consider that to be gas-cap gas and have not included it in the study of dry gas reservoirs.

The third area under consideration is the Eunice-Monument area. The boundaries of that have been placed to more or less follow the development of the area and plus the shows that have

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area, a correlation on wells that have been branched. Here again, our earlier theory comes into play in that we do not believe there was originally vertical communication between formations in the Nance-Donner pool. However, since that time we are connecting well cores, branched and so forth, we believe them to be connected.

Around the southern portion of Nance is a small area of gas oil wells. As it soon progresses over the anticlinal structure, you will find that wells drilled up in this portion of the field are not producing the same gas as the oils are producing. In other words, they are producing from the Nance formation although they say to produce oil from the Donner. This is about branched wells.

Inasmuch as this is a small area of oil compared to the large area of gas we have included the Nance formation with the other areas and later formations in area three.

Area four, roughly outlines the productive limits of the Arrowhead pool. The eastern boundary of this area has been defined by poor wells, dry holes and the fact that when we correlated our cross sections across here we could not correlate individual sand stringers of the Nance formation over in the Arrowhead. It was extremely difficult to carry the sand stringers clean into the area. Shales have been encountered in the level, Nance and Arrowhead. Therefore, all three formations have been included in this area of the pool. This Arrowhead pool is also outlined by our structure map. You will notice that the co-ordinates on the northwest side which in fairly narrow have

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poor wells, some dry holes encountered." In more or less the same boundaries as in area two were used on the southern boundary.

Probably the main thing too, in area one is Yates and seven rivers; area two, Yates and seven rivers; area three, Yates, seven rivers and seven; four, Yates, seven rivers and seven formations. I believe that is all I have.

Q. Now, before we throw this discussion open for questions, I would like to add a few remarks.

This testimony is put on only to delineate gas pools. You notice we didn't touch on well spacing or allocation of production, and it wasn't within the scope of that study to do so. I stated in the beginning that the engineers of the interested operators were invited to sit in on the study. I didn't mean by that that they were invited to participate in the study. But they were invited to inspect the progress of the study. If anybody wants to know why we included certain sections or quarter sections or 40 or 80 acres within one area and not another, our answer to that would be that our study didn't show that it should be included therein.

Of course, we know the testimony is only for the help of the oil conservation Commission to do with as it sees fit. We certainly are not in the position of saying that anybody should be bound by the results of our study. We made this six months study for the information and benefit of the oil conservation Commission in performing its duty. If anybody has any questions, we would like to as Mr. Forbes, we will be glad to answer

them in explanation of the result of our study.

MR. SELINGER: George Selinger with Skelly. Will you please refer to your Exhibit 3, particularly Section 31-24 South, 37 East, Section 625 South, 37 East.

MR. FORBES: Take it a little slower.

MR. SELINGER: Section 31-24 South, 37 East, and the immediate section to the south which is Section 625 South, 37 East. You have the line of demarkation between areas one and two going through the approximate middle of the Skelly Oil Company's Sherrell lease. You know that the wells on both sides of that dividing line are producing from the same reservoir, do you not, or has your study been that <sup>extensive</sup>

MR. FORBES: Yes, on the same reservoir?

MR. SELINGER: Yes.

MR. FORBES: Yes, Queens and Seven Rivers.

MR. SELINGER: That's right. In area one you have placed 200 acres of the 300 acres in area two and 120 acres of the 320 acres in area one, which results in a subnormal gas unit of only one hundred twenty acres, when in truth and fact there are two gas wells which would be normally entitled to a normal 160 acres.

In calling that to your attention, it is our suggestion that - and we would like to put into evidence Skelly's Exhibit One, that area one with respect to Township 24 S, 37 E, be deleted with respect to the southwest quarter of Section 31 and in Township 25 S, Range 37 E, that instead of the west half of

Sections 6 be placed in area one, that it read the NW $\frac{1}{4}$  of the NW $\frac{1}{4}$  and the SE $\frac{1}{4}$  of the NW $\frac{1}{4}$  and the SW $\frac{1}{4}$  of Section 6 and that area two be corrected with respect to Township 24S, Range 37E, to read instead of the north half and the southeast quarter of Section 31 read all of Section 31 and with respect to Township 25S, Range 37E, which now reads the E $\frac{1}{2}$  of Section 6, be corrected to read the E $\frac{1}{2}$  and the NW $\frac{1}{4}$  of the NW $\frac{1}{4}$  of Section 6 which is in effect transferring the entire lease into one area. We have no objections to throwing the entire 320 acres either in area one or area two but since they have placed the - the suggestion has been to place the section into area two - we wouldn't have any objection to throw the 320 acres in area two.

MR. FORBES: I think that is fixed primarily from a structural -

MR. HOMER DAILY: There are several gas wells in that immediate area and we through that place there picked the boundary on the structure and sulphur contents of the gas. In that particular place we did not have much data on the sulphur contents. That is why that boundary was placed in there. Actually from the structural map if a person were going to make a change in that boundary, I believe it would be better to move the boundary over so that would be included in area one rather than in area two.

MR. SELINGER: I might point out to the Commission that there are no wells in the NW $\frac{1}{4}$  of Section 6 and there is only one well in the extreme SE of the SE of Section 6 so that there won't be any offset obligations or any moving of equities or rights of offset obligations whatsoever.

MR. SANDERS: I would like to ask Mr. Dailey a question. Did you consider surface ownership in your study?

MR. DAILEY: We did not.

MR. SELINGER: But the effect is to correct a sub-marginal subunit with respect to acreage. In other words, one of our wells would not be on a normal 160 whereas the other well would have an abnormal unit of 200 acres and we feel that equities would be better preserved by the correction of two uniform units rather than having a subnormal and abnormal unit.

MR. SANDERS: We don't object to the request of the Skelly Oil Company at all.

CHAIRMAN SHEPARD: Any further questions?

MR. EUGENE T. ADAIR: Mr. Chairman.

CHAIRMAN SHEPARD: Will you come forward and state your name?

MR. ADAIR: Eugene Adair, representing Texas Pacific Coal and Oil Company. I might state to the Commission that at this time we have no quarrel whatsoever with the results shown by Continental. However, we would like for the record, to ask a few questions.

Mr. Forbes, this comprehensive study that you have just completed was necessarily based, was it not, upon such information as you had available to you at that time?

MR. FORBES: That's right.

MR. ADAIR: And as future drilling and future development operations are conducted in the area, you will have available to you additional information which may require

the Commission to revise the pools, the pool gas pool lines.

Q. Now, Mr. Heath, that's right.

A. Now, I will refer you to the northern portion of Township 22 North, Range 30 East where you will observe that gas pool one, the line separating gas pool one from gas pool two to the east coming through that Township splits several of Texas Pacific Coal and Oil Company's leases. Is that not correct.

Q. Now, Mr. Heath: It does, the basic lease. It doesn't within any one section. It does some of your basic leases where they extend across more than one section.

A. Now, as an additional drilling is done along that line and additional information becomes available, it may require that line separating those two pools be shifted some one way or another.

Q. Now, Mr. Heath: That's right. This is the best we can draw from our information.

Q. Now, Mr. Heath: At the present time?

A. Now, Mr. Heath: At the present time.

Q. Now, Mr. Heath: It is not intended to be a permanent line?

A. Now, Mr. Heath: It is unless you can furnish additional information.

Q. Now, Mr. Heath: Additional information will change the line if necessary?

A. Now, Mr. Heath: If it warrants it.

Q. Now, Mr. Heath: So, then, it is not intended to be a

permanent line delineating the gas pools.

MR. FORBES: No.

MR. ADAIR: That is all I have.

MR. DAILEY: Perhaps that should be clarified just a little bit. In several instances the area is not fully developed, of course, for gas and we have included areas within that pool on the basis of reported shows when some of the oil wells were drilled. Naturally, when a person goes in there and attempts to recomplete some of the wells or develop some of that acreage for gas would necessarily change our thoughts a little bit.

JACK M. CAMPBELL: Mr. Chairman.

CHAIRMAN SHEPARD: Mr. Campbell.

MR. CAMPBELL: Gulf Oil Corporation, Jack M. Campbell, Roswell. Gulf would like to suggest to the Commission a modification of one portion of the proposed delineation of gas pools and would like to introduce some evidence. I wonder if the Commission wants to hear it now or after lunch.

CHARIMEN:SHEPARD: If you have evidence, I believe we will hold it up and stand in recess until 1:30, and at that time we will resume where we left off.

(Recess.)

MR. SPURRIER: Commissioner Shepard has instructed me to go ahead and open the meeting for the purpose of taking testimony. He will be here at some later time. Mr. Sanders.

MR. SANDERS: If the Commission please, we have obtained permission from the Gulf to complete our testimony before they put on their testimony.

Q. Now let me proceed.

A. Yes, sir. Mr. Forbes, I don't believe it was  
very clearly brought out in the testimony as to the vertical  
separation between each area as to the formation of dry gas.  
Could you take each area individually and point out that to  
the commission?

A. For one: Yes, sir. In area one, the vertical  
distinction or vertical separation between pools is the Yates and  
Seven Rivers and doesn't go any further down than that. In  
area two, we have used the Yates and Seven Rivers with the  
exception of the lower 100 feet of Seven Rivers. We believe  
that is partially gas cap gas, so were Yates and all of Seven  
Rivers with the exception of below 100 feet. Area three and  
four both Yates and Seven Rivers and Queen formations. In the  
Queen formation, it is the upper 200 feet of the Queen formation.  
In other words, the Yates, Seven Rivers and upper 200 feet of  
Queen.

Q. Is that? They are considered dry gas?

A. Yes, sir. They are considered dry gas reservoirs.

Q. Now, have you any suggested name for these  
various areas, pool areas?

A. Yes, sir. We have some that have been suggested  
and we are in accord with. In area one it has been suggested  
that it be called the Jalco, combination of the Cooper-Jal  
field. Area two is a large gas pool, combination of Langlie-  
Smith pool. Area three might be called the Grand gas pool.

Area four is Arrow pool.

MR. SANDERS: That is all.

MR. MCCORMICK: I would like to ask Mr. Forbes some questions. In area three what is the oil producing horizon?

MR. FORBES: From the Grayburg and the San Andres, with the exception of the small strip around here which is the Queen.

MR. MCCORMICK: In No. 1 what is the oil producing parts?

MR. FORBES: From the Yates and Seven Rivers, principally the Seven Rivers formation.

MR. MCCORMICK: What are the gas producing horizons in No. 1?

MR. FORBES: The same formations. In other words in Area 1 it is probably gas cap gas, the majority of it. The upper two zones, as we classify the Yates, has a lower sulphur content and it has strictly free gas, we believe. However, like I described before that the formations have been connected by well bores so long that it is difficult to -

MR. MCCORMICK: How would you suggest the Commission could determine the difference between a gas well and oil well for classification purposes and proration purposes in No. 1, the Jalco?

MR. FORBES: Well, inasmuch as there is no limitation ratio on that pool at the present time, I don't think we are too bothered about that situation.

MR. McCORMICK: Well, would you prorate all the wells there as gas wells and let them produce as much oil as would come up with that quantity of gas?

MR. FORBES: Inasmuch as we have considered this as a gas pool, gas reservoir, they will have to be prorated under some allocation formulas later.

MR. McCORMICK: I know this is outside the scope of your original examination but for the benefit of the Commission I think we would like your views on it. Say that there is one well that is producing a large quantity of oil and then in the adjoining section a well is producing dry gas from the same horizon or same formation, would both those wells be classified as gas wells? ✓

MR. FORBES: No, I don't believe so.

MR. McCORMICK: Well, how -

MR. FORBES: I understand your problem. I prefer to defer the answer on that.

MR. McCORMICK: I gathered from your statement a little while ago that all wells that were produced, that were completed say, in the upper three pays would be automatically classified as gas wells and those that were completed below that in the San Andres and Grayburg or Grayburg and San Andres would be automatically classified as oil wells.

MR. FORBES: Are you talking about area one or three?

MR. McCORMICK: Well, either one. I think the problem is the same. I may not have the formations exactly stated correctly.

Just go back up to the Eumont, your oil is produced from the Grayburg and San Andres.

MR. FORBES: That's right.

MR. McCORMICK: Any well completed in these formations would you suggest they be classified as oil wells?

MR. FORBES: That's right.

MR. McCORMICK: And all that were completed above those formations would be automatically classified as gas wells?

MR. FORBES: That is in the upper 200 feet of the Queen on up through the Seven Rivers and Yates, yes, sir.

MR. McCORMICK: Isn't that going to be quite a problem when you have one formation split like that?

MR. FORBES: I don't think it will be. It may be a problem to a certain extent but with electrical logs and so forth now, I think it can be done.

MR. McCORMICK: Go back down to the Jalco there, just repeat for me the gas producing horizons.

MR. FORBES: On this Jalco field the producing formations are Yates and Seven Rivers.

MR. McCORMICK: For gas?

MR. FORBES: For gas.

MR. McCORMICK: And what are the oil producing horizons?

MR. FORBES: They are all producing oil from the Yates and Seven Rivers formations. Now, then, in regard to prorating it, how you can handle that, I am not prepared to answer it at the present time. I do believe this is a separate gas pool from this over here.

pool at the present time.

MR. McCORMICK: Are the gathering lines of the gas purchasing companies in all of these areas, I presume they are.

MR. FORBES: Yes, sir, I believe they are. I don't know how far El Paso goes up here.

MR. DAILEY: I believe they are in everything except area four.

MR. McCORMICK: How about the market for gas in the No. 4.

MR. DAILEY: There are only at the present time three gas wells inside that area. The gas from, I believe, two of these three wells anyway is used chiefly for gas purposes.

MR. McCORMICK: I would like for you to tell me which companies operate in each of the areas that you know which are gathering purchasing companies? That is, for high pressure gas.

MR. DAILEY: Dry high pressure gas?

MR. McCORMICK: Yes.

MR. DAILEY: Actually as far as I know, El Paso purchases some gas in area three and so does Southern Union. The El Paso purchases dry gas through this area in through here, No. 1. Whether Charles Henry Johnson purchases any dry gas there I do not know. In area two the El Paso is the main purchaser. However, I believe the Southern Union Purchases from one or two wells in the area. When Mattix had the line through there

they took it from area two. Whether Southern Union is continuing to do so, I don't know. As far as I know, there are no sales out of area four. In addition to that, there is a small amount of dry gas purchased out of area three by the Phillips and the warm fuel, plant fuel and house fuel.

MR. McCORMICK: Would you have any ideas or suggestions as to how the Commission would determine as to each particular well whether it was a gas well or oil well?

MR. DAILEY: In which area?

MR. McCORMICK: Well, take three for instance.

MR. DAILEY: I believe area three is probably, in that regard, is probably the easiest. I don't believe that any of the oil wells producing from the Queen down through this area will produce from top allowable. I don't believe they are capable of it. There may be one or two that are but as far as I can find out, why, they aren't. Therefore, the way we have it divided, the main problem would be to determine where the well was producing.

MR. McCORMICK: How accurately can that be determined?

MR. DAILEY: I couldn't say.

MR. McCORMICK: In area one there, what ideas do you have about determining gas wells and oil wells?

MR. DAILEY: That is in area one. Again I believe you will find that the largest portion of the area, any oil wells in there are producing large volumes of water with a

few exceptions and are marginal. I don't believe that the problem would be too hard to work out.

Mr. L. SHAFER: Mr. Chairman.

Mr. PURRILL: Yes, sir.

Mr. SHAFER: A. L. Shafer, Continental Oil Company.

With regard to Mr. McCormick's question concerning area one, the Commission has previously by rule stated that those reservoirs in area one are primarily gas reservoirs. Therefore, Mr. McCormick's question would narrow it down to the classification of an individual well in that reservoir. I would suggest that the Commission use some criteria such as gas-oil ratio or other mediums of that nature to differentiate between an oil well as compared to a gas well. Inasmuch as they can and will be producing from the same reservoir essentially.

Mr. MCCORMICK: Would there be anything wrong with classifying area one as, all wells in there, as gas wells?

Mr. SHAFER: I don't know that there would be. I don't know how you would limit the oil production from an individual well unless you placed a top allowable limit on that well. Even though you classify it as a gas well. In other words, there is no problem of correlative rights or withdrawals from an individual well since there is no limiting gas-oil ratio in effect at the present time. It is merely a classification for proration purposes. I think some criteria such as gas-oil ratio would still give each individual, whether or not he is producing an oil well or gas well the same rights and privileges that he presently has.

MR. MCCORMICK: How about this division of the Seven Rivers into the lower 100 feet and the upper portion of it, is that going to be capable of accurate determination?

MR. SHAFER: I think so. I see no reason why that should pose any problem.

MR. DALLAY: That division was put in there, to explain the reason for it being put in there, you find that the bottom hole of the formation pressure through that section in here, I believe development started in the area of 1936 or 1937, the formation pressure in the hole in that area was very low in that portion of those formations that had been opened. Whereas the Yates and the upper portion of the Seven Rivers which had not been open for production had a considerable higher pressure. I believe the Yates and Seven Rivers were averaging better than 1,000 pounds, whereas the queen pressure, I doubt if it would go over 500. That was the reason, to protect the possibility of trying to repressure the queen through opening up both the high pressure gates in any one well.

MR. MCCORMICK: How thick is the Seven Rivers formation in No. 2?

MR. DALLAY: Approximately 400 feet.

MR. MCCORMICK: It is fairly uniform?

MR. DALLAY: Fairly. Not too uniform.

MR. MCCORMICK: Is it more than 100 feet thick at any points?

MR. DALLAY: Is it what?

MR. MCCORMICK: Is it more than a hundred feet thick at any point where there is production?

MR. DAILEY: It is 400 feet.

MR. MCCORMICK: Is it more than 100 feet at the minimum at any point?

MR. DAILEY: You mean that has been opened up for production?

MR. MCCORMICK: Well, if you are allowed to produce oil from a lower 100 feet of it is there any point where the Seven Rivers is not 100 feet thick?

MR. DAILEY: No, there is no place where the Seven Rivers is less than 100 feet thick. No. The way it worked out in there the total thickness of the Yates and Seven Rivers varies from, I believe, over in this area. It is approximately seven hundred and forty or fifty feet as near as I can remember, and it gets somewhat thinner this way, probably, oh, say loses 100 feet of its thickness coming this way. As far as we can tell, as far as we can trace it. The Yates is approximately 250 feet thick which would mean that you would have between 450 and 550 feet of Seven Rivers as you go across there.

MR. MCCORMICK: Is there any disagreement among geologists as to where one formation begins and the other stops?

MR. DAILEY: You mean the Seven Rivers and the Queen or the Yates and Seven Rivers?

MR. MCCORMICK: All three of those.

MR. DAILEY: There would be between, I believe, you would find some between the Yates and Seven Rivers especially back in here along this area, it is rather definite, especially where

you have an electrical --

MR. ADAIR: (Interrupting) For the purpose of the record, will you indicate where you are pointing?

MR. SPURRINE: Just say from east to west.

MR. DAILLY: Well, in area one, along the reef there is a rather definite separation point between the Yates and Seven Rivers that can be picked off from line wells or radio active surveys or from electrical logs. As you go east, that definite break becomes somewhat indefinite, the characteristics of the Yates and Seven Rivers become fairly similar.

MR. SANDERS: That is in area two.

MR. DAILLY: That's right.

MR. ADAIR: That is the southeastern portion of area two.

MR. DAILLY: That's right. Similar conditions exist up here farther north.

MR. SANDERS: Farther north of area one, is that what you are speaking of?

MR. DAILLY: That's right.

MR. MCCORMICK: I would like to ask another question. Assuming that the Commission would adopt, would go ahead and define pools somewhat like you have it there, with perhaps some minor changes, do you have a practical suggestion as to how the Commission would go through the mechanics of saying that this well is an oil well or it is a gas well?

MR. DAILLY: No. It would undoubtedly require a study of each individual well by qualified engineers or geologists.

MR. FRANK M. LOVERING: Lo vering, with Shell. I have a question. Does this thing resolve itself into defining gas cap rather than gas reservoirs or gas pools? Isn't that the result of this survey?

MR. DAILEY: In area three to a certain extent, yes.

MR. LOVERING: It seems to me that in areas one and two, it seems that it is admitted that gas is coming from the same wells.

MR. DAILEY: Not all the gas.

MR. LOVERING: A good part of it.

MR. DAILEY: Part of it, yes.

MR. LOVERING: As a gas field, so designated, those wells would produce on gas allowables the same reservoir an oil well connection of producing curtailed and limited by limitations in oil allowables rather than gas and might there not be some advantage given to gas areas in regard to recoveries both in the fluids and in reservoir energy? I don't see how you can have a gas pool so defined that actually the source of production is from an oil and gas reservoir.

MR. DAILEY: I believe that the only place where we have done that is in area one.

MR. LOVERING: That is particularly the one I had in mind.

MR. DAILEY: It, as Mr. Shafer pointed out, has been declared primarily a gas reservoir by the Commission.

MR. LOVERING: Even in area two, doesn't that area amount to have nothing more than a gas cap overlying on the edges there, say, oil horizon adjacent to there, you get oil wells, so testified,

out of the same reservoir, don't you?

MR. FORBES: Area two is mostly dry gas, Mr. Lovering, practically all of it. We will admit there is oil here and here (indicating).

MR. LOVERING: I don't object to mostly. It is oil and gas regardless of which is predominate.

MR. FORBES: I would say in area two, the gas in area two is a gas cap for these small wells.

MR. LOVERING: The impression I got from the testimony and maybe others here too, that actually you are defining a gas cap in each case and all these gas pools would be actually producing from the same reservoir as the adjacent oil wells. over

MR. SEAFAR: Perhaps I can clarify that for you a little in area two. I think the only sections that we have described or suggested be place in the dry gas reservoir that also produces oil is the upper Yates section.

Admittedly, in the upper Yates and some of the little troughs throughout that area, I believe are three in number, there is a limited oil production. However, on an acreage basis, the acreage assigned to those oil wells comprises approximately three per cent of the total area set up in the gas pool and inasmuch as it is true of area two that the Commission has stated that the reservoirs are primarily gas reservoirs, we feel that the individual producing sections or formations that we have suggested be place in the gas pool or one hundred per cent productivity of dry gas or are primarily productive of dry gas.

The only instance in which I can see that any confusion might be created is in area one designated as, primarily as a gas reservoir and the gas reservoir we are suggesting, the one and the same. If they call the entire thing a gas pool, however, and limit the production of oil from a gas well to top allowable, I cannot see that it will change anything from what its present status is.

MR. LOVERING: I think your statement is understandable and probably true. The thing I foresee here is that we are going to get faced with the problem of proration of oil wells on one side of the line and gas wells on the other which you may be producing from the same reservoir, and that we may have a problem, the Commission would have a problem of prorating to everybody's satisfaction oil where gas production of those wells from the other side of the line.

MR. SHAFER: You are making the point that, for instance, taking an example, say, in the area two or Langemat area, you have a well producing from the Yates, say, upper Seven Rivers which is a very common occurrence in area one, or the Jalco pool, you might have a well producing from the Yates and upper Seven Rivers which is now classified as an oil well. That comes back to the same point. I can't see any reason why that well in area one couldn't be designated<sup>a</sup>/gas well.

MR. FURBER: We separated these two areas by sulphur content and the lack of permeability here.

MR. SHAFER: There are geological factors and other factors

that caused you to draw the line in there. Otherwise, we would have made one pool out of the entire thing.

MR. LOVERING: To actually separate the gas to gas pool or reservoirs, as separate from gas, it is practically impossible to do, is that right?

MR. SHAFER: That is something that I hope everyone will bear in mind. We did not have the opportunity to take a new field or new area and work up some appropriate rules and regulations. We are taking an old set of conditions that existed for many, many years. We studied them thoroughly and we tried to do the best we could. Admittedly, there is a lot of debatable points, there is a lot of questions that can arise regarding the lease boundaries of surface ownership and other matters. We tried to avoid those things and keep it strictly on a geological and individual well data basis at this time, in order to get some sort of gas pool boundary set up, in order that these other matters can be intelligently discussed later on. ✓

I am afraid if we get into those factors right now, we would be going on to next Christmas.

MR. LOVERING: I don't want to go to next Christmas.

MR. SANDER: We have concluded our testimony. If nobody has any more questions, we would like to introduce the three exhibits up here into evidence.

MR. MCCORMICK: Why don't you mark the one, two and three?

(Maps, marked as exhibits 1, 2, and 3, for identification.)

MR. CAMPBELL: Stanolind representative has asked to make

a statement before we put on our evidence.

MR. L. H. BOND: L. H. Bond, Stanolind Oil and Gas Company. As has previously been stated by Phillips representatives, Stanolind participated in this study, one of our engineers working on the study full time for a considerable period. It is my opinion that this study represents a reasonable approach to the problem but that as has been mentioned, adjustments will probably have to be made to take into account new data which is discovered by further development or further study of individual areas. I think it does represent a good start at solving the problem and concur generally with Continental's recommendations for these four areas.

MR. SPURHAN: Thank you.

(Witness sworn.)

MR. CAMPBELL: If the Commission please, Gulf Oil Corporation, Jack M. Campbell, Atwood, Malone and Campbell, Roswell, New Mexico. Gulf desires to present for the Commission's consideration a minor modification of the proposed gas pool designations and calling as its witness, R. L. Boss, Hobbs, New Mexico.

R. L. B O S S.

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. CAMPBELL:

1. State your name.

A. R. L. Boss.

2. Where do you reside?

A Hobbs, New Mexico.

Q By whom are you employed?

A Gulf Oil Corporation.

Q What capacity?

A Zone Geologist.

Q Have you testified before this Commission on previous occasions?

A Yes.

MR. CAMPBELL: Is the Commission satisfied with the qualifications of Mr. Boss as an expert witness in the field of geology?

MR. SPURNIER: Yes.

(Marked "Gulf's Exhibit No. 1" for identification.)

Q I hand you what has been identified as Gulf's Exhibit 1, in Case No. 245, and ask you to state what that is?

A It is a plat showing the interpretation of the Yates structure and in addition the outlines of the gas areas one and two have been shown plus the suggested revision of those areas.

Q Did you prepare this map yourself?

A That's correct.

Q Did you obtain the information on the contours yourself in the preparation of the map?

A That's correct.

Q The contours as shown on this map are the same as the contours shown on Continental's Exhibit No. 1?

A They are drawn on essentially the same horizon, however, there

is a variation among many of the geologists in using the Yates as a reference datum. Some use the top of the Yates sand and some use a point 20 to 30 feet below. In this instance, I believe the Continental uses the top of the sand, and I believe Gulf uses the lower horizon. It amounts to a slight variation but essentially the map should correspond very closely.

Q You are acquainted with the proposed gas pool designations as indicated in Continental's Exhibit No. 3?

A I am.

Q Based upon your studies in the area you referred to, do you have a recommendation as to modification of the Continental's recommendations?

A I do.

Q Have you prepared a statement setting out your views in that regard?

A Yes.

Q First will you state which area is involved in your proposed modification?

A Well, it is common boundary of areas one, two and three.

Q The known boundaries?

A The known boundaries.

Q Of areas one and two?

A That's correct.

Q And the southern boundary of area three?

A Yes.

Q Read the statement you prepared in connection with your study.

A        "The proposed delineation of shallow gas areas in Southeastern Lea County is in general accord with the interpretation made by the Gulf Oil Corporation. We concur in the statement that the Grayburg Formation is primarily an oil reservoir in areas 3 and 4. While Gulf recognizes the fact both sweet and sour gas are produced from the Yates and Seven Rivers formations in the southern part of the county, the difference being attributed to the production of sour gas from porous dolomites of the "reef" area along the western margin of production, the fact the Yates sands are apparently productive of sweet gas over much of the entire area leads to the interpretation that no distinct separation exists and this reservoir within the Yates and Seven Rivers formations is essentially a common one. However, if it is felt desirable to differentiate between the sweet and sour areas, Gulf will offer no objection to such delineation.

      "Gulf is not in accord with the north limits recommended for the Yates-Seven Rivers gas pool or pools. The essential difference which embraces most of the Eunice-Monument field, is the fact that in the latter the Queen formation is productive or potentially productive of gas. The common boundary of the areas as previously recommended is drawn through the last tier of sections in Township 21 South, Range 36 East. However, the southwest part of this township occupies such a relatively low position structurally that the Queen formation, particularly the lower Queen, occurs below the gas-oil contact. Thus, the only formations here potentially productive of gas are the Yates

and Seven Rivers. The area of Yates-Seven Rivers (solely) gas production should, therefore, be extended northward.

"Relative structural position appears a reasonable basis for separation of the areas. The interval from the top of the Yates to and including the upper queen sand is approximately 750 feet. The gas-oil contact in the immediate area has been established as approximately 200 feet below sea level. The 550 foot Yates contour thus represents the approximate south limit of queen gas and pool limits herewith proposed follow, as nearly as possible, this contour with exceptions where specific data are available.

"The resulting north boundary of the Yates-Seven Rivers gas area would be extended as shown on Gulf Exhibit No. 1, to include the following area:

"Township 21 South, Range 35 East:

E $\frac{1}{2}$  Sec. 12, E $\frac{1}{2}$  Sec. 13, and E $\frac{1}{2}$  Sec. 24.

"Township 21 South, Range 36 East:

W $\frac{1}{2}$  Sec. 7, W $\frac{1}{2}$  Sec. 18, All Sec. 19, S $\frac{1}{2}$  Sec. 20,  
S $\frac{1}{2}$  Sec. 28, All Sec. 29, All Sec. 30, NE $\frac{1}{4}$  Sec. 31,  
N $\frac{1}{2}$  and SW $\frac{1}{4}$  Sec 32, S $\frac{1}{2}$  Sec. 33, and N $\frac{1}{2}$  Sec. 34."

Q Mr. Boss, for the benefit of those here can you point out generally on Continental Exhibit No. 3, what that area embraces?

A The Yates, Seven Rivers areas would be extended northward then to include the east half of 12, the east half of 13, the east half of 24 of Township 21 South, Range 35 East; to include the west half of section 7, the west half of 18, all of 19, the west half of 20, the west of 28, all of 30, all of 29, the northeast of 31, the north half and southeast of 32, the north half of 33 and the north half of 34.

Q Based upon your study do you recommend that the north limits of the Yates-Seven Rivers pool be extended as shown on the dotted lines of Gulf's Exhibit 1?

A I do.

MR. CAMPBELL: That is all.

MR. SPURRIER: Does anyone have any questions of this witness?

MR. DALLAY: Does the witness mean that you want areas one and two to be extended to take in a portion of what Continental has designated as area three, is that what you mean?

A Correct.

MR. DALLAY: Do you mean that, or extend area two and leave area one as is?

A As we have interpreted that area as Yates-Seven Rivers gas production, it really would make no difference which one according to our interpretation, so we have no objection to extending two up to include that.

MR. SPURRIER: Any further questions? If not, the witness may be excused.

MR. CAMPBELL: I think for the benefit of the Commission it might help to determine what Continental feels about that proposed extension, whether they object to it or feel that it would be satisfactory generally.

MR. SPURRIER: Mr. Sanders, do you have any comment?

MR. SANDERS: No, sir, we have no objection to that.

MR. SPURRILL: Is there any other comment on Gulf proposal?

MR. DON LITTLE: Mr. Chairman, my name is Don Little. I represent Standard Oil Company of Texas, from Houston. Standard of Texas owns a joint venture interest in many of the Continental operated leases scattered throughout this area. We have reviewed the report and the exhibits submitted here today by Continental and are in substantial agreement with the findings of that report insofar as it suggests or attempts to define the limits of the gas pool in the area under consideration. We feel that this report represents a constructive approach to this problem of defining these gas pools and we recommend it to the Commission on that basis for their study and commission. Thank you.

MR. SPURRILL: Thank you. Anyone else?

MR. LOVERING: It occurred to me that they be referred to as gas areas rather than to gas pools. I don't think they are gas pools.

MR. CHAFFIN: Although we have referred to them as gas pools we originally commenced this study and referred to them as areas primarily because of lack of nomenclature. We hadn't decided any names. However, to be of any benefit they must be common sources of supply which is synonymous of pools. Otherwise, we can't promulgate any rules or regulations to fit those various pools. I suggest that we do consider them as pools even though it is contrary to Mr. Lovering.

MR. LOVERING: I withdraw my objection.

MR. C. E. CARDWELL: C. E. Cardwell, with Atlantic. Continental pointed out in this testimony Atlantic did go over this study with them and we are in substantial agreement with their recommendations to the Commission.

MR. SPURRIER: I thank you, Mr. Cardwell. Anyone else? "as anyone anything further in the case? Do you have something, Mr. Dewey?

MR. DEWEY: We have the Elinebry gas field if you would like to hear it this afternoon. It is a deeper gas field than presented.

I am R. S. Dewey, Humble Oil and Refining Company, Midland, Texas. On behalf of the Humble Oil and Refining Company we wish to state that we are in substantial agreement with the evidence that has been placed before the Commission in this case in regard to the shallow fields in Lea County. As our part of the hearing we have prepared a very short discussion of the Elinebry gas pool and I think, Mr. Spurrier, that perhaps some of the other operators have some other pools they want to discuss. We have one witness, Mr. W. L. Crothers, who has n't appeared before you before.

(witness sworn.)

W. L. CROTHERS,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. DEWEY:

Q I wish you would state your name, please.

A W. L. Crothers.

Q For whom are you employed?

A Humble Oil and Refining Company.

Q In what capacity?

A Petroleum Engineer.

Q How long have you been active in this area?

A In West Texas and New Mexico since 1936.

MR. DEWEY: Is that sufficient qualifications?

MR. SPURDIN: Yes.

Q Mr. Crothers has prepared a statement which he would like to read and which we will leave with the Commission. I might say that this matter has been discussed with the various operators concerned in the area so far as we know it is not controversial. We haven't been able to find any material disagreement with it.

MR. CROTHERS: "Blinberry Gas and Oil Pays. There are 12 oil wells in the Blinberry Field and 11 gas-distillate wells are completed to produce from the Blinberry pay. Data available for these wells are listed in the accompanying tables. The oil wells are all marginal with allowables in March 1951 ranging from 5 to 28 bbl/day and averaging 11 bbl/day. As shown on the accompanying map, the oil wells are in three areas over an interval of about 8 miles. Practically all these oil wells were originally drilled with some other pay such as Drinkard as an objective and were only completed in the Blinberry after failure to produce in other pays. The average cumulative production of the oil wells to

January 1, 1951, is approximately 15,000 bbl/well. It should be noted that on the map only wells with production tests or drill stem tests of a Blinebry pay are shown although there are a number of other wells in the area producing from the Paddock, Drinkard and other pays. It will be noted from the map that the Blinebry has been found productive of gas over an area about 9 miles long with a maximum width of about 2 miles. Data available are sufficient to indicate whether gas production will be continuous over the entire length of the area involved. Initial tests of Blinebry gas wells show production of distillate varying in gravity from 50 to 64 degrees A.P.I. at gas-distillate ratios varying from 40,000 to 100,000 cubic feet per barrel.

"If oil is found in a reservoir with a gas cap and the pressure in the gas cap is lowered faster than that in the oil pay, oil will migrate to the gas cap. The small percentage of the oil migrating to the gas cap will be produced. Pressure data for the Blinebry pay show that the pressures of the oil wells have dropped much faster than those of the gas wells, indicating that little if any oil migration of a gas cap has occurred or will occur. Pressures reported for oil wells include the following: Olsen, Dan glade 1, 11-49, 1635; Penrose, Hinton 3, 7-50, 839; Penrose, Hinton 4, 7-50, 1525; Rowan, Elliott 8-13-1, 6-50, 903; Sinclair, Mill 1, 11-48, 1018; Texas, Lockhart 2, 11-50, 812.

"Back pressure tests indicate the gas wells had pressures of about 2300 pounds at the middle of 1950.

"Cross-sections AA' and BB' were prepared primarily to determine whether oil and gas production were from the same zone. Section AA' shows oil production in Gulf-Pike 1 just above

the top of the Blinbry where oil production in Sinclair-Hill is from a point about 65 feet below the top of the Blinbry. These wells are about 7 miles apart. In the central area where most the oil wells are located, Rowan-Elliott B-12-1, Section 33' is shown by drill stem tests to have its best oil pay 45 feet below the top of the Blinbry. Data on Section AA' for gas-distillate wells as Gulf-Vivian 5, Humble-Penrose 7 and Sinclair-Tarkey's 1 indicate that gas production is from gas below the top of the Blinbry.

It is believed that these data indicate that it is unlikely that the Blinbry gas-distillate pay is a gas cap of the oil pay or pays. The gas-distillate pay occurs about 65 feet higher in the section than the oil pay and has a bottom hole pressure from 800 to 1500 pounds higher. In the event that it should be the gas cap of the oil pay, it is believed that negligible loss of ultimate oil production would occur as a result of operating and producing the gas pay as a separate gas pay.

A proposed area boundary for the Blinbry gas-distillate pay is shown on the attached map. The area included inside this boundary is largely undeveloped. It is recommended that this boundary be revised as development extends or reduces the area enclosed in it."

MR. DEWY: The material has been supplied to a great many of the operators operating in southeastern Lea County and it has been available to them. However, if there is anybody that desires to cross examine the witness, they may do so.

MR. THURRIER: Does anybody have any questions of the

witness Mr. Dewey. I presume you desire to introduce this as an exhibit.

(Marked, Humboldt Oil and Refining Company Exhibit A Case 243, for identification.)

MR. SPURRIER: Does anyone have anything further on any other pool?

MR. CAMPBELL: Yes.

MR. R. S. CHRISTIE: My name is R. S. Christie, Amerada Petroleum Corporation. Our part in this study is an effort to define the small gas pools in which we have production. The reports were reviewed at a meeting held in Hobbs in the last few days, and I believe there is no disagreement on our findings either

The first report is on the Monument-McKee gas pool. This is a very short report. If you care to, I will read it or just submit the report, whichever you prefer.

MR. SPURRIER: If there is no objection, we will dispense with the reading of the report. Is there anyone who would care to hear the report?

MR. CHRISTIE: I might state that this comprises, the Monument-McKee gas pool comprises in our estimation, at least Section 36, Township 19 South, Range 36 East, Section 31, Township 19 South, Range 37 East, Section 1, in Township 20 South, Range 36 East, Section 6, Township 20 South, Range 37 East. At the present time there is just one well completed in this formation. I would like to present this as Exhibit No. 1.

The second gas pool which we are attempting to define is the Hightower Permo-Pennsylvanian Gas Pool. It is defined as being in Section 22, Section 23, Section 26 and Section 27 in

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Township 12, South, Range 33 East. At the present time there are two completed gas wells in this reservoir. I would like to present this as Amerada Exhibit No. 2.

MR. SPURRIER: Does anyone have any questions?

You may be excused.

MR. MORRELL: I might ask Mr. Christie one question. It just occurred to me, you are suggesting under your Exhibit No. 1, the name Monument-McKee gas pool?

A Yes, sir.

MR. MORRELL: I would like to call the attention of the Commission to the fact that there is a Monument-McKee Oil pool. The similarity of names might be confusing unless it is specified each time it is written out.

MR. CHRISTIE: I don't believe there is an oil pool now. The original well, the well that is referred to there came in originally as a high gas oil ratio well and has since gone to gas and as far as I know there are no wells producing oil in the McKee Sand Monument pool.

MR. MORRELL: Then, the McKee should be withdrawn.

MR. CHRISTIE: Yes.

MR. SPURRIER: It is recommended, Mr. Christie, that the pool be changed from an oil pool to a gas pool?

MR. CHRISTIE: That is correct. I believe the Commission has already designated that as a gas pool at this time. Although, it may not be officially recognized.

MR. CAMPBELL: Gulf has been requested to furnish some information to the commission in three suggested gas pools, Tubb Gas Pool, the Amanda Gas Pool and the Justis Gas Pool. I think that these have all likewise been submitted to the meeting of the directors and in the interest of saving time, if there is

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no objection, we will just identify the Exhibits, introduce them and submit them to the reporter for the record.

MR. SPURRIER: All right.

R. L. BOSS,

recalled, having been previously duly sworn, testified as follows:

By MR. CAMPBELL:

Q You have testified before in this hearing have you not?

A Yes, sir.

Q I hand you what has been identified as Gulf's Exhibit 2 and ask you to state what that is.

A That is a map showing a general outline suggested for the Tubb Pool and also the line of a cross section prepared as supplemental data for the Tubb Pool.

Q Exhibit 2 is just a map showing that?

A Yes.

Q I hand you what has been identified as Gulf's Exhibit 3 and ask you to state what that is.

A This is a cross section which is supplemental data with regard to the Tubb Gas zone.

Q I hand you what has been identified as Gulf's Exhibit 4 and ask you to state what that is?

A A table prepared showing data, showing wells actually producing from Tubb zone.

Q I hand you what has been identified as Gulf's Exhibit 5 and ask you to state what that is?

A That is a table showing data from other wells which had showings in the Tubb Zone.

Q Are all the wells that are shown there from this particular zone producing gas?

A That is true.

Q Based upon your study in that particular gas pool, is it your suggestion that the Commission give consideration to designating the Tubb Gas Pool as shown in Gulf's Exhibit 2?

A Yes.

Q I now hand you what has been identified as Gulf's Exhibit No. 6. I ask you to state what that is?

A That is a map showing the outline proposed for the Amanda Gas Pool.

Q I hand you what has been identified as Gulf's exhibit 7 and ask you to state what that is?

A That is a section prepared as supplemental data for Amanda Gas Pool.

Q Based on your study of the Amanda Gas Pool, is it your recommendation that the Commission give consideration to establishing an Amanda Gas Pool as shown in Gulf's Exhibit 6.

A Yes.

Q Are the wells producing in the Amanda Gas Pool, are there any oil wells producing in that zone?

A No, sir. The pool is limited to a single well producing gas only.

Q I hand you what has been identified as Gulf's Exhibit 8 and ask you to state what that is?

A That is a map showing the proposed boundaries of the Justin Gas Pool with the line of cross section prepared also.

Q I hand you what has been marked as Gulf's Exhibit No. 9 and ask you to state what that is?

A This is a cross section prepared through the Justis Pool showing the vertical limits of the gas zone.

Q Based upon your studies in the Justis Gas Pool, is it your suggestion that the Commission give consideration to establishing the Justis Gas Pool as shown on Exhibit No. 2?

A It is.

Q Are there any oil wells producing from that particular zone in the Justis Gas Pool?

A No.

MR. CAMPBELL: We would like to have the record show that the Gulf Exhibits One through Nine, are offered in evidence. Please submit copies of your statement to the reporter.

MR. SPURRIER: Any questions of this witness?  
If not the witness may be excused.

(Witness excused.)

MR. DEWEY: Mr. Chairman, in order that there be no confusion between the Blinbry Oil Pool and the area that Mr. Brothers recommended for the Blinbry Gas Pool, we suggest that the name for the gas pool be Blin. We further suggest that as there are a number of small gas pools to which no testimony has been presented today, that the case be held over until the next time at which time we will try to complete all the gas pools in Lea County.

MR. SPURRIER: Without any objections, Case No. 245 will be continued to the next hearing.

MR. DEWEY: So we can finish it up at that time.

MR. SPURRIER: This is a recommendation that will be made to the Commission. I am sure that they will continue it.

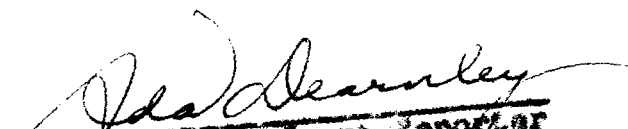
Any further testimony in this case at this time? If not, we will proceed with Case No. 249.

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STATE OF NEW MEXICO )  
COUNTY OF BERNALILLO ) SS

I HEREBY CERTIFY that the foregoing and attached transcript of hearing in Case No. 245, before the Oil Conservation Commission on April 24, 1951, at Santa Fe, New Mexico, is a true and correct record of the same to the best of my knowledge, skill and ability.

DATED at Albuquerque, this 14th day of May, 1951.

  
ADA BEASLEY, Court Reporter

GULF OIL CORPORATION'S EXHIBIT NO. 1

TUBB GAS POOL

In the multi-pay field of the Eunice townsite area there are five wells completed in what is commonly referred to as the Tubb gas zone. Four of these were plugged back to this pay after failing to find production in deeper objectives and the fifth is a dual completion, producing gas from the Tubb zone and oil from the underlying Drinkard pay. In addition, in at least eight other wells in this area, drill stem tests have indicated the zone to be potentially productive of gas.

The cross-section A-A' has been prepared to illustrate both the relative structural and stratigraphic position of the gas zone in those wells completed from that pay. In addition, other wells from which drill stem tests data relative to showings from this section are available, have been indicated by appropriate symbol on the attached map.

Data furnished by actual production tests plus the supplemental drill stem test data indicate this zone to be a dry gas reservoir. Structurally high wells such as Continental No. 3-D Hantz, and low wells, such as Gulf No. 3 Paddock, produce only gas with variable amounts of distillate. Several dry holes at slightly lower elevations on the flanks of the structure furnish added evidence that the zone is not productive of oil down dip and thereby suggestive of a gas cap at the higher structural elevations. Further evidence to support this conclusion is in the fact that the zone is separated from the nearest underlying oil pay, the Drinkard zone by some 200 feet of section, much of which

is relatively impermeable.

The Tubb sand or Drinkard sandy member is a convenient reference datum for the productive zone in question. The pay in the five producing wells falls within a maximum interval of 130 feet below the top of this datum. In the several wells from which drill stem test data are available, the potential section appears somewhat more extensive vertically, the extremes being from 108 feet above the Tubb horizon to 203 feet below. However, in the wells actually producing the pay is confined to the section below the Tubb sand and in other wells in which testing was completed, only three included beds above this horizon. This evidence plus that furnished from sample examination in many other wells of the area appears sufficient to conclude the top of the Tubb sand represents the upper limit of this pay. In the attached tables are shown comparative data with respect to the intervals and the results obtained from testing within this zone:

While the top of the Tubb sand rather sharply defines the upper limit of the zone, the lower limit is somewhat indefinite. The maximum depth of any test completed was 203 feet below the sand member. From the electric logs a "break" approximately 225 feet below the Tubb horizon is readily identified and this, although somewhat arbitrary, offers a possible lower limit to the zone. It is thus suggested that the Tubb gas zone be limited vertically to the stratigraphic section comprising the 225 feet of beds immediately below the top of the Tubb sand.

The horizontal or geographic limits of the pool are also rather indefinite. From the attached map it will be noted that the wells in which showings were recorded are scattered in a north-south direction over much of the Brinkard Pool but east and west they are confined largely to the east flank of the structure. However, from sample data the zone is recognizable in most wells of the Brinkard Pool and it is not improbable that subsequent exploitation may prove the zone productive over much of the Brinkard area. Based on these data the proposed limits of the pool are as indicated on the accompanying map.

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#### GULF CORPORATION'S EXHIBIT NO. TWO

##### AMANDA GAS POOL

The Gulf No. 1 Amanda, located at C NW 38 Section 25, Township 22 South, Range 37 East, is productive of gas from a localized zone of porosity in basal Permian dolomite. This well was drilled to a depth of 7335 feet and found Permian sediments in contact with the pre-Cambrian at 7332 feet. The 5½ inch casing was cemented at 7214 feet, the well plugged back to 7174 feet and completed through perforations between 7025 and 7065 feet, after 1500 gallons of acid, flowing 3,372 MCF gas per day with 5.44 barrels of distillate.

Although a number of wells in the immediate area penetrated a comparable sequence of Permian sediments, in none was the Amanda zone sufficiently developed to warrant exploitation. This zone thus appears a quite local development and until proved otherwise,

by data available at a later date, must be considered a dry gas reservoir.

There are no other oil or gas pays in the remaining few feet of the subjacent Permian beds and in the overlying section the nearest pay stratigraphically is the lower Drinkard of Andrews oil zone. From the attached Section C the relative position of this gas pay is available.

In view of the quite local development of the zone, the depth necessary to reach it, and the small potential indicated no further exploitation of this pay appears probable. The immediate section within which the well is located (see accompanying map) namely; Section 25, Township 22 South, Range 37 East, appears ample for the horizontal limits of the pool. For like reasons, the presently exposed stratigraphic interval provides adequate vertical limits.

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GULF CORPORATION'S EXHIBIT NO. 3

JUSTIS GAS POOL

In the Justis gas Pool, the lateral limits of which have previously been defined, there are at present four producing wells. The gas pay of this pool occurs in a section of porous dolomite immediately underlying the Glorieta horizon. In order to illustrate the structural and stratigraphic relation of the wells which have either tested or are producing from this zone, the cross-section B-B' has been prepared.

Available data suggest this reservoir is quite limited, being confined almost wholly to the very crest of the structure.

At lower structural elevations the zone is water-bearing. The Western Natural Gas Co. No. 1 Eaton (well 2 of section) which occupies a relatively medial structural position was originally completed in this pay for a potential of 9,000 MCF per day. Subsequently, because of encroaching water, it was necessary to plug the well back to the more shallow Queen formation. In addition, the Atlantic-Olsen No. 1 Justis (Langlie) and the Olsen No. 1 Wimberly (wells 4 and 5 of section), both of which occupy a high structural position, tested all underlying formations without disclosing any additional oil or gas pays. These data suggest the zone to be a dry gas reservoir and not a gas cap associated with an adjacent oil pay at either a lower structural or stratigraphic position.

From the data at hand it is disclosed the productive section is confined to the interval from a minimum of 7 feet to a maximum of 160 feet below the Glorieta horizon. In view of the performance of the reservoir to date, it seems probable the productive limits of the pool will fall within this interval. For this reason, the more or less arbitrary figure of 200 feet below the Glorieta datum appears as a reasonable vertical limit for the Justis gas zone.

In view of its limitations, little if any additional exploitation of this reservoir is anticipated and therefore the horizontal limits of the pool as presently defined appear adequate. These limits, as shown on the accompanying map, comprise the following lands: S $\frac{3}{4}$  Section 1, S $\frac{3}{4}$  Sec. 2, E $\frac{1}{2}$  Sec. 11, W $\frac{1}{2}$  Sec. 12, W $\frac{1}{2}$  Sec. 13, E $\frac{1}{2}$  Sec. 14, E $\frac{1}{2}$  Sec. 23, and W $\frac{1}{2}$  Sec. 24, all in Township 25 South, Range 37 East.

AMERADA PETROLEUM CORPORATION  
EXHIBIT NO. I  
CASE 245

MONUMENT-McKEE GAS POOL

In the Monument field there is one well producing gas from the McKee sand in the Simpson formation. Three other wells drilled through the McKee sand have indicated on drill stem tests that they will produce gas from that zone.

The attached cross-section shows the sample logs and drill stem test results for all wells drilled through the McKee sand in the Monument field. The attached map shows the location of the wells.

The McKee sand is considered as the zone starting at 9846' (-6256') in Amerada Petroleum Corporation's State F well No. 5 and extending to the top of the Ellenberger formation at 10,010' (-6520'). The water level is at approximately 6330' subsea.

Amerada State F well No. 5 was completed November 4, 1948 as a high gas-oil ratio oil well. This was the discovery well for the Monument--McKee pool. The thin oil column was soon depleted and the well was reclassified as a gas well March 1, 1950. The well currently produces condensate with a gravity of 65 degrees API. No other well has indicated any oil column.

The boundaries originally set out by the Oil Conservation Commission for the Monument-McKee Pool, should cover any possible gas productive acreage from that zone. Those boundaries are:

T. 19S, R. 36E	Section 36
T. 19S, R. 37E	Section 31
T. 20S, R. 36E	Section 1
T. 20S, R. 37E	Section 6

AMERADA PETROLEUM CORPORATION  
EXHIBIT NO. 1  
IN CASE 245

HIGHTOWER PERMO-PENNSYLVANIAN GAS POOL

In the Hightower field there are two gas wells completed in a section referred to as the Permo-Pennsylvanian zone. Two other wells drilled through this zone have indicated on drill stem tests that they will produce gas from that zone. Three other wells were drilled through this zone with insufficient porosity development to produce and one of these wells found water in the base of this zone.

The attached cross-section shows the electric logs and drill stem test results for five wells drilled through the Permo-Pennsylvanian zone in the Hightower field. The attached map shows the location of all wells in the Hightower field.

The zone that is gas productive starts at or near the top of the Wolfcamp in the Amerada Petroleum Corporation's B.C. Beach well No. 1 at 8385' (-4136') and extending to 8690' (-4441') which point is 70' below the top of the Pennsylvanian. The water level in this zone is at 4500 subsea. Water found on a drill stem test in the lower part of this zone separates this reservoir from lower oil productive zones.

The boundaries originally set out by the Oil Conservation Commission for the Hightower Permo-Pennsylvanian Pool, should cover any possible gas productive acreage from that zone. Those boundaries are:

T.128, R.33E Sections 22, 23, 26 & 27.



20 282

# THE RAILROAD COMMISSION OF TEXAS

SPRABERRY TREND AREA

Hearing held in Austin, Texas,

July 15, 1953

## TRANSCRIPT OF TESTIMONY

E X C E R P T

TESTIMONY OF MR. KAYSER

H. Ray Pardue,  
Peggy N. Studer,  
Reporter.

## RAILROAD COMMISSION OF TEXAS

## OIL AND GAS DIVISION

\* \* \* \* \*

OIL AND GAS DOCKET  
NO. 125 & 126

# 7 & 8 - 26,569

IN RE: CONSERVATION AND PREVENTION  
OF WASTE OF CRUDE PETROLEUM  
AND NATURAL GAS IN THE SPRA-  
BERRY TREND AREA FIELD, MID-  
LAND, GLASSCOCK, REAGAN,  
UPTON AND MARTIN COUNTIES,  
T E X A S.

\* \* \* \* \*

HEARING HELD IN AUSTIN, TEXAS, JULY 15, 1953

\* \* \* \* \*

B E F O R E

HONORABLE ERNEST O. THOMPSON, CHAIRMAN

HONORABLE W. J. MURRAY, JR., COMMISSIONER

MR. A. H. BARBECK, CHIEF ENGINEER

MR. GEORGE SINGLETARY, ASSISTANT CHIEF ENGINEER

MR. FRED YOUNG, LEGAL EXAMINER

\* \* \* \* \*

## TRANSCRIPT OF PROCEEDINGS

\* \* \* \* \*

E X C E R P T

TESTIMONY OF MR. KAYSER

It would seem to be reasonable to me if wells now shut in were opened up that they would tend to take in time something of the same course, and that it might not be too unreasonable to predict that what is occurring in the present operating facilities, in the present operated wells, since it's over half the field, might not be too far wrong for the whole thing at this time. That may be a far fetched conclusion, but the ratios in the field vary from one end to the other and it is interconnected and we have found that it tends to vary about the same time. But because there has been a shut in, the chances are those wells that are now opened up will not have on the average quite as high ratios as the wells that continued to operate.

CHAIRMAN THOMPSON: Does Mr. Kayser have a question?

MR. KAYSER: No question, I just have the information you wanted me to give.

CHAIRMAN THOMPSON: Come right ahead. Any further questions? The witness is excused. Thank you, Mr. Bunn. Come right up, Mr. Kayser. He's going to give us the information asked for earlier. We're glad you got them ready.

MR. KAYSER: The first question was the capacity with compressors. The first figure that I give is the raw gas into the gasoline absorption plant. In the case of Tex-Harvey, the capacity of that plant is 35 million a day. In the case of the two Texas Natural plants, which is other than the Benedum plant, is 60 million a day.

El Paso's Midkiff compressor station, which can be counted as a plant, is 37 million a day, which makes a total raw gas capacity of 132 million a day, exclusive of the Benedum Spraberry.

Then you put in the Benedum Spraberry, Texas Natural has 14 million, Plymouth has seven; that seven is being increased additionally but we count what is there today. That makes 21 additional, which makes a total of 153 million of compressor capacity for raw gas out of the Spraberry.

Now, against that, we figure we get residue gas -- if they were operating at that capacity, we get residue gas about like these figures I'll now give you.

For Tex-Harvey, 26.5 million; for Texas Natural, on the two plants, 42; for El Paso Midkiff, 30, making a total of 98.5. The Benedum, 14 -- it has 14, Texas Natural Benedum. We get residue of about 10.5 and the Plymouth seven, which would give us residue of about 5.25, making a total of 114 million -- 114.25 million cu. ft. of gas a day of residue gas that would come out of all of the capacity that is in the field.

Now, we have pipe line capacity and ability to absorb into our system at this time that much gas. I said a while ago that it was 92 -- it's 92, but actually if we had it put to us and we needed to take it, we can take the quantities that I gave at Benedum. Next ---

COMMISSIONER MURRAY: Mr. Kayser, if each of these

plants mentioned has the compressor facilities at that plant to deliver under your line pressures which would exist if they were delivering all these quantities, these amounts of gas ---

MR. KAYSER: Yes, sir, they have the capacity to handle raw gas in the quantities stated.

COMMISSIONER MURRAY: And process it?

MR. KAYSER: And process it and compress it ---

COMMISSIONER MURRAY: To the line pressure you would have, if you had 114 million a day?

MR. KAYSER: And deliver to us all the residue gas left over, which is about the figure I gave, and we are able to take it, and take it to market.

COMMISSIONER MURRAY: Your ability to take it depends on their having the ability to put it up to whatever the line pressure would be to get that much gas into your system?

MR. KAYSER: That's right.

COMMISSIONER MURRAY: And they have the compressors?

MR. KAYSER: They have the compressors to do that, and we have the compressors at Midkiff to do it, and it is wholly ineffective unless it comes up to that pressure, because two and two make four.

That was the first question that was asked. The second question -- and that's with and without Benedum -- the second question was, what was the quantity produced in July, what did we actually take out of Spraberry plants other than Benedum.

I want to say this, that as to Benedum, we have capacity to take out of Benedum all of the gas that is produced in Benedum, including the Spraberry, on any ordinary production days, like 20 -- I even think it would go to 26. So that you can consider that you can put Benedum on whatever you want to put it on, and we can take the residue gas, and that means that the plants have a sufficient amount of compression to move it on up to the pressure so that we can take it.

COMMISSIONER MURRAY: And that would not reduce your ability to take from each of these other plants at their full compressor capacity to deliver to you?

MR. KAYSER: It would not.

COMMISSIONER MURRAY: That's the answer to the question I had.

MR. KAYSER: We thought that was the information you were trying to elicit.

For July production: On July 7th, we took from the Tex-Harvey plant 21.7. Now, when I'm giving you these figures, they're not run out to the last accounting practice figures. The rendition of the bills will show slightly different. This is taken from the dispatcher's office, which is sufficiently accurate for all of these calculations. We took from Tex-Harvey Pembroke plant -- I mean, Texas Natural Pembroke plant, 18; and from the Floyd -- West Floyd, I believe it's called -- 23; and through our Midkiff plant,

21; making a total of 83.7. On July 12th, we took from Tex-Harvey 20; Texas Natural Pembroke, 21; Texas Natural West Floyd, 21; El Paso Midkiff, 24; a total of 85.

I want to impress on the Commission very earnestly that when you pick out in the first part of the month a handful of days, or even up to the first half of the month, you haven't got the picture, because we've been operating there for lots of years, and what happens is that when you've got around a 21 day month, around the 22nd, 23rd, 24th, 25th, it begins to fall off, and we are running all over the country to make up the deficit by the 31st day of the month. Those are just physical facts that happen -- operating facts. So that these figures do not represent the effect of the order. That's just A-B-C, and I was tremendously relieved to hear what the General said a while ago.

CHAIRMAN THOMPSON: I was speaking for the Commission.

MR. KAYSER: Thank you. I'm very glad to hear that. Now, you asked me one other question, and that's our schedule. I said that we would expect to take additional gas on November the 1st. Before I give that schedule, let me tell you what the total program is. The total program is that we plan to take out by means of our own plants, 167 million feet of gas from Spraberry. That's what we are building, plants, to take raw gas from the wells.

COMMISSIONER MURRAY: 167?

MR. KAYSER: 167 million. That's our first program.

Now, we have 37 already connected and compression provided, which as we say, that's all you're interested in. Later, we will get into the gasoline absorption plant. So that leaves 130 million to go. We expect to be able to take 50 to 60 million of that 130 million around November the 1st. We then expect -- 50 to 60 million more than the 37. The 37 is already done. We expect to take 50 to 60 million more additional the the 37 around November 1st, and then we expect to move up compression and pipe line capacity, and our goal is January 1st for the whole 130 million additional to the 37 million. So that we are aiming at being able to take out 167 million by January 1st.

We might miss that, but I don't think it is optimistic to say -- too optimistic -- in fact, I don't think it's optimistic to say that, because our pipe delivery is all right. We are, we might say, crowded with delivery of compressors, and it simply takes the coordination of the compressors with the construction of the 30 inch line across the northern portion of New Mexico, and as you know, you can build in that country in all kinds of weather, all the weather that you have.

COMMISSIONER MURRAY: What kind of weather do they have in dry weather?

MR. KAYSER: We don't anticipate being held up on any account. Now, if I may be pardoned for just saying one general word, I would appreciate the opportunity. I want

to say this, that it's not the easiest thing in the world to move this residue gas on out to the market. There is not any appreciable amount is going to be marketed under an average of a thousand miles of transportation. Now, that costs a lot of million dollars to move this stuff. That that we take out -- the biggest part of it goes to California, and when you take the combination of our lines and the California lines, you have more than a thousand miles of line to build in order to move it. That that goes out the Permian goes to Northern Natural and it goes as far as Minneapolis. That is in the range of a thousand miles itself.

So that that is the total problem you're looking at. It isn't a question of going and getting it and putting it in a tank somewhere and getting it to a local market. The real market for this gas is on an average of about 1000 miles away. That takes a lot of planning ahead of time to move it. You can't move it on just -- call up and say tomorrow we're going to move that much gas. It doesn't work that way.

Now, I want to say just one other thing, that there is a lot of risk involved in doing this. It isn't easy to fit the program of supplying gas to population into all production. Don't make any mistake about it, it's not easy -- it's very difficult, and the more difficult it is made at this end by regulation, obviously the more resistance there

is to undertaking the job. To date, we have felt that we had complete cooperation out of this Commission. It's been a matter of pride for us to work with it and cooperate to help move this stuff out, but I do want to emphasize this, that it is utterly impractical to try to move it on a 100% conservation basis.

I mean just that. You've got to waste some of it. There is going to have to be some kind of waste - waste in the sense that the physical product will not reach market and be burned through a burner. It just isn't in the cards to do it, and the point I want to make further is that both the El Paso Company and Northern Natural, through Permian, have acted to my certain knowledge just as diligently and as rapidly as they could have against all of the obstacles -- I wouldn't want to call them obstacles -- natural difficulties, both regulatory and physical and financial that were involved in completing these projects.

Now, one other thing. I'm on top side this time, so I'm speaking for myself, but I'll probably be on the short side the next time -- maybe. But I think that in the interest of a policy to encourage people to come get the residue gas, you shouldn't pinch the fellow who has been diligent and who has spent his money and gone out and got the contracts. You should neither pinch him or the fellow who contracted with him, because that has a tendency to pull down incentive and you want incentive in there. We're ahead of the

other fellow; all right, next time maybe Permian and Northern are ahead of us and we're the ones that are going to have to be pinched. All right, we'll take our pinching when the time comes. But you cannot expect, in the very nature of marketing of gas, you can't expect the two programs to be absolutely dove tailed in -- they just can't do it.

CHAIRMAN THOMPSON: You do approve, Mr. Kayser, do you not, of the saving of casinghead gas?

MR. KAYSER: Do what?

CHAIRMAN THOMPSON: You do approve of the policy of conserving and not flaring it to the air, do you not?

MR. KAYSER: We advertise all over the United States the fact that we are doing a conservation job in taking this gas and putting it under the burner.

CHAIRMAN THOMPSON: We have so bragged on you all over the land.

MR. KAYSER: Well, we appreciate it, and we've bragged on you. We've heard that all of the places in the United States where an effective conservation program has been put into effect, it's in the State of Texas, and that not only has it applied to oil but it has applied to gas.

The only point I'm making is that there are difficulties, there are things that have to be worked out that cannot be worked out with the simplicity that they are worked out with oil. It took a long time of difficult work on your part and cooperation on the part of the various oil com-

panies and producers and marketers to get a smooth-running proration of oil. You've got the same thing here, and all I ask is that you be reasonable and lenient and I think you should be lenient, both toward the producer who has connected to us in this instance, and towards us, and if you do that, why, I think that in the long run it will benefit conservation rather than to hurt it, because the thing that will hurt conservation more than anything else is for people to walk up -- I mean the people who have the capacity and the money and the market -- walk up to residue and say, "That's too hard for me to touch."

That's in the interest of conservation.

CHAIRMAN THOMPSON: Any questions of Mr. Kaiser? The next witness? Mr. Weeks?

MR. WEEKS: I want to request the Commission to increase the number of days allowable. I think the sum total of this testimony is that the plants are underloaded and the lines are underloaded, and even the compressors are underloaded approximately 15 or 20%. My comment would be very brief. I merely in connection with that request want to say that I appreciate as a lawyer of some experience what Mr. Kayser has said from a practical standpoint about contracts. We have a useful out let for our gas and we're sorry that everybody doesn't. We have the same thing, but it works sometimes that -- as Mr. Kayser said, some are more fortunate than others and it's not always the same

THE STATE OF TEXAS    :  
COUNTY OF TRAVIS    :

I, Peggy N. Studer, official reporter for the Oil and Gas Division, Railroad Commission of Texas, do hereby certify that that portion of the foregoing transcript reported by me constitutes a true and correct transcription, to the best of my ability, of the testimony introduced and proceedings had upon the hearing of the foregoing docket, which hearing was held in Austin, Texas, on July 15, 1953.

Witness my hand on this the 18th day of July, A. D., 1953.

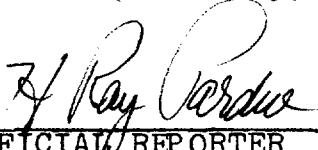
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OFFICIAL REPORTER

THE STATE OF TEXAS    :  
COUNTY OF TRAVIS    :

I, H. Ray Pardue, official reporter for the Oil and Gas Division, Railroad Commission of Texas, do hereby certify that that portion of the foregoing transcript reported by me constitutes a true and correct transcription, to the best of my ability, of the testimony introduced and proceedings had upon the hearing of the foregoing docket, which hearing was held in Austin, Texas, on July 15, 1953.

Witness my hand on this the 18th day of July, A. D., 1953.

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OFFICIAL REPORTER

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before the  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico

November 19, 1953

IN THE MATTER OF:

The purpose of setting the allowable production of gas from the following nine gas pools in the State of New Mexico for the six-month proration period commencing January 1, 1954: Eumont, Arrow, Blinebry, Langmat, Justis, Byers-Queen, Jalco, Tubb, and Amanda Gas Pools.

TRANSCRIPT OF PROCEEDINGS

November 19, 1953.

BEFORE THE  
OIL CONSERVATION COMMISSION  
STATE OF NEW MEXICO  
at  
Santa Fe, New Mexico  
December 17, 1953

-----  
In the Matter of:

Consideration of the allowable production  
of gas from nine designated pools in Lea  
County for the month of January, 1954.  
-----

ELVIS A. UTZ

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. CHAHAM:

Q Will you state your name and position, please?

A Elvis Utz, engineer, Oil Conservation Commission.

Q For the information of the Commission will you please state in your own words your recommendations and suggestions as to the supplementary gas allocation recommended?

A I will give the supplemental gas nominations for January. For Blinbry Pool, the total supplementary nominations for the month of January are 973,425, which is up 135,105 MCF. For Arrow it is 135,391, or up 13,942. For Amanda, the same; for Byers, it is the same; for Eumont, supplementals are 3,040,251, which is up 305,683 MCF. For Jalco, supplementals are 2,629,478 MCF, which is up 599,286. Justice, 139,109, which is up 46,427 MCF. For Languatt, total supplementals are 4,655,871, which are down 1,127,163 MCF. Tubbs, total supplemental 695,476 MCF, which is up 89,896. This is a total

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

January nominations of 12,324,763, which is an increase of 2,235,602, which gives us a total for the six month period of 51,197,025 nominations.

Q For clarification, Mr. Utz, you meant when you used the words "the same" - -

A The same as the previous preliminary nominations, same as the preliminary nominations. That is all I have.

MR. GRAHAM: Do you have any further comments?

A No further comments.

MR. SPURRIER: Is there any question of the witness? If not the witness may be excused. Does anyone else have anything to offer in this case? If not we will take the case under advisement and move on to Case 611.

(Witness excused)

STATE OF NEW MEXICO     )  
                                  )  
COUNTY OF BERNALILLO    )

I HEREBY CERTIFY that the foregoing and attached transcript of hearing on the case of consideration of allowable production of gas from nine designated pools for the month of January, 1954, before the Oil Conservation Commission, State of New Mexico, at Santa Fe, on December 17, 1952, is a true and correct record of the same to the best of my knowledge, skill and ability.

DATED at Albuquerque, New Mexico, this 31<sup>th</sup> day of December, 1953.

  
COURT REPORTER

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  
Santa Fe, New Mexico

November 19, 1953

IN THE MATTER OF:

The purpose of setting the allowable production of gas from the following nine gas pools in the State of New Mexico for the six-month proration period commencing January 1, 1954: Eumont, Arrow, Blinebry, Langmat, Justis, Byers-Queen, Jalco, Tubb, and Amanda Gas Pools.

BEFORE:

Edwin L. Mechem, Governor  
E. S. Walker, Land Commissioner  
R. R. Spurrier, Secretary, Oil Conservation Commission

TRANSCRIPT OF PROCEEDINGS

MR. SPURRIER: The meeting will come to order, please.  
The next case on the docket will be the consideration of the allowable from Lea County for the six months period beginning January 1st, 1954.

(Notice of publication read by Mr. Graham.)

E L V I S A. U T Z

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

DIRECT EXAMINATION

By MR. GRAHAM:

Q Will you state your name and position, please?

A Elvis A. Utz, Engineer with the Oil Conservation Commission.

Q In your capacity as engineer of the Oil Commission, are

you generally familiar with the studies of the Commission and their various hearings which resulted in the designated classification of the gas pools in Lea County?

A Generally familiar, yes.

Q Have you, in your capacity as Engineer of the Commission had occasion to study the probable market demand for gas in the pools for the ensuing six months pro ration period commencing January 1st, 1954?

A I have made a hasty survey of recent production statistics of the general pools and gathered some general market demand information to the effect that the demand for gas is continuously increased over the past several years and is limited mostly by transmission facilities which are federally regulated. It is reasonable to assume that this national demand would apply to southeastern New Mexico. The new purchasers recently entered the area and the operators have, in anticipation of the active demand, have engaged in numerous gas or oil-gas dual completions, these general ties, coupled with preliminary nominations, indicate an active demand.

Q Have you received and compiled the preliminary nomination of the gas purchasers from these respective designated gas pools?

A Yes, I have. They are as follows: Blinebry Gas pool, total nominations for the six months proration period that have been received, incidentally, all of these nominations are undoubtedly incomplete, but this is the totals received up to now, except those, of course, received in the last ten minutes. Blinebry gas pool, 3,836,813 MCF; Arrow Gas pool, 6,654,892.

MR. SPURRIER: MCF?

A MCF. All these figures quoted will be MCF. Amanda, 189,000 MCF; Byers-Queen, 193,370 MCF; Eumont, 13,422,009, Jalco, 9,860,091; Justis, 378,593; Langmat, 16,871,740; Tubbs, 2,921,615. We also have the nominations for wells in an unassigned area for 595,400--595,300, rather. This gives us a total for the nine pools of 48,861,423, up to the present time.

Q Based upon your studies, what in your opinion would be the reasonable market demand for dry gas produced from these designated pools? Each of these designated?

A In my opinion, the reasonable market demand for each pool would be the same as the total pool nominations just read, plus any further nominations which may be received between now and November 24th.

Q Have you, in the course of your study, compiled any past history data in regard to the production of gas in these various pools? Will you relate this information?

A I have production figures available for the period of April 1st to October 1st. The total production from these nine designated pools is 33,201,911 MCF. In comparing this figure with the total nominations, it must be considered that these are for a low demand period, of the summer months which would indicate the nominations and allowable should be considerable in excess of this amount. I have no way of knowing just how much in excess at this time.

Q In order to prevent waste and to protect correlative rights, in your opinion is it necessary for the gas pools in Lea County to

be limited in their production.

A In my opinion, and based on the facts and figures available to me, I believe that the nine designated gas pools of Lea County should be prorated at this time in accordance with the Oil Conservation Commission orders 368 and to 376 inclusive.

Q In your opinion is the total producing capacity of the gas wells within each pool greater than the allowable reached for such pools?

A Based on the nominations received at this time, I believe producing capacity is greater. The complete answer to your question would depend on future nominations.

Q In your opinion, will such a pool allowable afford each respective owner in the pool the opportunity to produce his just and equitable share of the gas in the pools without waste and in substantial proportions to that found recoverable? To the total gas recoverable in the pool?

A Due to the limited time and study and experience, I believe the method outlined by orders 368A to 376A inclusive will provide the most equitable means of prorating at this time. However, I believe considerable study of toher methods is advisable during the course of the first six months proration period.

Q Do you have any other comments to make, with reference to this matter?

A No other comment, only that I would suggest that the Commission continue this case until all the nominations are in.

MR. SPURRIER: Are there any further questions of the witness?

MR. KEELY: Who made the nominations that you referred to?

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What companies nominated, up to date?

A Permian Basin, Southern Union, Humble, El Paso, Gulf, Continental, Amerada, Phillips, Sunray, Stanolind and Skelly. There are some nominations in, but I didn't have time to record them. I believe they were from--I don't recall at this time.

MR. KELLY: Do you expect that the additional nominations will increase these figures that you read off to a great extent?

A I don't expect that they will increase them too much, but how much I can't say.

MR. KELLY: Do you feel that you have got most of the nominations in?

A I believe we have, yes.

MR. SPURRIER: Anyone else? Mr. Davis?

MR. QUILMAN DAVIS: Quilman Davis, Southern Union Gas Company. The 48 million figure total that you read, does that include the 595,000 unassigned, the unassigned pool?

A Yes, it does.

MR. DAVIS: That is all.

MR. SPURRIER: Anyone else? Mr. Christie.

MR. CHRISTIE: I wasn't quite clear if this was a total for the six months or monthly average.

A It is a total for the six months period, Mr. Christie.

M . SPURRIER: Anyone else? If there are no further questions, the witness may be excused.

(Witness excused)

MR. SPURRIER: Does anyone else have a comment in the case? . . . . Mr. Adair?

MR. ADAIR: I would like to ask the El Paso representative

some questions about their nominations in the Jalco pool.

MR. SPURRIER: Does El Paso submit? Please come forward.

F. N O R M A N W O O D R U F F

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

DIRECT EXAMINATION

By MR. ADAIR:

Q Your name is Norman Woodruff and you are employed by El Paso Gas Company? I believe you are qualified, Mr. Woodruff, as an experienced witness in the Jalco pool at the last hearing, in Case 582, is that correct?

A That is correct.

Q Mr. Woodruff, you testified at your last hearing, in connection with the Jalco pool, that your company was connected to some 103 wells in that pool, is that correct?

A I believe that figure is correct, I don't recall exactly. I could check that figure, but I believe that you are correct.

Q You also testified that your connections to these 103 gas wells were by reason of gas purchase contracts that you had recently negotiated with the owners of such wells, which provided for minimum takes.

A That is correct.

Q What is El Paso's nomination per 160 acre units for the first six months of 1954?

A I haven't that--

Q (Interrupting) In the Jalco pool?

A I haven't that figure available to me here. If the Commission please, I will get the information, and I am sorry that I failed to bring it with me, and later in the proceedings

here would be happy to give the answer to Mr. Adair.

MR. SPURRIER: You mean later today?

A Yes, sir. They are in the hotel rather than here.

MR. ADAIR: If the Commission please, it is very important. Could I continue the Jalco portion of this case until such time as Mr. Woodruff gets this information? We would also like to have Mr. Woodruff get the information as to your takings from the same wells for the first six months of this year.

A I do not have that information available.

Q Can you get it?

A It is available from the records of the Commission. The production from each and every well is shown.

Q I don't mean by wells. I would like to have the average per unit. I think it is very important to this first period of gas pro ration to compare your takes from these 103 units in the Jalco pool for the first six months of this year, with your nominations for the first six months of next year.

A I am sure that information could be determined. I might state, Mr. Adair, that our demand for gas varies considerable month by month and year by year. We have considerable increased demand this year over last year, due to additional contracts for supply that we have made with the various California companies. We have also got many new sources of supply since last year. So I hardly think that the information that you request would be something that you could depend on as being correlative one year to the next.

Q You can get that information, though, while the Commission is in session at this hearing?

A No, I can't.

Q Do you know whether or not your nominations for 1954 are considerably less than your takes from the same wells in the Jalco gas pools for the first six months of 1953.

A I do not know.

Q Do you know whether or not your nominations for 1954 are less than the minimum takes that you contracted to take?

A During some months I believe them to be.

Q To that extent then, these contracts would be impaired?

A I don't believe that they would.

Q To the extent that you took less than you agreed to take under the contract?

A I believe, and I could be wrong, but my opinion is that if we averaged that volume over the years time that have likely, there would be no question concerning meeting minimum takes.

MR. SETH: If the Commission please, I would like, on behalf of El Paso, to object to this line of questioning. This is not within the scope of the hearing. The hearing is on the proration of gas in the nine fields in Lea County. It is in relation to market demand. Any relation to particular contract rights is not relevant to this particular hearing. If Mr. Adair has--desires to develop a situation there that he believes is a breach of contract, I believe that is either a subject for the Courts or a subject of special hearing. I don't believe it pertains to this particular call on the proration of gas in the Lea County generally. We object to any further questioning.

MR. ADAIR: If the Commission please, in my question I was trying to be guided by Rule 6, Case 582, which says, "The

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Commission after notice and hearing, shall consider the nominations of gas purchasers from the Jalco Gas Pool and other relevant data and shall fix the allowable production of the Jalco Gas Pool, and shall allocate production among the gas wells in the Jalco Gas Pool upon a reasonable basis with due regard to correlative rights." What I have to ask Mr. Woodruff has a direct bearing on correlative rights required by virtue of the existing contracts.

MR. SETH: If the Court please, I don't believe correlative rights are determined by contract rights. I believe the correlative rights are--it is something that the Commission has to consider, but I don't believe the Commission is required to consider the contract rights pertaining to the individual contracts and the variations in ownership. You can't do it in connection with oil or you don't do it in connection with oil. There is no reason why the peculiar contract conditions should have a bearing on this particular subject itself.

MR. SPURRIER: The Commission will sustain the objection, Mr. Adair.

MR. ADAIR: May I ask the Commission please, does that ruling go to his furnishing the information that he said he would furnish to the Commission as to their nominations?

MR. SPURRIER: I don't think so. I think we would like to have the information.

Q Will you do that, Mr. Woodruff?

A Yes, sir.

MR. SPURRIER: If you can. Do what you can.

A If the Commission please, after considering my last statement to Mr. Adair's question, I said it was in my opinion--I

believe it probably was concerning a legal matter and I am qualified only as an engineer. I would request that that portion of my testimony be stricken from the record.

MR. SPURRIER: The request is granted. Anything further?

MR. ADAIR: That is all I have, Mr. Woodruff.

MR. SPURRIER: The witness may be excused.

(Witness excused)

MR. SPURRIER: Does anyone else have a comment in the case? Mr. Stahl.

MR. STAHL: Mr. Stahl of Permian Basin Pipeline Company. I would like to ask a question, if I might.

MR. SPURRIER: Of whom?

MR. STAHL: Of the Commission. Items number seven, under the Commission's findings states that an adequate gas well testing procedure shall be adopted. This is a point of information. Has the Commission at this time--are they prepared to tell us when that testing procedure will be started so that we can start making some plans? I believe it is Item Number 7 in each one of the findings, on page two. There is no time stated. I was wondering if you all had determined yet some of the timing with respect to those testing procedures.

MR. SPURRIER: Well, the answer is, Mr. Stahl, as soon as possible. Anyone else? If there is nothing further in the case, we will take it under advisement and move on to Case 602.

MR. WOODRUFF: The figure requested by Mr. Adair which would indicate the average per well demand expressed by El Paso on a per well basis daily for the first six months over 1954 is 531 MCF per well per day at 15.025 pressure basis. This is for a full

160-acre unit.

MR. SPURRIER: Let the record show that the case insofar as the nominations on a monthly basis is concerned that the case is continued to the regular scheduled monthly hearings of the Commission from December through May of 1954.

\* \* \* \* \*

C E R T I F I C A T E

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing transcript of proceedings was taken by me on Thursday, November 19, 1953; that the same is a true and correct record to the best of my knowledge, skill, and ability.

DATED at Albuquerque, New Mexico, this 24th day of November, 1953.

/s/ Ada Dearnley  
COURT REPORTER

BEGORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico

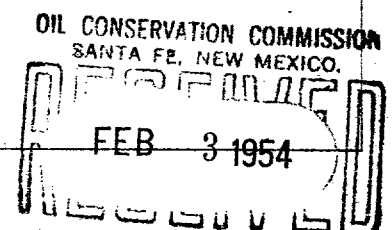
TRANSCRIPT OF PROCEEDINGS

Case No. 582

Rehearing

January 21 & 22, 1954 - Special Hearing

ADA DEARNLEY & ASSOCIATES  
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ROOM 105-106, EL CORTEZ BLDG.  
PHONES 7-9645 AND 5-9546  
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- REGISTER -

NEW MEXICO OIL CONSERVATION COMMISSION

January 21, 1954

NAME	REPRESENTING	LOCATION
H. E. Massey	Cities Service Oil	Hobbs, New Mexico
E. H. Foster	Phillips "66"	Amarillo, Texas
H. T. White	Phillips "66"	Bartlesville, Oklahoma
R. D. Grimm	Phillips "66"	Bartlesville, Oklahoma
Jack M. Campbell	Atwood, Malone & Campbell	Roswell, New Mexico
W. D. Girand, Jr.	Me-Tex Supply	Hobbs, New Mexico
C. M. Bumpass	Gulf Oil Corp.	Hobbs, New Mexico
L. A. Hanson	O. C. C.	Artesia, New Mexico
E. W. Nestor	Shell Oil Company	Hobbs, New Mexico
R. W. Heins	Shell Oil Company	Hobbs, New Mexico
R. L. Hansen	Stanolind Oil & Gas Company	Fort Worth, Texas
L. W. Folmar	The Texas Company	Fort Worth, Texas
Homer Dailey	Continental Oil	Fort Worth, Texas
Jason Kellahin	Continental Oil	Santa Fe, New Mexico
A. R. Ballou	Sun Oil Company	Dallas, Texas
L. R. Barineau	Sun Oil Company	Dallas, Texas
E. M. Knight	Stanolind	Roswell, New Mexico
W. G. Abbott	Amerada	Monument, New Mexico
C.A. Hull	Shell	Midland, Texas
Ray E. Seifert	Amerada	Midland, Texas

Victor T. Lyon	Continental Oil Company	Fort Worth, Texas
H. W. Swaim	Continental Oil Co.	Midland, Texas
Jack B. Collins	Continental Oil Co.	Midland, Texas
A. L. Hill	El Paso Natural Gas Company	Houston, Texas
F. N. Woodruff	E.P.N.G. Company	Houston, Texas
R. T. Wright	E.P.N.G. Company	Jal, New Mexico
M. E. Curry	Skelly Oil Company	Hobbs, New Mexico
H. H. Vickery	Atlantic Ref'g Co.	Midland, Texas
John A. Woodward	Amerada Pet. Corp.	Tulsa, Oklahoma
J. W. Recter	The Ohio Oil Co.	Houston, Texas
W. H. Everett	The Ohio Oil Co.	Houston, Texas
G. E. Stahl	Permian Basin Pl. Co.	Omaha, Nebraska
J. W. Baulch, Jr.	E.P.N.G. Company	Jal, New Mexico
W. E. Ainsworth	Permian Basin P. L	Omaha, Nebraska
J. J. Abendschan	O. C. C.	Aztec, New Mexico
Aaron Cummings	R. Olsen Oil	Jal, New Mexico
Warren W. Mankin	The Texas Company	Fort Worth, Texas
Coe S. Mills	The Ohio Oil Company	Midland, Texas
J. D. Anderson	The Ohio Oil Company	Houston, Texas
Louis H. Shearer	The Ohio Oil Company	Houston, Texas
D. H. Spellman, Jr.	The Ohio Oil Company	Midland, Texas
J. K. Smith	Stanolind Oil & Gas Company	Fort Worth, Texas
Ross L. Malcom, Jr.	Akwood, Malcom-Campbell	Roswell, New Mexico
Foster Morrell	Independent	Roswell, New Mexico

Clarence Hinkle	Humble Oil & Rfg. Company	Roswell, New Mexico
S. J. Stanley	O. C. C.	Hobbs, New Mexico
J. L. Paiter, S.	O. C. C.	Hobbs, New Mexico
Merle B. Rogers	E.P.N.G. Company	Jal, New Mexico

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico

January 21, 1954

IN THE MATTER OF:

Notice is hereby given by the State of New Mexico, through its Oil Conservation Commission, that Texas Pacific Coal & Oil Company, upon proper petition, has requested a rehearing in Case 582 (relating to rules and regulations for the Jalco Gas Pool, Lea County, New Mexico); that in said petition, petitioner asks rescision of Orders R-368 and R-368-A entered in Case 582 under dates of September 28, 1953, and November 10, 1953, respectively; that the Commission, by its Order No. R-368-B, has granted said rehearing and set it for 9 a.m. on January 21, 1954, at Mabry Hall, State Capitol, Santa Fe, New Mexico, at which time petitioner and other interested parties will be heard.	Case No. 582 <u>Rehearing</u>
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BEFORE:

Honorable Edwin L. Mechem  
Honorable E. S. Walker  
Honorable R. R. Spurrier.

TRANSCRIPT OF PROCEEDINGS

MR. SPURRIER: Let the record show that we have met here at nine o'clock but we are recessed until one o'clock, that is one o'clock sharp.

(Whereupon, the hearing was adjourned until 1 p.m.)

AFTERNOON SESSION, January 21, 1954 at 1:00 P.M.

MR. SPURRIER: The meeting will come to order. The first case on the docket this afternoon is Rehearing in Case 582.

(Mr. Graham reads the notice of publication in the Rehearing Case 582.)

MR. ADAIR: My name is Eugene Adair, representing the Texas Pacific Coal and Oil Company. My associate counsel in this case is Mr. John Russell of Roswell, New Mexico. At the request of the Texas Pacific Coal and Oil Company the Commission issued a subpoena to Mr. A. L. Hill of El Paso Natural Gas Company requesting him to have available to the Commission and to the applicant in this motion for rehearing certain testimony with respect to El Paso's takes of natural gas in southeastern Lea County. Practically the identical information was put on yesterday by Mr. Stanley of the Commission's staff. Therefore, so far as Texas Pacific Coal and Oil Company is concerned, we have no further use for Mr. Hill's testimony and if it is all right with the Commission I request that he be released. He would like to get back to El Paso if possible.

MR. SPURRIER: Is there objections?

MR. ADAIR: In this connection, I think the record should show that Mr. Hill has appeared in response to the Commission's order and has such information as was requested.

MR. GRAHAM: Wouldn't that information be of value to the Commission?

MR. ADAIR: Well, I think the identical information was put on by Mr. Stanley yesterday and we are going to request the Commission to make Mr. Stanley's testimony and Exhibits yesterday a part of this record. I think Mr. Stanley covered the subject yesterday very thoroughly and in a competent manner.

MR. SMITH: It occurs to me, since our position is more

or less neutral, not knowing the tendency or the trend the testimony should take, the inquiry should be made if Mr. Stanley would be available for cross examination during the course of this hearing?

MR. GRAHAM: Do you feel that he answered all the questions?

MR. ADAIR: I am not sure that he answered all of them. I don't know that we would have presented all that information in any respect. Certainly, that information whether it would be relevant to this matter would depend upon what the answers to the first questions were.

MR. GRAHAM: Mr. Hill is here prepared to answer them A, B, C, and D.

MR. ADAIR: I am not trying to exclude him from testifying in this hearing at all. At his insistence, I am trying to release him, if the Commission is so disposed to do so.

MR. HILL: Mr. Adair, I appreciate your thoughts in the matter and I did have in mind trying to get out on this early afternoon plane. I think it is probably better that I forget that and I will remain here through the afternoon, so that if you want to proceed with the case and perhaps would want me to appear a little later this afternoon why I am willing to submit to it.

MR. ADAIR: In that case, we will reserve the right to call on Mr. Hill in connection with the original subpoena.

MR. ADAIR: If the Commission please, in a case of this kind without knowing what the results of our hearing are going to be we would like to make a very full and complete record. Another

reason we would like to make a full and complete record is that certain members of the Commission have not been privileged to sit in on all of the hearings which have led up to the order which is under attack here. We hope that the Commission will bear with us in a rather full presentation here. If at times, it seems we are repetitious or redundant, we just want to be sure that we make it a full and complete record. I would like to call at this time, Mr. John Yuronka to the witness stand. Before beginning with Mr. Yuronka's testimony, it may be well to stipulate with the Commission and for the record that we have requested heretofore the Commission to make available to us at this hearing certain documentary evidence. There were some 31 plus items that we requested. The Commission's staff and Miss Nancy Royal in particular has prepared that in numerical order in excellent form. If it is all right with the Commission we would like to adopt the numbering for our Exhibits that are on the Commission's file. We will in some cases use some subject number to fill in chronologically as necessary but we will adopt the Commission's number on those particular exhibits. Is that satisfactory with the Commission?

MR. SPURRIER: Very well.

J O H N Y U R O N K A

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By: MR. ADAIR:

Q Will you state and spell your name for the reporter, please?

A John Yuronka, Y-u-r-o-n-k-a.

Q Where do you live, Mr. Yuronka? A Hobbs, New Mexico.

Q By whom are you employed?

A Texas Pacific Coal and Oil Company.

Q In what capacity? A Engineer.

Q Petroleum engineer? A Yes, sir.

Q Are you educated as a petroleum engineer?

A Yes, sir.

Q What degrees do you hold?

A Bachelor of Science in Petroleum Engineering.

Q From what school?

A New Mexico School of Mines.

Q How long have you been employed by Texas Pacific Coal and Oil Company?

A Three and a half years.

Q Have you worked out of the Hobbs office during that period?

A Yes, I have.

Q Are you familiar with the area that lies within the areal extent of the Jalco and Langmat Gas pools as delineated by the Commission?

A Yes, I am.

Q Have you supervised the drilling of wells within that area?

A Yes.

Q Have you made an intensive study in preparation for this hearing of that area and particularly of the immediate area of the Texas Pacific Coal and Oil Company leases?

A Yes, I have.

Q Are Mr. Yuronka's qualifications acceptable to the Commission?

MR. SPURRIER: They are.

MR. ADAIR: We would like to offer at this time as our Exhibit Number 32 a map of the southwestern Lea County showing the oil pool designations. Will you put that on the board, please?

Q Mr. Yuronka, will you briefly explain to the Commission what that map shows?

A The green area at the top is the Eunice Monument oil pool producing from the Seven Rivers, Grayburg and San Andres. The orange is the South Eunice Pool producing from the Seven Rivers. The blue is the Cooper Jal Pool producing from the Yates and Seven Rivers. That purple deal or whatever you care to call it, it is the Langlie-Mattix Oil Pool producing from the Yates, Seven Rivers and Queens. This is the Falby-Yates pool producing from the Yates and this lavender is the Eaves Pool producing from the Yates and Seven Rivers. This gray is the Rhodes Pool producing from the Yates and Seven Rivers.

Q Those producing intervals are the producing intervals denominated by the Commission--

A (Interrupting) Yes, they are.

MR. ADAIR: We will offer next in evidence our Exhibit Number 33.

Q Exhibit 33 is identical with Exhibit 32, is it not, Mr. Yuronka, with the exception that the leases owned by Texas Pacific Coal and Oil Company are shown in red or pink?

A Yes, sir.

Q Incidentally, are those State of New Mexico leases in each instance?

A Yes.

MR. ADAIR: We next offer in Evidence, Exhibit Number 34.

Q Will you explain to the Commission what that Exhibit represents?

A The red portion is the Jalco Gas Pool and the yellow portion is the Langmat Gas Pool.

Q The dividing line between these two pools bisects each of the oil pools shown on Exhibit 33, does it not?

A Yes, sir.

MR. ADAIR: We next offer in evidence Exhibit 35.

Q I will ask you Mr. Yuronka if the Exhibit 35 is not a section or cross section of a typical oil well located in the Eunice Monument Pool which is the green pool at the top of the map, is that not correct?

A Yes, sir.

Q The producing formations in the Eunice Monument Pool are the Seven Rivers, Queens, Grayburg and San Andres, I believe you testified, is that correct?

A Yes, sir.

MR. ADAIR: We offer Exhibit 36 which is a similar cross section from a typical oil well located in the South Eunice Oil Field.

Q I will ask you, Mr. Yuronka, if that Exhibit does not also show--first what is the producing formations in the South Eunice Pool according to the nomenclature of the Commission?

A The Seven Rivers.

Q What is the producing fromation in the South Eunice, as far as the Jalco and Langmat Pools are concerned?

A The designated gas interval is the Yates and portions of Seven Rivers within a hundred feet of the base.

Q The oil pool is the Seven Rivers and the gas pool is the Yates and Seven Rivers down to a hundred feet from the base?

A Yes, sir.

Q Does not that exhibit also show the contracts of Texas Pacific Coal and Oil Company with respect to those formations?

A Yes, they do.

Q Will you explain to the Commission what those contracts are?

A El Paso, we have a contract with El Paso to sell the gas from the Yates. The Seven Rivers gas is sold to United Carbon.

MR. ADAIR: We next offer in evidence Exhibit 37 which is a similar cross section of a typical well in Cooper Jal Oil Pool, is that correct?

A Yes, sir.

Q What, again, is the producing formation in the Cooper Jal Pool?

A Yates and Seven Rivers.

Q So far as the Cooper-Jal Pool is concerned where it is bisected and overlaid with the Langmat and Jalco Gas Pools, the formations are identical except for the bottom one hundred feet of the Seven Rivers formations?

A Yes, sir, they are.

Q Do you know whether or not the oil wells and the gas wells heretofore drilled in the Cooper Jal Pool insofar as Texas Pacific leases are concerned have been drilled in accordance with the nomenclature heretofore adopted by the Commission?

A Yes, they have.

MR. ADAIR: We next offer as Exhibit 38 a typical cross section of the wells drilled in the Rhodes Oil Pool.

Q The nomenclature on that oil pool is Yates and Seven Rivers, is it not? A Yes.

MR. ADAIR: We next offer Exhibit 39, cross section of a typical well in the Eaves Oil Pool.

Q There, again, the producing interval is Yates and Seven Rivers, is it not? A Yes, sir.

MR. ADAIR: Exhibit 40 which we offer in evidence is a cross section of the Falby-Yates Oil Pool.

Q There the Yates is the producing formation under the nomenclature, is that correct? A Yes, sir.

MR. ADAIR: Exhibit 41 is a cross section of the typical well in the Langlie-Mattix Oil Pool.

Q What are the producing formations there, Mr. Yuronka?

A As designated by the Commission, the oil producing zones are Yates, Seven Rivers and Queens.

Q Many of the wells drilled in that area have been drilled, completed, and cased with respect to those formations, is that correct? A Yes, sir.

Q The operator had the choice of setting pipe at the top of the Yates or anywhere he wanted to down through the Yates, through the Seven Rivers and included into the Queens, is that correct? A Yes, sir.

Q And so far as you know most of the wells drilled in that

pool have been so completed and cased, is that so?

A Yes, sir.

Q Would you encounter any difficulties in reworking any of those wells now to make them conform to the producing intervals designated for the Jalco or the Langmat Gas Pool?

A Yes, you would. There would be a possibility, if you had an oil well, of squeezing off your oil pay to get your gas, vice versa.

Q In either case, do you feel that you might leave either oil or gas behind that might not be otherwise recovered?

A Yes, sir.

Q Has Texas Pacific Coal and Oil Company had any particular luck in trying to rework or complete any of these wells?

A The luck hasn't been too good.

Q Have we lost some wells? A No, we haven't.

Q Have we had some very expensive workovers?

A We certainly have.

Q For example?

A One well in the South Eunice Pool, we have tried the Seven Rivers. It failed and was plugged back to the Yates. We have perforated it four times, we have acidized and hydro-sized and we still haven't gotten anything out of it.

Q Have you spent, sometimes, as much as \$35,000.00 on a well trying to work it over?

A Yes, sir, I believe we have.

MR. ADAIR: If the Commission please, at this time, I

would like to offer in evidence, our Exhibit Number 42, which is Order Number 633 in Case Number 70, dated January 15, 1946, which defines oil and gas pools in Chavez, Eddy and Lea Counties in New Mexico. To properly understand the subject matter of this hearing, the Commission should go back to the time that the first well was drilled in the Langmat and Jalco Gas Pool area, because that well, if it is still producing is affected by the orders entered in the Jalco and Langmat cases. The Commission has historically recognize the production of oil and gas from the pools described on our first two exhibits 32 and 33, in accordance with the formations therein described.

This order number 633 sets forth what those formations are and also sets forth the manner in which the wells drilled therein have been drilled and completed. Section one of the order designates each of the pools shown on the map with the exception of the Falby-Yates which is a recent designation and classifys them as--"oil and gas pools." Section 6 of the order provides as follows that "each pool shall be produced as a single common reservoir and the wells shall be completed, cased, maintained and operated to that end." Since I am so far away from the reporter, would it be all right for me to stack these up over here. This is Texas Pacific's Exhibit 42.

MR. GRAHAM: We are driving at the invalidity of the order issued in Case 582. That is the subject matter of the hearing.

MR. MASSEY: Have you introduced that exhibit, have you

offered it?

MR. ADAIR: I offer it in evidence now, as Exhibit 42.

MR. MASSEY: I want to object to the introduction of the Exhibit since the order is no longer in effect. It was done away with by Order Number 850.

MR. ADAIR: I think, of course, that is what I am trying to show Mr. Massey, that historically these pools have been developed and operated and were carried forward in the present rules. I am trying to get to that. I am trying to give the history of the entire drilling program. I think it is pertinent and material to this hearing in that the orders issued in Jalco and Langmat affect each one of these wells. I think the Commission's records, Mr. Massey, will show that such wells have been drilled, completed, operated and the production therefrom contracted with respect to this order and to your order that you referred to, your rules in 1950 when they were adopted.

MR. SPURRIER: Objection overruled.

Q Mr. Yuronka, is it not a fact, that within the areal extent of the Jalco and Langmat Gas Pools that gas wells have been completed and are producing now from the interval below the gas pool designations, is that correct?

A To my knowledge, they are.

Q And oil wells have been completed and are producing above the interval and above the interval of the gas pools designations?

A Yes, sir.

Q In fact that is what the Commission found in the Falby-

Yates, they found oil up the formation?

A Yes.

MR. ADAIR: In order at this time to let the Commission appreciate some of the complications and problems which they are going to encounter and probably have encountered to some extent, I will ask Mr. Stahl if he will place the overlay which is our Texas Pacific Exhibit Number 34 over Exhibit Number 33?

MR. STAHL: I would like to have the record show that this is Mr. Frank Stahl, since there are two of us.

MR. KELLAHIN: Jason Kellahin representing Samedan Oil Corporation. There has been frequent reference to the Order entered in the Langmat Pool. We want to state our objections to anything in the way of a collateral attack being made on the proratio order which has been entered in the Langmat Pool. It was not advertised as a part of this hearing and it goes beyond the scope of the hearing. We are without notice that such an attack is to be made. We are not prepared at this time to answer it.

MR. ADAIR: I think to a certain extent, Mr. Kellahin's objection is well taken but the purpose for mentioning the Langmat Pool is that for some 35 or 36 miles it has a common border with the Jalco Pool which is the order under attack. We do not request as a result of this rehearing that the Langmat Order be overthrown. We merely are going to attack that line though between Langmat and Jalco and for that reason we do refer to our neighbor gas pool.

MR. KELLAHIN: If the Commission please, in the light of counsel's statement, we further object to any attack upon the order.

defining or delineating the pools, that having not been advertised or no notice given that the question would be raised in this hearing. The Commission has a valid and subsisting order defining the gas pools which has been entered for some time and the time for appeal from which has long since elapsed. We object to any attack upon the pool boundaries in connection with this hearing.

MR. ADAIR: If the Commission please, that objection reminds me of one that was made yesterday when Continental, I believe, was trying to put on some testimony in connection with a request for an unorthodox unit and they were met with a legal objection that it constituted a collateral attack upon the order.

If the Commission will let us go forward and put in our evidence here, we will show that the first time a formal order was entered, we asked for a rehearing. The final order was entered. We asked for a rehearing. This is a direct attack upon 245 which in turn was combined with 521, which was brought forward and combined with 582 in which the order was issued and in which we here have asked and were granted a rehearing. I think we will show that as we go along. We can't show it all at once. We ask the Commission to bear with us in that connection?

MR. GRAHAM: Are you objecting to every part of this order or specific objections?

MR. KELLAHIN: I would like to point out the Order 245 to which counsel refers was entered and signed on the 17th day of February, 1953. There is no mention made of that order in connection with the petition for rehearing in this case.

MR. ADAIR: I think we can point it up as we go along. If his objection is sustained, we want to make the record as a tender of proof in any event.

MR. SPURRIER: The objection is overruled.

MR. KELLAHIN: Note an exception, please.

MR. ADAIR: If the Commission please, the situation as reflected on the maps up there, is what the Commission is faced with in this gas proration matter. Any time that you draw a 36 mile line bisecting some 6 or 7 oil pools and attempt to include therein the same producing formations as in the oil pools many equities are going to be disturbed as reflected by the many requests for exceptions on the Commission's docket.

Prior to the 1949 Act under which the Commission is now operating from a historical standpoint, I am giving this information for the record, the Statutes of the State of New Mexico present few provisions with respect to gas, either dry gas or casing head gas. The Commission's authority to regulate the productions of gas must be found, if at all, in the 1949 Act and the Commission's Rules and Regulations adopted pursuant thereto. Our New Mexico company counsel will argue these Statutes at the conclusion of the hearing and present in detail our contentions in respect thereto. However, at this point in the hearing, I think it well for us to advise the Commission what our concept of these Statutes are.

First, we feel that the Commission has no authority whatsoever to prorate gas produced from an oil well. It has no authority to prorate casing head gas. Under its rules, gas cap gas is

casinghead gas. While the Commission, to prevent physical waste, can indirectly regulate the production of casinghead gas by means of gas-oil ratio limitations, flare gas orders and the like, it has no authority to prorate casinghead gas based upon market demand.

Second, under the Statutes as we conceive them there are only two methods by which the Commission may directly regulate the production of gas produced from a gas pool. While the Commission to prevent physical waste can indirectly regulate the production of gas well gas by means of flare gas orders, anti-venting orders, beneficial use orders such as Rule 404, but it may directly regulate gas well gas only under one or the other of two provisions of the 1949 Act.

First, it may regulate gas well gas production under the provisions of Section 12 (c) which provides for gas proration under certain conditions. The first of these conditions is that the Commission must designate a gas pool which shall be a common source of supply, or a separate reservoir containing gas only--not oil, not oil and gas, not casinghead gas, not gas-cap-gas but just dry gas.

The second of these conditions being that it is necessary for the Commission to find after notice and hearing after receiving evidence that such proration is necessary to prevent waste. As far as market demand is concerned, it is our contention that waste is limited to production in excess of marked demand, not capacity to produce in excess of market demand.

The second method by which the Commission might directly

regulate the production of gas well gas is for the Commission to order ratable take under common purchaser provision of the Statute Sections 14 (d) and (e). Here again, the Commission as a condition precedent must properly define a gas pool as a separate reservoir of gas.

In addition, of course, the Commission must receive evidence and determine that some common purchaser is not taking ratably. If both of the methods are followed, that is proration and ratable take, then all three of these prerequisites must be shown, the single source of supply, waste, and non-ratable take. Insofar as this case is concerned, it is our contention that none of these prerequisites have been established.

The 1949 Act was brought forward and many of these provisions are in the 1950 Rules, that is the rules that were adopted January 1, 1950. At this time we would like to offer as Exhibit 1, the Rules adopted by the Commission on January 1, 1950. As pointed out by Mr. Massey, Rule 5 of those rules brought forward oil pool definitions theretofore existing. The rules followed the Statutes in setting forth the three conditions precedent to the gas proration order of ratable take of gas. It is interesting to note that the original Rule 104 adopted January 1, 1950, provided that gas units should consist of 160 acres substantially in the form of a square but they could cross section lines. It is also interesting to note that this was not changed until--and in that connection I would like to offer in evidence the original Rule 104. It is also interesting to note that the present requirement in our

rules that gas units consist of governmental quarter sections, was not adopted until December 29, 1952 in Case 226, Order No. R-238. We offer in evidence as our Exhibit 1-A that order.

The order on its face was based upon evidence received approximately two and a half years prior thereto. No one at the time, I am sure, recognized the significance of this Order because the original rules as well as the rules as amended by the Order provided that this gas well unit of a governmental quarter section would operate prospectively only and the rules contained a specific provision, "Under Rule 104 nothing contained herein shall effect in any manner any well completed prior to the effective date of this rule and no adjustments shall be made in the allowable production for any such wells by reason of these rules."

MR. GRAHAM: It relates to oil or gas?

MR. ADAIR: It relates to oil wells and gas wells. However, it is interesting to note that this was first of two orders entered in connection with this gas proration matter that was based upon evidence received some two years before. The Commission after having adopted the rules pursuant to Rule 601, undertook to define gas pools some twelve months after the adoption of the Rules. It put on the docket on its own motion, Case Number 245. This appeared on the docket of the Commission for the first time on the December 22, 1950 hearing. We offer at this time, as our Exhibit Number 2-A the transcript of that hearing, insofar as it pertains to Case 245.

The Commission was assisted in its work of trav-

lineate gas pools by the four operators who comprised the Lea County Federal Unit. That is the Continental Oil, the Stanolind Oil, the Atlantic Refining Company and the Standard Oil Company of Texas. The Commission's records will show that they had been working for sometime trying to devise some reasonable basis for trying to delineate gas pools.

Q I will ask you, Mr. Yuronka, if you know, what the record of our company reflect with respect to whether or not our company offered to participate in that study?

A Our company records show that we offered to assist in this program and we were refused.

MR. ADAIR: In any event as a result of the December hearing, the case was continued at the request of Continental Oil Company to the March 1951 hearing.

We offer in evidence as Exhibit 2-B the docket of the hearing insofar as Case 245 was concerned.

We offer as Exhibit 2-C, the transcript of the hearing insofar as Case 245 is concerned. No evidence was received at that hearing and the case was continued to the April hearing at the request of Continental.

Now, we come to the second case, where the Commission entered an order concerning or affecting gas proration based upon evidence received some two years earlier. That is the hearing in Case 245 of April 24, 1951. We offer as Exhibit 2-D, the docket of the hearing and we offer as Exhibit 2-E, the transcript of that hearing. The evidence is in the record but if I may I should like

to comment here upon what evidence was not introduced at that hearing. The testimony presented generally the recommendations of the Federal Unit Study. The testimony is probably more important for what it did not contain than for what it did contain. The testimony in chief with respect to the four gas pools consisted of nine double-spaced pages and three Exhibits.

There was not presented any testimony whatsoever concerning core data, bottom hole pressure, shut-in pressure, gas analysis specific well logs, specific cross sections, other relevant engineering and geological data which you would expect to be normally produced at such a hearing.

The witness, the engineering witness who testified testified that the entire area was overlaid by the Yates formation and by the Seven Rivers formations. That vertically he thought those formations were separate reservoirs--that is originally he thought that--yet in both the Jalco and Langmat areas, he proposed that the Yates and Seven Rivers formations be combined as a common reservoir.

He testified that all of the Jalco gas was gas-cap-gas, that is casinghead gas. In some places that the Langmat gas was gas-cap-gas. Yet, he proposed that such areas be reclassified as dry gas pools, although such areas had historically been classified by the Commission as oil and gas pools. They had been drilled and developed as such. He did not testify as to any actual reservoir separation between the Langmat and Jalco Pool. The only dry hole that he pointed to was in another area. In fact, the only

geologist who testified at the hearing, whose testimony is shown on page 35 and it stands uncontraverted, testified that no distinct separation existed between the Jalco and the Langmat area. They were essentially in a common reservoir throughout the area.

Yet, based upon this contradictory and meager evidence, the Commission was requested to draw a line some 36 miles long extending through 6 Townships bisecting 6 or 7 oil pools, and say that on one side of the line we had a separate gas pool from that on the other side of the line.

It is a small wonder that at the close of his direct examination the Continental attorney made this statement: "We certainly are not in the position of saying that anybody should be bound by the results of our study." Yet, the results of that study was the only evidence that the Commission has ever received with respect to the proper delineation of the Jalco and Langmat Pool. The Commission staff was quick to appreciate the dangers and difficulties that would be encountered if such a program were followed.

A substantial part of the hearing was devoted to cross examination by the Commission's attorney concerning the disturbance of equities and the vested rights. He drew from one of the Continental representatives an admission that so far as the Jalco area was concerned that the oil wells and the gas wells would be producing from essentially a common reservoir. Many of his questions could not be answered satisfactorily, at least, to the Commission's staff and in that connection I will request Mr. Russell to read

from pages 18 and 19 to show exactly what the Commission attorney had in mind.

MR. RUSSELL: These are questions interposed by Mr. McCormick to Mr. Forbes and his answers thereto. "Mr. McCormick: In No. 1 (Jalco) what is the oil producing parts? Mr. Forbes: From the Yates and Seven Rivers, principally the Seven Rivers formation. Mr. McCormick: What are the gas producing horizons in No. 1? Mr. Forbes: The same formations. In other words in Area 1 it is probably gas cap gas, the majority of it. The upper two zones, as we classify the Yates, has a lower sulphur content and it has strictly free gas, we believe. However, like I described before that the formations have been connected by well bores so long that it is difficult to - Mr. McCormick: How would you suggest the Commission could determine the difference between a gas well and oil well for classification purposes and proration purposes in No. 1, the Jalco? MR. FORBES: Well, inasmuch as there is no limitation ratio on that pool at the present time, I don't think we are too bothered about that situation. MR. McCORMICK: Well, would you prorate all the wells there as gas wells and let them produce as much oil as would come up with that quantity of gas? MR. FORBES: Inasmuch as we have considered this as a gas pool, gas reservoir, they will have to be prorated under some allocation formulas later. MR. McCORMICK: I know this is outside the scope of your original examination but for the benefit of the Commission I think we would like your views on it. Say that there is one well that is producing a large quantity of oil and then in the adjoining section a well

is producing dry gas from the same horizon or same formation, would both those wells be classified as gas wells? MR. FORBES: No, I don't believe so. MR. McCORMICK: Well, how - MR. FORBES: I understand your problem. I prefer to defer the answer on that."

MR. ADAIR: At the conclusion of this hearing Case 245, was continued until the next hearing May 22, 1951. In that connection we offer as our Exhibit 2-F, the docket of that hearing. We also offer as our Exhibit 2-G, the transcript of that hearing. No evidence was received in connection and Mr. Spurrier made this statement, "Let the record show, no one appeared to testify. The Commission has written testimony of the pools not taken up at the first hearing on April 24th."

The next hearing in which Case 245 was considered was the hearing on July 24, 1951. We offer as our Exhibit 2-H, the docket of that hearing, as well as Exhibit 2-I, the transcript of that hearing. That hearing did not pertain to either Jalco or Langmat but only to the Byers Gas Pool.

Some year and a half or two years later, the Commission based upon this evidence that it had received primarily at the April 24th, 1951 hearing entered Order Number R-264 in Case 245. We offer in evidence that Order as our Exhibit Number 2-J. I might comment here that the Commission referred in its Order to these hearings on December 22, 1950 at which no evidence was received, the hearing of March 20, 1951, at which no evidence was received, the hearing of April 24, 1951, which I have summarized the evidence, the hearing of May 23, 1951 at which hearing Mr.

Spurrier stated no one appeared to testify, and the hearing of July 24, 1951, which related only to the Byers Gas Pool.

Yet, the Commission in its findings finds that, "the Commission did cause exhaustive studies to be made"...and at the several hearings in this case took voluminous testimony." Order R-264 is the order delineating the gas pool. However, and this is in connection with Mr. Kellahin's objections, the case was not closed, the final paragraph of the order says, "The Commission orders that further testimony in the matter be received at the regular monthly hearing of the Commission on April 16, 1953." The Order is dated February 17, 1953.

At the hearing of the following month on March 17, 1953, the Commission put on the docket Case 521 for the first time and we offered as our Exhibit 3, the docket of that hearing. We also offer as our Exhibit Number 4, the transcript of that hearing. In that connection, I will ask Mr. Russell to read the statement of the secretary of the Commission at that hearing. There was no evidence received.

MR. RUSSELL: Starting on page 1, "Mr. Spurrier: On this case the Commission believes that it recognizes the need for production and ratable take of gas in Lea County and for that matter in the State of New Mexico. However, this particular case applies only to Eddy, Lea, Chaves and Roosevelt County. We anticipate a lot of hard work and lot of difficulty in getting this set up properly. We want to be fair to every one and as I have said before we intend to referee this thing. We do not have all the

personnel we need to go into the matter completely and set it up. We would like to point an advisory committee to report to us on how this might be set up. We want that Committee to report at the next hearing which will be April 16. Before I leave that part of it, I might say that we tried to put companies who have considerable production or have a special interest or the purchasing companies of natural gas, perhaps we had better make notes on this. I will confirm this with a letter but we head the list with El Paso Natural Gas. I think, however, the member who might be designated from that company, might be the Chairman. However that is something for the Committee to determine. The second company is Southern Union, the third is Continental Oil Company, the fourth is Gulf, fifth, Humble, sixth, Shell; seventh is Texas Pacific and eighth is Phillips Petroleum Company, nine is Samedan, I think that if Mr. Staley, Staley's office can and will, we would like you to serve as the secretary, Mr. Staley?"

MR. SPURRIER: Mr. Adair, can you break there, please. We will take a short recess.

(RECESS)

MR. SPURRIER: The meeting will come to order. Mr. Russell was Mr. Russell about to read?

MR. ADAIR: No, I think I was still on the stand.

MR. SPURRIER: Excuse me.

MR. ADAIR: The Commission will recall that in its order which it had issued in Case 245, in February, that it had provided that additional testimony would be received at the April 16th hearing.

ing in case 245. We offer at this time as our Exhibit 5, the docket of that hearing with respect to Case 245 and also 521. No evidence was received but the Commission at that hearing consolidated the two cases 245 and 521 and continued the matter to the May hearing pending reports from the advisory committee which had been appointed by the Commission.

At the May hearing, May 19, 1953, the consolidated Case 245 and 521 was continued to the June hearing and we offer as our Exhibit 6, the docket of the hearing in 245 and 521 of the hearing of May 19, 1953. At the June hearing, the case was again continued to the July hearing. That is the consolidated case 521 and 245 and we offer as our Exhibit 7, the docket of the hearing.

In the meantime the Commission had received or that is after the June hearing and prior to the July 16th hearing the Commission had received the report of the advisory committee. We offer in evidence as our Exhibit 9, the copy of the letter of transmittal from Mr. A. L. Hill, Chairman of the Advisory Committee and in that connection, we will request Mr. Russell to read a paragraph from that letter into the record.

MR. RUSSELL: I am reading, quoting the third paragraph of the letter, dated July 14, 1953. "The Committee was not unanimous on many points and no member of the Committee was precluded from submitting its own ideas or suggestions to the Commission. The Committee did not reach an agreement as to when and how those proposed rules should be made applicable to designated gas pools in the four county area."

MR. ADAIR: Attached to this letter of transmittal, was the Committee's report which we offered in evidence as Exhibit 9-A. Appended to this report was a note put on by the Advisory Committee, I will ask Mr. Russell to read that note into the record.

MR. RUSSELL: The note appears on the end of the report. "In reviewing designated gas pools, the sub-committee recognized the fact that within the area of designated gas pools and adjacent areas, there are a number of gas wells which are producing from the gas caps of oil reservoirs and subject to the oil proration rules pertaining thereto; and, therefore, that these wells will not be subject to the rules pertaining to gas pools."

MR. ADAIR: As Exhibit 8, we offer in evidence a docket of the hearing of July 16, 1953 in consolidated Case 521 and 245.

As our Exhibit 10, we offer the transcript of that consolidated hearing. I might herein remark that no evidence was received at that hearing in connection with the Jalco, Langmat matter and the case was continued to the hearing of August 20, 1953.

We offer as our Exhibit 11, the docket of that hearing insofar as the consolidated Case 521 is concerned. As Exhibit 12, we offer in evidence transcript of the hearing in consolidated Case 521 and 245. At that hearing Texas Pacific Coal and Oil Company made the following statement. I will request Mr. Russell to read that into the record at page 34.

MR. RUSSELL: Statement of Mr. Campbell starting on page

34 of the transcript. "MR. CAMPBELL: If the Commission please, I'm Jack M. Campbell, Roswell, New Mexico and I'd like to make a statement, in behalf of the Texas-Pacific Coal & Oil Comapny. It appears to Texas-Pacific Coal & Oil Company that there is some difference of opinion as to the effect of the proposed general rules should the Commission see fit to put them into effect.

The rules do not seem to us to be clear inasmuch as they seem on the surface to contemplate pool hearings in all cases, which we believe is the proper method to initiate gas proration and if they mean any more than that - if they do mean an attempt to proration in a four county area - or any area larger than a common source of supply, we have serious doubts as to their legality under New Mexico Statute.

We have no objection to gas proration provided it is needed and provided it is done in compliance with the Statutes. In fact, the Statutes require that the Commission make a determination if gas proration is needed and these proposed rules likewise contain such a provision.

Furthermore, the Statutes require that the Commission in designating a gas pool limit the pool both horizontally and vertically as a separate or common source of supply. As we understand it, this hearing involves both Cases 245 and the Case involving the proposed gas proration in a four-county area. We feel that the determination and definition of the gas pools being the very predicate upon which gas proration, if it is initiated, must be based is extremely important, in setting up any gas proration system.

For example, it is our understanding that in Case 245 the Commission has already or by the proposed changes which have recently been offered in connection with this proposal by the Committee, has combined the Yates formation, which both historically and geologically have been accepted as a separate source of supply in the Permian Basin from the Seven Rivers formation and in some cases, has combined it with a portion of the Queen, and combined all of these into one common source of gas supply.

To do so, we feel ignores the method and manner in which hundreds of wells have been drilled in those areas and results in considerable complications both by way of proper and legal orders of the Commission and protection of contractual rights of people in those areas, who have drilled oil wells and who have been producing them as oil wells under the Commission's approval for some period of time.

Furthermore, many gas sales contracts have been entered into in these areas with the Commission's knowledge which limit the subject matter of the contract of gas produced from the Yates formation as sweet gas on one hand, and sour gas on the Seven Rivers formation on the other hand.

We feel that the legality of the designation of gas pools in this manner is a very serious question for the Commission and in establishing gas proration if it is determined to be necessary. We would like to request the Commission, and I believe these proposed rules contemplated, if they do not spell it out clearly, that there shall be a separate pool hearing in each and every case.

And that in those pool hearings, Case 245 might be left open for the purpose of determining in each pool from proper geological testimony by interested parties whether a gas pool designated both horizontally and vertically is actually a single source of supply or whether in fact there are several sources of supply involved.

Second, that the hearing determine separate sources of supply which should be designated as gas pools. Third, whether gas proration is needed in each of these separate sources of supply and fourth, if they are needed, what special field rules should be adopted to protect the wells already completed and to protect contractual rights which have been acquired on the basis of designation of pools in another manner in the absence of gas proration.

If these proposed general rules contemplate that they shall simply be stand-by rules and that there shall be no gas proration in any pool in New Mexico in the absence of a pool hearing, we have no particular objection to them. On the other hand, if, as some people seem to feel, they contemplate gas proration on a four county basis without a determination in each common source of supply before any gas proration is put into effect, we have serious doubts as to their wisdom or legality.

We want to particularly request that Case 245 be retained open in any event for modification in the event there is a pool hearing and its determination is contrary to the existing designation of gas pools as made by the Commission at that time."

MR. ADAIR: On August 28, 1953, the Commission entered

Order Number R-356 in this consolidated Case 521. We offer a copy of that Order in evidence as our Exhibit Number 13.

This Order adopted standby rules to be in effect subject to the following section of the Order Section B--" that the following rules shall apply to defined gas pools in Eddy, Lea, Chaves, and Roosevelt Counties only after hearings are held and an order issued on each individual pool. These rules shall be considered as "standby rules" and shall be used as a guide in establishing pool rules." Rule Three of the "standby rules" contemplate that the Commission shall determine first that it is necessary to prevent waste before commencing gas proration in that it provided as follows: "At such time as the Commission determines that allocation of gas production from gas wells producing from any pool in this four-county area is necessary to prevent waste and so forth."

Under the terms of the order it, of course, could apply prospectively only, it could not effect wells already drilled. At this point if the Commission please, up to and including this point of our chronological review, the Commission had indicated at each hearing where the matter was considered and in each order that it had issued that further evidence would be received and another hearing held. Order Number R-356 in Case 521 clearly contemplated a full and complete hearing in each pool before proration was instituted.

The Commission at this time, up to and including this time, had received no evidence upon which it could properly and

finally designate gas pools. That matter had been left open in Case Number 245. The Commission had absolutely no evidence that gas proration was necessary or that waste was occurring. The only evidence at all with respect to the rules if, indeed it was evidence, was a report of the Industry Committee which was not a unanimous report. In short at this time, there had been no final order entered and nothing on which a dissatisfied operator could base a motion for rehearing.

At the following hearing, following the adoption of this Order R-356 at the hearing of September 17, 1953, and in that connection we offer in evidence as Exhibit 14, the docket of the hearing and as Exhibit 15, the transcript of the hearing, Texas Pacific Coal & Oil Company made the following statement on page 7, which Mr. Russell will read.

MR. RUSSELL: Starting with page 6, quoting Mr. Campbell.

MR. CAMPBELL: Jack M. Campbell, Roswell, New Mexico. I would like to make a statement in behalf of Texas Pacific Coal & Oil Company. It is our feeling that the Commission, in adopting the rules which they adopted in a standby capacity, acted properly and that the orderly way to proceed is to hold pool hearings to determine whether proration is required in each gas pool. It may be that the Statute is wrong in that regard but we feel that that is what the Statute requires the Commission to do. We feel that there has not been ample time with regard to particular fields and that the Commission must know that we cannot possibly put field rules in effect in nine (9) gas pools in New Mexico upon a

hearing lasting a few minutes. We feel that in the interest of orderly procedure however, the Commission should and may have in mind some method of procedure by which the pools can be brought up for hearing at an early date in order that the necessary evidence can be obtained and offered by the interested parties.

We still maintain that gas proration can be put into effect in New Mexico only by pool and that the Commission must find that there is a gas pool and properly define it. They must find that proration is necessary in that gas pool and they then must adopt rules, either the standby rules that they have in effect now, or special rules for that pool. We join in the motion for continuance of these cases with the idea in mind that there will be individual gas pool hearings to establish proration where it is considered by the Commission necessary.

MR. ADAIR: Although no evidence was received at this September 17th hearing with respect to particular pools the Commission on September 28, 1953, issued its Order Number R-368 in Case 582. We offer in evidence as our Exhibit Number 16 Order Number R-368. This order ordered "That the rules and regulations relating to gas-well spacing, gas proration and gas allocation, as set forth in Order Number R-356, be, and the same hereby are made the special rules and regulations of the Jalco Pool pending further order of the Commission after notice and hearing." It further ordered the parties to appear on October 26, 1953, to show cause why the rules and regulations referred to should not be put into effect as of November 1, 1953.

Since the Jalco Gas Pool as delineated by the Commission has a common boundary with the Langmat Gas Pool, we offer in evidence as Texas Pacific Exhibit Number 26, Order Number R-369 in Case 583, and call attention to the Commission that this Order in the Jalco case that is in Case 582 ignored sections B of the former Order R-356 which provided that the rules should not be put into effect until after individual pool hearings.

At the show cause hearing on October 26, 1953, and in that connection we offer the docket of the hearing as our Exhibit 17, as well as the transcript of the hearing as our Exhibit 18. The entire Commission was not present. Most of the testimony received at that hearing dealt with a type of allocation formula to be adopted. No evidence was received pertaining to the proper delineation of the Jalco Gas Pool. I, would like to introduce especially and read into the record Texas Pacific's statement on Page 9 of the transcript of that hearing.

MR. RUSSELL: I am going to start at Page 9. "MR. CAMPBE. At previous hearings of the Commission, we have indicated that we are not completely satisfied with the definition of gas pool in some instances. The gas pools which have been designated by the Commission in some instances overlap areas that have heretofore and are still classified as oil pools; the result is that there a. a large number of wells in some of these large gas areas which are producing oil wells, and on the oil allowable schedule for many years. It is possible that the Commission will, as time goes by, re-define the definition of large gas pools. In the

meantime, our feeling is before, by Commission order, they are automatically included, which this can be construed as doing, that protection should be given in the interim period to anyone, under a Commission order, producing these wells as oil wells. It appears to us possibly that by defining a gas well as any well within a gas pool, and then defining the gas pools as covering oil areas, they may have automatically re-classified oil wells. We want a hearing before any oil wells are changed to gas wells by the Commission."

MR. ADAIR: We would like to read into the record at this time the cross examination of the El Paso Natural Gas Company witness, Mr. Norman Woodruff which appears on Pages 49 to 56 of the transcript.

MR. RUSSELL: These are questions by Mr. Adair of Mr. Woodruff:

"Q Mr. Woodruff, you testified there were 121 gas wells in the Jalco field, of which 18 were operated, or at least the gas from 18 wells was used by people other than the El Paso, is that correct? A That is correct.

Q So far as you know, the uses to which that gas is put are lawful and beneficial, is that correct?

A I assume that to be correct.

Q So far as the 103 wells to which you are connected, will you tell the Commission whether or not--unless you own the wells yourself--whether or not you are connected under a gas purchase contract? A We are.

Q Is that contract substantially the same for all 103 wells

A I believe it to be.

Q Was it not only recently re-negotiated within the past two years?

A I believe that it was.

Q That contract and the statute under which you operate requires El Paso to take gas ratably, does it not?

A It does.

Q Have you been taking gas ratably?

A To the best of our ability.

Q Still here, you propose to take, under a different method now.

A Yes, somewhat different. As I previously stated, we took gas in accordance with the provisions of our contract. Those things have not been changed, even though the contract was renegotiated recently. I believe that to have been caused by a price change in gas paid and gas produced.

Q Do you have a copy of the contract with you?

A Yes, I do.

Q Do you have a copy that you would permit to be made a part of the record in this case?

A Yes, I do.

MR. SPURRIER: We will take a short recess.

(Recess)

MR. ADAIR: May we proceed, Mr. Chairman?

MR. SPURRIER: Certainly.

Q (By Mr. Adair) Did you find a copy of the contract?

A Yes, I have. We wish to submit this contract as El Paso Natural Gas Company's Exhibit Number One.

MR. SPURRIER: Without objection it will be received.

MR. HOWELL: Mr. Chairman, I would like to qualify that to this extent, it is possible there might be other contracts not in this particular form, this is a typical contract, let us say.

MR. ADAIR: That is understood.

Q Mr. Woodruff, under that contract, El Paso has been purchasing gas in the Jalco field?

A That is right.

Q Or a similar type contract. You haven't been taking any more gas than you have needed?

A No, sir.

Q To that extent you are not taking gas in excess of the market demand?

A No, sir.

Q Do you think the rates to which you have been taking gas has caused any underground waste?

A No.

Q You are not flaring or wasting gas under ground?

A No, sir.

Q To that extent, there is no waste taking place as a result of your taking gas under this contract?

A No, sir.

Q We are talking about the Jalco pool now.

A That is right.

Q Under this contract, Mr. Woodruff, you are required to take low pressure gas at the same extent you are required to take high pressure gas?

A Referring to gas well gas?

Q Yes.

A That is correct. A qualification that there are certain stipulations in our contract which when the producing ability of the well reaches a certain volume, the restriction upon El Paso, or the requirement on El Paso to take gas is decreased.

Q But you have found it possible to live under that type of arrangement and take the gas that was tendered to you, the El Paso has, has it not?

A We have operated to the best of our ability.

Q The contract also contains a stipulation to the effect that El Paso shall not be required to take more than 25 percent of the potential of each well?

A I believe that to be the case. I am not completely familiar with the contract, I am generally familiar with it. There might be some application you could mention that I might not give an exact answer to, I am certain. I can investigate the contract.

Q (Interrupting) The contract is in evidence and will speak for itself. It is my understanding it contains such provisions. It also contains a minimum take provision?

A Yes, sir.

Q Requiring El Paso to either take or pay for the minimum amount of gas averaged out over a certain period of time for each well?

A That is correct.

Q It also contains provision requiring you to take ratably on an acreage basis, does it not?

A It does.

Q With a 160 acre tract, the governmental quarter section

being the standard unit under the order and provision that up to 640 contiguous acres may be assigned to a well and the take from that well may be assigned accordingly.

A That is right.

Q We mentioned the contract contained provisions requiring you to take low pressure gas as well as high pressure gas.

A That is correct.

Q Now, each of these provisions that I have mentioned would be abrogated and superseded in some instances at least, by the proration formula which you advocate here.

A That is correct.

Q So, the proration formula, which you advocate here, would abrogate, impair and supersede these four or five provisions of the contract I have mentioned?

A It would tend to do so, not completely, I would say, but again I would say that is a matter for legal interpretation as to where the contract ends and gas proration by the State starts.

Q Have you calculated how much less low pressure El Paso would take from the Jalco pool, under your proposed allocation formula, as compared with your takes under your contract?

A I have not.

Q You do know, though, that it results in the transfer of takes from low pressure to higher pressure wells?

A That is not necessarily correct. Because, if you have a low pressure well, it very likely is unable to produce the ratable takes from that field, and as a result must be restricted and the

additional allowable or demand must be distributed among other wells so the total demand from the pipeline company could be satisfied.

Q You are talking about the ratable take under the new, or proposed formula, not under the old?

A I am referring to the contract provisions of ratable take

Q You already testified, have you not, that you have been able to take low pressure gas in Jalco under your contract up to date, have you not?

A We have been able to take, but not in all instances ratably, because there are provisions of our contract which permit a well to be restricted when its producing ability, when it cannot produce the ratable take.

Q You have been taking ratably under your contract provisions, have you not?

A Yes. I might qualify that, to the best of our ability.

Q You have not, then, calculated the shift in takes from low pressure wells to high pressure wells, there would be a tendency for there to be a shift from low pressure wells to high pressure wells under the proposed allocation formula?

A Not a pronounced allocation shift. With a low pressure well goes lower deliverabilities, and the fact the deliverability included in the formula, it more nearly puts the allowable where it can be produced, and add the well's low deliverability at the present, and in the provisions of our contract, it may be that it was unable to produce the ratable take, and rather was restric-

ted on its deliverability even as we now regulate.

Q But under your contract as it is now drawn, this low pressure gas we are talking about, above 100 pounds, the figure in the contract, you either have to take it or pay for it, is that correct?

A That is correct.

Q Have you calculated the leases between the equation, the shifts will be made in takes under your formula?

A Would you repeat that?

Q Do you have a list, or do you know the individual leases which will gain as a result, that is gain production wise as a result of the adoption of your proposed allocation formula?

A I do not.

Q Then, you do not know whether there would be a shift away from state leases to private or federal?

A I do not.

Q All you know is that such a shift would take place?

A As I said, I am not sure a shift would always take place.

Q And to the extent such a shift did take place, it would abrogate and impair the provisions of the contract we have entered into, is that correct?

A I believe that to be correct.

MR. ADAIR: That is all."

MR. ADAIR: **At this point we would like to offer into evidence the contract between Texas Pacific and El Paso Natural Gas Company.**

Q Mr. Yuronka, do you have a copy of that contract with

you?

A Yes, sir.

MR. ADAIR: We offer that in evidence as Texas Pacific's Exhibit 18 and request permission of the Commission to substitute for the original a photostatic copy, is that granted?

MR. SPURRIER: It is.

Q Mr. Yuronka, without reading from the contract, can you tell us whether or not it permits the units to be long 160 acres, that is 4- 40's in a row, for example?

A Yes, sir, they do.

Q Do they permit such units to cross section lines?

A Yes, sir.

Q Do you know whether or not Texas Pacific Coal and Oil Company has two such units now connected to El Paso?

A Yes, sir, we do.

Q That is two long 160 acre units which cross section lines?

A Yes, sir.

Q Also, does the contract permit up to 640 acres to be assigned to an individual well?

A Yes, sir.

Q Do we have any instances in which more than 160 acres is assigned to a well under the contract?

A Yes, sir, we do.

Q How many acres do we have assigned, 480?

A What is the well number, State "A", Account 2, Well Number 41.

Q When I ask you with respect to Texas Pacific having such long units and that 480 acre unit, that is we had that situation

up to January 1, 1954 before the effective date of the Order in Case 582, is that correct? A Yes.

MR. ADAIR: We also offer in evidence limited to the extent that the Langmat Pool has a common boundary with the Jalco Pool, the transcript of the proceedings in Case 583, on October 27, 1953. This particular transcript has to do with the Langmat Pool.

Now, if the Commission please, the hearings on the Jalco Pool were held October 26, 1953 and the hearings continued through October 28, I believe on the other nine gas pools. Two days later Mr. Macey, the Chief Engineer for the Commission addressed a memorandum to the Commission dated October 30, 1953, and we offer in evidence as Texas Pacific's Exhibit Number 20, a copy of that memorandum.

On the same date October 30, 1953, even though transcript admittedly had not been received and the hearings on the nine pools had been completed only two days earlier, the Commission issued a directive to the operators in the Jalco and the other eight pools and we offer in evidence as our Exhibit 19 a copy of that directive. As I pointed out the gas pool hearings had been completed only two days earlier but in that directive, the Commission directed the purchasers of gas to file nominations on forms already available at the Hobbs office of the Commission. At this point, at least, it looked as if the Commission had instituted gas proration without reading the transcript in the particular hearings.

We next offer in evidence as our Exhibit 21, Order R-368 A, in Case 582 dated November 10, 1953, pertaining to the Jalco Pool. This is one of the orders that is under attack in this motion for rehearing. The order on its face recognizes that the Commission has received insufficient evidence upon which to base its pool designations. In that finding, number five in the order, it sets forth the need for additional geological and reservoir data and orders the operators to furnish all available such data.

To the extent that the Langmat Pool borders the Jalco Pool, we offer in evidence as our Exhibit 26-A, Order Number R-369-A in Case 583, dated November 10, 1953, pertaining to the Langmat Pool.

MR. KELLAHIN: I don't like to interrupt but I would like the record to show that we have a running objection to anything pertaining to the delineation of the Langmat Pool. I don't want to state that every time it is brought up, but I would like a running objection to that.

MR. SPURRIER: Yes, sir.

MR. ADAIR: We offer in evidence in order to make the record complete as our Exhibit Number 24, Order Number R-264-A in the consolidated Cases 245 and 521, which adds some 6,000 plus acres to the Jalco Gas Pool. I think most of this acreage added is located down near the Texas line.

We offer in evidence as Exhibit 27 the docket of the hearing on November 19, 1953, where gas nominations were received for the first time. We offer as Exhibit 28, the transcript of

such hearing.

In order to complete our record here, we offer a copy of our application for rehearing in Case 582, as Exhibit 22. As Exhibit 23, we offer Order Number R-368-B in Case 582 which granted this rehearing. As Exhibit 23-A, we offer in evidence our motion to ammend a typographical error in our motion for rehearing and at this time we request the Commission to grant us authority to so amend. May it be considered so amended? We referred to a wrong paragraph, it was a typographical error.

MR. SPURRIER: You can.

MR. ADAIR: That was Exhibit 23-A. Exhibit 23-B, we offer our motion excepting to that provision or that portion of Order Number R-368-B which provided that the Jalco Gas rules would "remain in full force and effect" pending the rehearing.

As Exhibit 29, we offer in evidence the docket of the December 17, 1953, hearing, insofar as the gas nominations are concerned and as Exhibit 30, we offer the transcript of that hearing insofar as the gas nominations are concerned.

As Exhibit Number 31, we offer Orders Number AG-1 and AG-1A being the allowable order and gas proration schedule insofar as such orders and proration schedule pertains to the Jalco and Langmat Pools. It should be noticed that although we feel that no proper line has been drawn throughout this 36 mile area that would justify calling the area two gas pools or 20 gas pools that already in the January allowable, the allowable in the Jalco Pool is some 600,000 cubic feet per month higher than in the Lang.

mat Pool.

At this time, if the Commission please, I have no further questions of Mr. Yuronka. Is there any cross examination?

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

MR. KELLAHIN: I have no questions of the witness but I would like to renew my objections to the testimony insofar as it pertains to the delineation of the Langmat Pool and move that all testimony and exhibits and statements of counsel pertaining thereto be stricken from the record.

MR. SPURRIER: Objection overruled.

MR. FOSTER: I would like to ask the witness a question or two.

MR. SPURRIER: Judge Foster.

CROSS EXAMINATION

By: MR. FOSTER:

Q You testified here regarding casinghead gas and dry gas. For this record, will you define casinghead gas for me?

MR. ADAIR: I think casinghead gas is defined in the Commission's rules under the definitions and I don't think anything this witness could testify to, would either add to or detract from that.

MR. FOSTER: I think it might be helpful to know what his idea of casinghead gas is regardless of how it may be defined by someone else.

MR. SPURRIER: Answer the question.

A Casinghead gas is gas produced from the combination of

gas and oil.

Q And how do you define dry gas? You used that term.

A Dry gas would be--

MR. STAHL: (Interrupting) Would the witness speak up a little bit? It is hard to hear.

A Dry gas would be gas produced from a gas zone alone.

Q Now, would dry gas or casinghead gas as you understand those terms also include the term, natural gas?

A Do you mind repeating that question, please?

Q Let me put it this way. As you understand the term, casinghead gas and dry gas, is casinghead gas and dry gas, natural gas?

MR. ADAIR: If the Commission please, I re-urge an objection to the question in that Casinghead gas is defined in the Commission's Rules and to attempt to put any meaning other than the Commission's Rules. I would like for the purpose of the objection to read it. Page one of the Rules, Definition Number 10: "Casinghead gas shall mean any gas or vapor or both gas and vapor indigenous to and produced from a pool classified as an oil pool by the Commission. This also includes gas cap gas produced from such an oil pool." Also from the Commission's Rules, Rule Number 35--"Natural gas or gas shall mean any combustible vapor produced, and occurring naturally in a pool classified by the Commission as a gas pool." If the Commission please, I see no useful purpose to be served by continuing this line of testimony. The definition of casinghead gas, natural gas or gas is defined by the Commission

Rules and until such times as those rules are changed, no other meaning can be ascribed to those terms by the Commission. I would like to urge ~~that~~ objection.

MR. SPURRIER: The witness can answer the question, proceed.

A Well, I am afraid it is somewhat beyond the scope of my study.

MR. ADAIR: If the Commission please, it is a legal question. It is a question of definition under the Commission's Rules. This witness, he has qualified as an engineer, if Judge Foster wants to change the definitions, I suggest he come before the Commission after proper notice and hearing and request the change.

MR. FOSTER: I am not trying to change the definitions. I am just trying to find out what he knows.

MR. ADAIR: He said he hadn't studied law, Judge. It is beyond the scope of his study.

MR. FOSTER: Are you telling me that you don't know the difference between the term, casinghead gas and dry gas and natural gas?

A I believe I have defined casinghead gas and dry gas.

Q Now, you are saying that you don't know whether the casinghead gas and dry gas is natural gas or not?

MR. ADAIR: Do you mean natural gas as defined by the Commission's Rules or natural gas as that term might be accepted by the Industry. I think you ought to be fair with the witness that way. Tell him what--

MR. FOSTER: (Interrupting) I just want to know whether or not he considers casinghead gas or dry gas as he understands it to be natural gas?

A Well, in my opinion, natural gas would be dry gas.

Q Sir?

A In my opinion, natural gas would be dry gas.

Q In your opinion, would casinghead gas be natural gas?

A I am afraid that is beyond the scope of my study. I am not a reservoir engineer.

MR. SPURRIER: Sir?

A I am not a reservoir engineer.

Q Well, whether you are or not, do you regard casinghead gas to be natural gas?

MR. ADAIR: No useful purpose can be served in continuing this line of testimony. I would like to urge the Commission to sustain the objection. The witness has testified that he is not qualified to answer in any other way than that defined in the Commission's Rule which of course, the Commission has to operate under anyway.

MR. SPURRIER: If the witness can answer the question, let's proceed. If he cannot, say so.

A No, I don't believe I can.

MR. SPURRIER: Very well, Mr. Foster.

MR. FOSTER: All right.

Q In the Jalco Pool as that pool has been delineated by the Commission, there are wells that produce oil and wells that

produce gas. Isn't that true?

A Yes, sir.

Q Now, the oil wells also produce gas, don't they?

A Yes, sir.

Q The Commission has imposed a gas-oil ratio on the oil wells, have they not?

A No, I wouldn't say that. In the South Eunice Pool in the Cooper Jal Pool, there is an unlimited gas oil ratio.

Q There is no gas-oil ratio?

A No, sir.

Q In any part of the pool or is there any gas-oil ratio?

A To my knowledge, the only portion that would have any, would be the portions of the Jalco that is in the Eumont Pool under Eunice Monument.

Q They have imposed gas-oil ratios on the oil wells in some portions of the Jalco Pool, have they not?

A Well, I believe in the Eunice Monument Pool, there is a limited gas-oil ratio.

Q You believe there is not?

A There is.

Q There is? All right. What is the purpose of a limitation being placed upon the amount of gas that may be produced in producing oil?

A Would you mind repeating that question, please?

Q What is the purpose of limiting gas production in the production of oil?

A Prevent undue drainage.

Q Would it prevent anything else?

A I cannot answer that question properly.

Q Let me ask you this question, would it tend to prevent waste?

A Would you mind repeating the entire question, please?

Q Would the imposition of a gas-oil ratio limitation on an oil well tend to prevent waste? A Yes.

Q Would the basis of imposing such a limitation be the prevention of waste?

MR. ADAIR: If the Commission please, that is a legal question. It calls for a legal conclusion. We object to it for that reason, and also at this time, if the Commission please, I see no useful purpose to be served at this hearing which is a motion for rehearing on a gas pool, so I see no reason why there is any purpose that would be served by going into gas-oil-ratio limitations on oil wells, which obviously would be from oil pools. We object to his question because it is not material, not competent, not relevant at this time. I might add to my objection a further objection, that cross examination is improper if it goes beyond the scope of direct ~~exam~~ination. The witness has testified, has given no testimony whatsoever with respect to waste of any sort.

MR. SPURRIER: Objection sustained.

Q Is it your position that no waste is occurring in the Jalco Pool?

MR. ADAIR: Same objection.

MR. SPURRIER: Objection sustained.

Q One other question. Do you regard gas cap gas as being

a natural gas?

A I believe I have made a statement as to that effect, Judge Foster.

MR. FOSTER: That is all.

MR. SPURRIER: Anyone else who desires to cross examine the witness? Mr. Stahl.

By: MR. STAHL:

MR. STAHL: G. E. Stahl, Permian Basin Pipeline Company.

Q Mr. Yuronka, are you familiar with Exhibit 31, your proposed Exhibit 31, which is the A G Number 1 and A G Number 1-A proration schedule?

A Yes, sir.

Q On that schedule, I call your attention particularly to page 11 and top of page 12, wherein Texas Pacific Coal and Oil Company's wells in the Jalco Pool are set forth along with the description of the same in the January allowable and the present market outlet. Within your knowledge, are any of those wells producing oil from a now delineated gas pool in any substantial quantities?

A No.

Q They are not?

A No.

Q In other words, they are all gas producing wells?

A Yes.

Q Have you calculated what the daily average allowable for those wells would be during the month of January?

A Oh, it would be roughly, about eleven hundred MCF per day, a little more, a little less.

Q That is on 160 acre unit basis? A Yes.

Q You testified, did you not, with respect to Exhibit, the contract between Texas Pacific and El Paso, Exhibit 18-A, is that correct, Mr. Adair, is it 18-A?

MR. ADAIR: That is correct.

Q You testified with respect to that Exhibit and introduced it as one that you were sponsoring, within your knowledge is the average daily allowable for the month of January as set forth on page 11 of the proration schedule for Texas Pacific Coal and Oil Company's wells higher than the minimum specified in the contract?

A No.

Q Sir?

A Would you mind repeating that question again?

Q Would the reporter read the question?

(Question read.)

A I don't quite understand your question, Mr. Stahl.

Q As I understand--

MR. ADAIR: May I ask you a question, Mr. Stahl? In asking the question of the witness to which of the minimum requirements of the contract do you refer? Do you refer to 5,000 which is the minimum take per day over a certain period of time?

MR. STAHL: Yes, sir.

MR. ADAIR: Obviously the eleven hundred thousand is higher than the five hundred thousand.

MR. STAHL: That is what I want. That is all.

MR. WOODWARD: We would like to ask a question.

MR. SPURRIER: Mr. Woodward.

By: MR. WOODWARD:

Q I believe you testified with respect to a contract between El Paso and Texas Pacific. I wonder if you would tell me what date that contract was executed.

A April the 6th, 1951.

Q Does that contract contain what is commonly known as a force majeure?

A Pardon?

Q Does that contract contain what is commonly called a force majeure provision?

MR. ADAIR: The witness is not acquainted with that. I will admit that it does.

MR. WOODWARD: Would you mind reading that provision?

MR. ADAIR: Article 19, Governmental Regulations, Section 1: "It is expressly agreed that this agreement and the respective obligations of Buyer and Seller hereunder are subject to present and future valid laws, orders, rules and regulations of duly constituted governmental authorizations having jurisdiction." There is also a F.P.C. clause you are not asking for that.

MR. WOODWARD: I don't think that is involved.

Q Is it your position in this hearing that provision was placed in there out of an abundance of caution and was not needed

MR. ADAIR: I don't know -- to answer that question, I don't know what motives El Paso had in putting that clause in the contract. It is their clause, not ours.

MR. WOODWARD: Is El Paso joining you in this motion for

rehearing?

MR. ADAIR: I think the record speaks for itself. They did not.

MR. WOODWARD: They did not. It is their contract as well as yours?

MR. ADAIR: That is correct.

MR. WOODWARD: That is all.

MR. SPURRIER: Any one else? The witness may be excused.

(Witness excused.)

MR. SPURRIER: We will take another one of those short recesses.

(RECESS)

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

MR. ADAIR: At this time, I would like to call Mr. J. E. Bagwell.

J. E. B A G W E L L

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By: MR. ADAIR:

Q Will you state and spell your name for the Commission, please?

A J. E. Bagwell.

Q You are also known as Jim Bagwell?

A Yes.

Q Where do you reside?

A Midland, Texas.

Q By whom are you employed?

A Texas Pacific Coal and Oil Company.

Q In what capacity? A Geologist.

Q How long have you worked as a geologist?

A Four years.

Q Where were you trained?

A You mean my school?

Q Yes.

A Received a B. S. in Petroleum Geology from Texas Technological College.

Q Have you sat on wells or participated in drilling of wells in the area delineated upon Texas Pacific's Exhibits 32, 33 and 34 in the Jalco and Langmat areas of Southeastern Lea County?

A Yes, sir.

Q Have you made an intensive study recently in connection with this rehearing?

A Yes, sir, I have.

Q Has the area of your study insofar as Jalco - Langmat area is concerned, been in the vicinity of Texas Pacific Coal and Oil Company leases in that area?

A Yes, sir.

Q The bulk of the Texas Pacific's leases as reflected by the Exhibits stretches across approximately two townships, is that correct?

A That is correct.

Q In preparation for this hearing as well as in your work as a geologist for the Texas Pacific Coal and Oil Company, have you studied all of the well logs available to you in that particular area?

A Yes, sir, I have.

Q Have you assisted in the preparation of cross sections going from west to east and from north to south in that area?

A I have.

Q Are you familiar with the provisions of the statutes defining pools or reservoirs or common sources of supply?

A I am.

Q To refresh your memory and for the benefit of the Commission, I would like at this time to read from Section 26-B of the 1949 Conservation Act " 'Pool' means an underground reservoir containing a common accumulation of crude petroleum or natural gas or both. Each zone of a general structure which zone is completely separated from any other zone in the structure is covered by the word 'pool' as used herein. 'Pool' is synonymous with common source of supply and with common reservoir." Are you familiar with the schematic cross sections or the typical well cross sections which have heretofore been introduced in evidence as Texas Pacific's Exhibits 35 to 41 inclusive?

A Yes, sir, I am.

Q Did you assist in the preparation of those cross sections and the selection of the wells to be used thereon?

A I did.

Q Do those cross sections show generally that the Yates and Seven Rivers formations overlies or underlies the entire Jalco-Langmat area?

A Would you restate that question?

Q Do those cross sections show that the Yates formation

and the Seven Rivers formation underlie the area of the Jalco and Langmat pools that you have studied?

A Yes, sir, they do.

MR. KELLAHIN: Jason Kellahin representing Samedan. We object to the question and move the answer be stricken on the ground it constitutes an attack on the Commission's Orders delineating the pool, Langmat pool. Further, on the ground that Samedan is without notice or opportunity to be heard on any question delineating the Langmat Pool.

MR. ADAIR: I think we have answered that objection once. There is a 35 or 36 mile line separates the two pools. It is a Jalco line as well as the Langmat line. Anything that affects the Jalco line is necessarily going to affect the Langmat line. We have no, if it will save interruption, Mr. Kellahin, we have no objections to your objection continuing through without your having to get up again. If that is satisfactory with the Commission. The same ruling, the Commission has overruled it before.

MR. SPURRIER: We think you might as well do it that way.

Q In your opinion, in the area concerning which you are testifying, was the Yates, Seven Rivers and the Queen formations separate reservoirs originally?

A Originally, yes.

Q In your opinion, due to the production of oil or gas or both, or due to connection by well bores they are in some areas interconnected, is that correct?

A Yes, sir, that is correct.

Q Are you familiar with the outline and areal extent of the Jalco and Langmat Pools as delineated by the Commission?

A Yes, sir.

Q And as shown by Texas Pacific's Exhibit Number 34?

A Yes, sir.

Q Have you prepared a structure map contoured on top of the Yates formation in the area and vicinity of Texas Pacific Coal and Oil Company leases?

A Yes, sir.

MR. ADAIR: At this time we offer in evidence our Exhibit Number 43, and request that it be put up on the board.

Q Mr. Bagwell, would you mind stepping over to the Exhibit and pointing out and explaining to the Commission what that particular Exhibit represents.

A This is a contour map of a portion of southeastern New Mexico in the vicinity of Texas Pacific Coal and Oil Company's leases. It is dated counties one, two and three.

Q Are the Texas Pacific leases colored in red?

A Yes, sir, they are. As you can see here, they are colored in red.

Q What is your contour interval of the map?

A The contour interval is 25 feet.

Q I mean so far as the Jalco and Langmat areas are concerned, in that particular area that is the delineation of them. Will you point it out to the Commission and explain how they are delineated?

A The Jalco Pool or the Jalco area as delineated by the

Commission is outlined in red as you see here.

Q That is on the western part of your map?

A Yes, sir. East of it and adjacent to it the Langmat area has been outlined in green, (Indicating).

Q Also as shown on that map are all the various oil and gas wells drilled in the area, is that correct?

A That is correct.

Q In other words, the map is fairly well up-to-date in that respect?

A It is.

Q When were most of those wells drilled, Mr. Bagwell?

A First major drilling activity was between 1927 and 1930. Then during the depression years the drilling operations were more or less suspended and resumed again in the late '30's, by the end of 1940 the area had been pretty well drilled up with the exception of a few wells which have been drilled in the last few years.

Q Will you tell the Commission something of the stratigraphy of the general area represented by your Exhibit 43?

A First formation we are primarily concerned with is the Rustler which is composed of anhydrite and dolomite. It is approximately 150 feet thick. The Rustler is the Solado formation which is predominantly a salt. It ranges in this vicinity from approximately 1200 to 1500 feet thick. Beneath the Solado is the Tansil which is composed of dolomite and anhydrite. It is approximately 150 to 175 feet thick. Beneath the Tansil is the Yates which consists of sand, dolomite, anhydrite. It range

from 250 to 300 feet thick. Beneath the Yates is the Seven Rivers which is predominantly dolomite with some sand and anhydrite. It is approximately 400 feet thick. Beneath the Seven Rivers is the Queen which is predominantly sand and it is approximately 300 feet thick. Beneath the Queen is the Grayburg which is a sandy dolomite and it is approximately 250 feet thick. Beneath the Grayburg is the San Andres which is predominantly dolomite and is roughly 1500 feet thick.

Q Sofar as the Yates and Seven Rivers formations are concerned, Mr. Bagwell, state whether or not they are continuous over the entire area covered by the Langmat - Jalco delineations there on your Exhibit?

A They are.

Q In other words, the Yates and Seven Rivers formations which constitute, with the exception of the bottom 100 feet of the Seven Rivers, the vertical interval of the Jalco gas pool as well as the Langmat gas pool are co-extensive over the entire area?

A They are.

MR. STAHL; Could I have the question read back please?

(Question read.)

Q Your answer to that is yes?

A Yes, sir.

Q I notice that there is a ridge of some sort along on the western side of your Exhibit 43, will you explain to the Commission what that represents?

A I believe you are talking about this ridge here running from Township 21 south through 24 south, which is the extent of my map. This ridge is a reflection of the underlying Capitan reef

Q How far does that reef extend, if you know?

A That reflection extends from down in Waco County up to the area of roughly Eumont, then it swings westward over to Carlsbad.

Q Going from west to east, does the Yates and Seven Rivers formation carry over the crest of this reef reflection eastward?

A Yes, sir.

Q Does it carry over the lagunal or the trough area up to and up on the western side of the basin platform?

A Yes, sir.

Q All gas production from the area shown on your Exhibit 43 is from what formations?

A Yates and Seven Rivers predominantly.

Q You have some Queens oil and a little gas?

A Some Queens oil and gas.

Q Do you encounter any marked changes in lithology as you move eastward from the west side of your ridge over across the crest of the ridge into the trough area?

A Nothing except that gradual change. I would say that you had relatively more dolomite over the reef reflection. As you move eastward into the Lagunal area I think you would find an increasing quantity of sand.

Q Would that change or difference in lithology, have any effect upon whether the gas produced was sweet or sour?

A Yes, sir, it possibly would. I think in the area where you have relatively more dolomite the gas would probably tend to

be more sour than in the Lagunal area where you have more sand, so it would probably be a little bit sweet.

Q So far as the gas that is produced from the Jalco area shown on your Exhibit, state whether or not that gas is gas cap gas.

A Yes, sir, I think it is.

Q In other words, oil wells and gas wells producing from the Jalco area, would be producing from essentially the same reservoir?

A Yes, sir.

MR. ADAIR: At this point, if the Commission pleases, I would like to advise the Commission that Mr. Bagwell and I in preparation of these questions and answers have closely followed the testimony of Mr. Forbes in Case 245 which was the only hearing April, 1951 in which the Commission received evidence concerning the demarcation between the Jalco and the Langmat areas.

Q I will ask you, Mr. Bagwell, whether or not you have testified to all of the facts testified by Mr. Forbes at that hearing insofar as this particular area is concerned?

A Yes, sir, I believe I have.

Q You have read and reread the transcript many times, have you not?

A I have.

MR. ADAIR: At this time I might call to the Commission's attention that that is the evidence upon which the Commission acted in drawing the line some 36 miles long, extending from Township 20 or 21 all the way down to the Texas border.

Q In other words, Mr. Forbes in his testimony did not give

any reason whatsoever for drawing the line at the place it was drawn?

A No, sir, he didn't.

Q That is, any sound geological reason in your opinion?

A That is right.

Q So far as the lithology is concerned, is there anything in the lithology of the Yates and Seven Rivers formations, or both of them, going from west to east which would support a separate reservoir in the area shown on your Exhibit?

A No, sir.

Q Is there anything of a lithological standpoint that would justify the Commission in drawing the line where it did or drawing the line anywhere along that general area separating the two pools?

A That is from a lithologic standpoint?

Q Yes.

A No, sir.

Q From a standpoint of stratigraphy, is there anything to justify the separation along the line drawn on your Exhibit?

A No, sir.

Q In other words, the Yates and Seven Rivers are co-extensive throughout the entire area?

A They are.

Q Have you prepared or assisted in the preparation of cross sections drawn through the area along this line?

A I have.

MR. ADAIR: I would like at this time, if the Commission please, to offer in evidence our Exhibit Number 44, which is

designated as cross section A - A Prime.

Q Will you indicate to the Commission on your Exhibit 43 which is your contour map, the wells through which this cross section is drawn?

A Yes, sir, the cross section runs through Texas Pacific-

Q (Interrupting) I will ask you this, is the line shown by the red line from A to A Prime?

A Yes, sir. It is through sections 8 and 9 of Township 21 south, ranges 35 and 36 east.

Q Will you explain that cross section? Incidentally, that cross section does cross the Jalco- Langmat line, does it not?

A It does.

Q Will you explain to the Commission your cross section Number 44?

A The cross section extends through Texas Pacific Coal and Oil Company State A well Number 3, Number 23, well Number 30 well Number 31. The Yates formation is shown here in the yellow color. The Seven Rivers is in this lavender color. The Queen is shown by the blue color. The line between Jalco and Langmat as delineated by the Commission is shown here, red on the left side for the Jalco, and green on the right side for the Langmat.

Q The yellow area, which is the Yates formation goes entirely across the cross section, does it not, without any break in continuity?

A It does.

Q The same is true of the Seven Rivers formation?

A That is right.

Q And did you or did you not encounter gas accumulations on each side of the line in those formations?

A Yes, sir.

MR. ADAIR: We next offer in evidence Exhibit 45, being cross section B - B Prime.

Q Will you point out to the Commission where that cross section is drawn on your contour map?

A B - B Prime as shown by this red line through sections 21 and 28, Township 22 south, Range 36 east.

Q Without calling specifically to the wells since they are shown on the cross section, will you state whether or not that cross section also shows that the Yates and Seven Rivers formation is continuous across the area with accumulations of gas on each side of the line?

A Yes, sir, it does.

MR. ADAIR: I next offer in evidence Texas Pacific's Exhibit 46, being cross section C - C Prime.

Q Would you indicate to the Commission where that cross section is drawn on your contour map?

A C - C Prime as shown by the red line, extends between two wells here in section 28 of Township 22, south, Range 36 east.

Q Is there continuity so far as the producing formation across the line on that cross section? A There is.

Q In other words, it shows the same as the two proceeding cross sections? A That is right.

MR. ADAIR: I next offer in evidence Exhibit 47, being cross section E - E Prime.

Q Will you indicate to the Commission where that cross section is drawn on your contour map?

A The cross section E - E Prime is shown by this red line extending through sections 3 to 4, Township 23, south, Range 36 east.

Q Does that cross section show the same as the preceeding cross sections that there is no break in continuity of the producing sections?

A It does.

Q Will you point out where you encountered accumulations of gas on both sides of the line, if you will?

A In this particular cross section our casing on all three wells is set above the Yates and leaving the Yates, Seven Rivers open, a portion between this well Number 3 and that is what they are producing from these formations in the open hole.

Q In your mind that conclusion at least demonstrates to you that there is no justification for separating the two pools at that point?

A That is right.

MR. ADAIR: As Exhibit 48, we offer cross section F - F Prime.

Q Without repeating in detail your testimony with respect to the other cross sections that have heretofore been received in evidence, will you state whether or not that cross section also shows continuity?

A It does.

Q As to the same extent?

A Same extent.

Q As Exhibit 49 we offer cross sections G - G Prime. Will you indicate where that cross section is shown on your contour map?

A G - G Prime is shown by the red line extending through sections 9, 10 and 11, Township 23, South, Range 36 East.

Q Does that cross section show the same as the prior cross section?

A Yes, sir, it does

Q Which leads you to the same conclusion at that particular point along the line?

A Yes, sir.

Q That there is no justification for drawing the line there?

A That is right.

MR. ADAIR: As Exhibit 50, we are offering cross section H - H Prime.

Q Will you indicate to the Commission where that cross section is drawn on your contour map?

A It is indicated by this red line which extends through section 9, 16 and 15, Township 23 South, Range 36 East.

Q Does the cross section also show continuity across the line?

A It does.

MR. ADAIR: As Exhibit 51 we offer cross section J - J Prime.

Q Where is that on your contour map?

A J - J Prime is shown by this red line extending through sections 16 and 15, Township 23 South, Range 36 East.

Q Does that cross section show the same continuity as your prior cross sections?

A It does.

Q You have accumulations of gas within the gas pool interval in each case on each side of the line?

A That is correct.

MR. ADAIR: As Exhibit 52, we offer cross section K - K Prime.

Q Where is that line drawn on your contour map?

A K - K Prime is shown by the red line extending through sections 21 and 22, Township 23 South, Range 36 East.

Q Does that cross section show substantially the same as your prior cross section?

A Yes, it does.

MR. ADAIR: As Exhibit 53, we offer cross section L - L Prime.

Q Will you indicate where that line is drawn on your map?

A Cross section L - L Prime is shown by the red line extending through sections 28, 27, 26, Township 23 South, Range 36 East.

Q Does that cross section across the four well area there two wells on each side of the line, show the same thing as your prior cross section?

A Yes, sir, it does.

Q Now, Mr. Bagwell, from the standpoint of encountering relatively sour gas on the west side of your Exhibit and relatively sweeter gas on the east side of your Exhibit, does that constitute any reason from a geological standpoint to say that there are two areas or separate reservoirs?

A No, sir, not from a geological standpoint.

Q Because of the lithological conditions encountered, tha

is you encounter more dolomite in the western area than you do in the eastern area, you would expect to find more sour gas on the western side, would you not?                   A   That is correct.

Q   Do you know of any permanent barriers along the line between the Jalco Pool and the Langmat Pool in the area that you have delineated there so far as the Yates or Seven Rivers formations are concerned?

A   No, sir. I know of none. There could possibly be some isolated local areas, but as I say, I don't know of them if they exist.

Q   So far as the five miles of that line which are bordered by Texas Pacific leases, there are no dry holes between the two areas on that line are there?

A   There are no attempted gas well completions that are dry holes.

Q   In other words, so far as the gas well, I should have limited my question to the Jalco - Langmat vertical interval, there are no dry holes in that interval, is that correct?

A   No, sir, there are none.

Q   Up to this point at least the geologists haven't been able to discover any better way of delineating a pool than by dry holes, have they?

A   I haven't found a better one.

MR. ADAIR: That is all. That is all I have of Mr. Bagwell at this time, if the Commission please.

MR. SPURRIER: Is there anyone who wishes to cross

examine Mr. Bagwell?

MR. STAHL: Yes.

CROSS EXAMINATION

By: MR. STAHL:

Q Mr. Bagwell, as I understood your testimony, you feel from a geological standpoint with the facts as you now know them that there is no reason for delineation of the west boundary, excuse me, the east boundary of the Jalco pool, is that right?

A I see no reason from the facts available to me to draw a line separating it from the Langmat area to the east.

Q Mr. Bagwell, do you think it conceivable that other geologists with the same qualifications which you appear to possess might differ with that opinion?

A I think on any subject you will have differences of opinion.

Q That is generally conceded.

MR. ADAIR: That is the reason we are here today.

MR. STAHL: I am aware of that, Mr. Adair.

Q In other words, it is your opinion that the line delineating the division between the Jalco and Langmat Pools was incorrectly drawn by the Commission, is that correct?

A That is correct.

Q If that line were drawn in conformity with your opinion would you be satisfied as a geologist?

A Mr. Stahl, my study has been limited to our area alone, and with the sole purpose of deciding whether or not that line

was correct. I have made no conclusions as to where a line should be drawn.

Q Let me ask it this way. In the area where you have leases, if the line was redrawn in conformance with your opinion would you be satisfied. As I understand it--

MR. ADAIR: (Interrupting) He said he had no opinion as to where the line should be drawn. He has just stated that. I object to the question.

Q The witness can answer the question, go ahead.

A Personally, I wouldn't draw a line.

Q Do you have a recommendation as such, whether the line should be shifted, or whether the Jalco or Langmat should be made one pool or anything at all?

A No, I have no recommendation.

Q It is just wrong the way it is now?

A That is what I believe.

Q Mr. Bagwell, how long have you been employed with Texas Pacific Coal and Oil?

A I stated four years.

Q Sir?

A Four years.

Q I am sorry, I missed that earlier. During that time, to your knowledge has any information or data or facts such as you put in, ever been introduced by Texas Pacific before this Commission?

A I am afraid I can't answer that question because I am not familiar with any previous proceedings here.

Q But to your knowledge there has not been?

A I just don't know either way. I am sorry.

Q To your knowledge has Texas Pacific Coal and Oil ever been denied the right to put in information like this?

A Texas Pacific offered their help when this attempt to draw this line first came up.

Q That was with respect to the Committee, was it not?

A Yes, sir.

Q To your knowledge, has Texas Pacific ever been denied the right to put in evidence like this or similar to this in a case before this Commission?

A Well, as I said Mr. Stahl, I am not familiar with previous proceedings over here. I just don't know.

MR. STAHL; I think the record will show upon examination that Texas Pacific has not been so denied. That is all the questions I have.

MR. SPURRIER: Any one else? Mr. Kellahin.

MR. KELLAHIN: Jason Kellahin representing Continental Oil Company.

By: MR. KELLAHIN:

Q Mr. Bagwell, you testified that there is no difference in your opinion in stratigraphy between the two pools, did I understand that question?

A Would you repeat that, please?

Q Is it your testimony there is no appreciable difference of the stratigraphy of the two pools, the formation of the Yates

and Seven Rivers?

A In the stratigraphy, no, there is no major difference.

Q Is there any difference in the pay zones between the two pools?

MR. ADAIR: Just for the purpose of the record, I know that Mr. Kellahin is fair enough, he doesn't want the witness to be misled. You are speaking of the Jalco and Langmat vertical interval?

MR. KELLAHIN: Yes, sir, thank you, Mr. Adair.

MR. ADAIR: I probably caused the witness to forget your question. So, would you restate it?

Q Would you read the question back, please?

(Question read)

Q As clarified by Mr. Adair.

A No major differences with the exception of possible isolated areas, I would think.

Q There is, as a matter of fact, a decided difference in the sulphur content of the gas produced on the two sides of this line, is there not?

A I think in both areas you can have strong variations in sulphur content.

Q You mean that you have a high sulphur content and low sulphur content on say, the entire area of the Langmat Pool?

A Yes, sir.

Q And also in the Jalco. Isn't it true however, that the variations follows fairly close to the line which has been drawn

as delineating the two pools?

A I am afraid I can't answer that question.

Q Have you made any study of that question?

A No, sir. My knowledge, my study has been limited to the geology and not in respect to the sulphur content of the gas.

Q Can you explain then, why if there is no difference in stratigraphy there is a difference in sulphur content?

A Well sir, I made a feeble attempt at that awhile ago. I would think that over the area that we are calling the reef reflection, the ridge on the western edge, you would find more dolamites than you would in the area to the east which is the Lagunal area, and I associate the sulphur with the dolomite.

Q The production from one side is from the sand and the other side from the dolamites, is that correct?

A No, sir.

Q What is the difference in the productive zones then?

A It is a gradational change as you move eastward across the reef reflection into the Trough area I think you find an increasing amount of sand in a Lagunal area, the Trough area.

Q That is a rather sharp gradation in through that area, is it not?

A I wouldn't say it was too sharp, no, sir.

Q Isn't it possible that there is a difference in the sulphur content in one side than on the other due to a barrier in there? Is it possible?

MR. ADAIR: Would you repeat that question? Did you say put a barrier in there?

Q No, sir, I said there is a variation in the sulphur content on one side as against the other due to a barrier.

A No, sir, I wouldn't think so.

Q You say that is impossible?

A No, sir, I don't say it is impossible. I don't think so.

Q If it isn't impossible, it would be possible, wouldn't it?

A I am not a lawyer.

Q Mr. Bagwell, referring to the Exhibits which have been offered showing the cross section, what is the difference between those wells upon the Exhibit. That is in relation to the line that has been drawn within each pool?

A The horizontal scale is three hundred feet to the inch.

Q Rather than go up and measure it, could you tell us what the linear distance on the ground would be?

A Well sir, different cross sections, we have different distances.

Q Could you give us a rough estimate on the average?

A I think our average cross section up there covers approximately four quarter sections.

Q Four quarter sections on each Exhibit?

MR. ADAIR: He said average.

A I think that is an average.

Q Average?

A Yes, sir.

MR. KELLAHIN: That is all.

MR. SPURRIER: Anyone else? Mr. Macey.

By: MR. MACEY:

Q You testified that in your opinion the gas, particularly in Texas Pacific Coal and Oil Company area, was gas cap gas.

What do you mean by gas cap gas?

MR. ADAIR: I believe for the purpose of the record he testified in the Jalco area that it was gas cap gas.

MR. MACEY: Okay.

A My definition of gas cap gas is gas that is in contact with the oil column.

Q If you produced that gas and ultimately drain the Jalco area reservoir of gas, what will happen to the oil?

A More than likely be drawn up behind the gas as it is produced.

Q Is that generally accepted as good practice in the oil industry?

MR. ADAIR: As Mr. Macey well knows, Mr. Bagwell did not qualify as a petroleum engineer. I don't believe your questions, Mr. Macey, are geological questions. They are more in the nature of a petroleum engineering question.

MR. MACEY: Maybe your question was more in the nature of petroleum engineer question as far as gas cap gas is concerned. If he can qualify to testify whether it is gas cap gas or not, he should be acquainted with the engineering characteristics

of the reservoir to know it is gas cap gas.

MR. ADAIR: To know it is in contact with the oil column That was his definition. Excuse me, go ahead with your question.

Q I am not quite sure he answered my question, the last question. You might repeat it for him.

(Question read)

A I don't believe I am qualified as an expert to answer that question, I think that would be more of an engineering problem.

Q Does the gas cap gas in a reservoir always have to be in direct contact under every lease or location with the oil column?

A I should think you would have certain areas where it would not be localized.

Q Therefore, wouldn't it stand to reason that if you drained the gas out of that particular area that you would get movement of oil up structure?

A Yes, sir.

MR. MACEY: That is all.

MR. SPURRIER: Anyone else?

MR. STANLEY: I would like to ask the gentleman a question.

By: MR. STANLEY:

Q Continuing with Mr. Macey's testimony, I would like to ask you a question in this respect, if you voided the gas cap and moved the oil up structure, would that be wise?

MR. ADAIR: If the Commission please, I object to that

on the ground among many many others that that is beyond the scope of proper cross examination. The witness has testified to nothing with respect to waste on direction examination.

MR. SPURRIER: This is a good chance for him to start. If he has an opinion, I would like to know what it is.

MR. ADAIR: We object further, if the Commission please I particularly do not want to get into in this case because we feel it has no proper place in it, the question of waste.

MR. SPURRIER: I remember distinctly that you mentioned waste.

MR. ADAIR: Mentioned that there was no evidence of was if the Commission please.

MR. SPURRIER: That is right.

MR. ADAIR: The same as there is no testimony in waste insofar as the direct examination was concerned therefore, it is not proper cross examination. The Commission has so ruled when we had the other witness on the stand.

MR. SPURRIER: Does anyone else have a question?

MR. KELLAHIN: I have a couple more questions.

By: MR. KELLAHIN:

Q Mr. Bagwell, you testified that the formation is continuous across the line of separation which has been drawn for the purposes of delineating those two pools. Are the pay zones continuous?

A Yes, sir, I think generally speaking they are with possibly local exemptions.

Q With possible what?

A With possibly local exemptions.

Q In connection with your studies, Mr. Bagwell, did you consider radioactive logs, bottomhole pressures, fluid samples and the other items which were outlined by Mr. Adair as factors which should be concerned in such a study?

A I considered the radioactivity logs, sample logs and other data which we had available to us. I didn't go into bottomhole pressure or bottomhole samples.

Q Do you consider your work was more comprehensive than the seven months' study made by the Committee formed for that purpose?

MR. ADAIR: There is no testimony in the record as to what the result of the four months' study was. What they came up with. The only testimony--

MR. KELLAHIN: I really think there is testimony--

MR. ADAIR: (Interrupting) I assume you refer to the Federal Unit study that was presented at the April 1951 hearing.

MR. KELLAHIN: That is right.

MR. ADAIR: As far as that is concerned, the evidence of that study has already been hashed and rehashed. There certainly were no cross sections introduced in that except one generalized cross section.

Q Would you answer the question, please?

A Yes, sir, I have not attempted to do the extensive work that they did. I merely attempted to show that the formations

were continuous across the line and production is continuous across the line.

MR. KELLAHIN: That is all, thank you.

By: MR. MACEY:

Q Are you familiar at all with the study which was made by the so-called Federal Unit Committee in Case 245, I believe it is?

A Not other than what I read in the transcript of the case.

Q Do you happen to know whether or not at the conclusion of that study, whether Texas Pacific Coal and Oil Company was invited to inspect the results of that Committee before they presented the evidence here, the results of their study?

A No, sir, I do not.

Q You say that you have read the transcript of Case 245 fairly thoroughly?

A I read it and in the transcript it says that other engineers were invited to attend, but not necessarily to participate.

Q Do you have a copy of the transcript in front of you or available to you? About two-thirds of the way down on page 14, Mr. Adair made a comment, would you like to read that for the benefit of the Commission?

A "Eugene Adair, representing Texas Pacific Coal and Oil Company. I might state to the Commission that at this time we have no quarrel whatsoever with the results shown by Continental

However, we would like for the record, to ask a few questions.

Mr. Forbes, this comprehensive study that you have just completed was necessarily based, was it not, upon such information as you had available to you at that time? MR. FORBES: That is right.

MR. ADAIR: And as future drilling and future development operations are conducted in the area, you will have available to you additional information which may require the Commission to revise the pools, the pool gas pool lines. MR. FORBES: That is right.

MR. ADAIR: I will refer you to the northern portion of Township 22 South, Range 36 East where you will observe that gas pool one, the line separating gas pool one from gas pool two to the east coming through that Township splits several of Texas Pacific Coal and Oil Company's leases. Is that not correct? MR. DAILEY: It does, the basic lease. It doesn't within any one section. It does some of your basic leases where they extend across more than one section.

MR. ADAIR: Now, as an additional drilling is done along that line and additional information becomes available, it may require that line separating those two pools be shifted some one way or another. MR. FORBES: That is right. This is the best we can draw from our information.

MR. ADAIR: At the present time? MR. FORBES: At the present time.

MR. ADAIR: It is not intended to be a permanent line? MR. FORBES: It is unless you can furnish additional information.

MR. ADAIR: Additional information will change the line if necessary? MR. FORBES: If it warrants it.

MR. ADAIR: So, then, it is not intended to be a permanent line delineating the gas

pools. MR. FORBES: No."

MR. ADAIR: How far do you want him to go?

MR. MACEY: He is going to finish right now.

A "MR. ADAIR: That is all I have."

MR. ADAIR: This is additional information we are furnishing you today, if the Commission pleases.

Q Mr. Bagwell, returning to what Mr. Adair says, and I will quote, "I might state to the Commission we have no quarrel whatsoever with the results shown by Continental." I might ask you if there has been any additional drilling in there to change Continental's question and how much additional drilling had been done in the area?

A I am afraid I don't know exactly what wells have or have not been drilled since that time other than a few of Texas Pacific's wells which I am particularly familiar with. As far as completion dates on the others, I am not too familiar with them.

Q Do you know of any additional drilling in the area of Texas Pacific's leases that resulted in any conclusions different from any other wells that were drilled prior to this study on Texas Pacific's leases that would change the picture that was presented?

A No, sir, I don't know of anything that would change anything that was already there.

MR. MACEY: That is all I have.

MR. SPURRIER: Anyone else? Mr. Hinkle.

MR. HINKLE: Clarence Hinkle representing the Humble.

By: MR. HINKLE:

Q I believe you testified that the Jalco field was a natural gas cap field, is that right? A Yes, sir.

Q Is the gas cap there a natural condition of that field, or is it caused by drilling operations that have progressed so far or what? Is it just a natural condition of that field?

MR. ADAIR: If the Commission pleases, the witness has testified in his opinion that originally Seven Rivers and Yates were separate reservoirs in there.

MR. HINKLE: He has testified it was gas capped. I want to know if it was a natural condition in that field.

MR. ADAIR: It is gas capped.

A I think it is a condition that may exist due to development and connection by well bore.

Q But if it was there before any development took place, you would call it a gas capped field?

A I don't believe I stated that. I think I said that originally I believe that the Yates and Seven Rivers and Queens were separate formations.

Q But they are so-called gas capped formations, are they not. As I understand your testimony, you said that in the Jalco field here that the gas produced was gas cap gas, is that right?

A At the present time I think it is.

Q You think that the gas is combustible vapor composed chiefly of hydro carbons? A Yes, sir.

Q It is natural gas then, is it, of the definition of the

Conservation Commission?

MR. ADAIR: Wait, just a minute. The Rules are going to speak for themselves there. What Rule are you referring to?

MR. HINKLE: Rule 35.

MR. ADAIR: Defining.

MR. HINKLE: Natural gas and gas.

MR. ADAIR: Just a minute, Mr. Hinkle. Will you read that to Mr. Hinkle, please. It has been read into the record once before.

MR. HINKLE: What is that?

MR. ADAIR: It has been read before.

MR. HINKLE: I am just asking if it comes under that definition, the gas cap in the Jalco field.

MR. ADAIR: If it is gas cap gas it is casinghead gas.

MR. HINKLE: I will ask you this question, don't you think that the gas cap gas as defined in the other rule is also included in this definition of natural gas, Rule 35?

MR. ADAIR: If the witness is qualified to answer that question, I have no objection to him answering it.

MR. HINKLE: I would like for him to answer.

A Would you repeat it so I can be sure I understand it?

Q I asked you if the gas produced from the gas cap or the gas produced in the Jalco field was combustible vapor composed chiefly of hydro carbon?

A Yes, sir.

Q And you also testified that it was a natural condition at least at the present time, or that it was gas capped at the present time?

A Yes, at the present time.

Q So under the statement of that testimony, doesn't it come under the definition of the Commission Rule 35 as being natural gas?

MR. ADAIR: I object to that question on the ground it calls for a legal conclusion and that the Rules themselves provide that gas cap gas is casinghead gas. Natural gas is natural gas produced from an oil pool.

MR. HINKLE: Our position is that the definition in 35 is inclusive of gas cap gas in the other definition. The other serves the purpose in cases where the Act and Regulations and Rules refer to gas cap. Where it refers to natural gas as provided in the Act, the Act provides for the proration of natural gas, this definition would prevail.

MR. SPURRIER: Anyone else? Mr. Stahl.

By: MR. STAHL:

Q Mr. Bagwell, is there any information available to you that was not available to other parties who had previously worked out information similar to this?

A Probably information that came about through activities later on.

Q Was any of the information that you used information made available from drilling subsequent to the date of the report and the date of Mr. Forbes testimony?

A Yes, sir.

Q Were any of those Texas Pacific wells?

A Yes, sir.

Q Are any of those Texas Pacific wells on the cross sections that you introduced?

A Yes, I believe they are.

Q Did you not also testify, Mr. Bagwell, that originally, in your opinion, that these reservoirs to-wit: The Yates, Seven Rivers, and Queens were three separate and distinct reservoirs with no communication, and when they were layed down by nature was there communication vertically between those three reservoirs?

A I don't think so.

Q What reservoir did you say it was, in your opinion, gas cap gas, I have forgotten?

A Which reservoir?

Q Yes, sir.

MR. ADAIR: I object to the question as calling for a conclusion. You mean what area?

MR. STAHL: Yes.

MR. ADAIR: That is the subject matter of the hearing whether or not it is a common reservoir.

MR. STAHL: What I mean, Mr. Adair, I believe the witness--

MR. ADAIR: It was the Jalco area.

MR. STAHL: Did not the witness testify there was gas cap in the Yates, Seven Rivers?

MR. ADAIR: It was in the Jalco.

Q In what formation was the gas cap gas?

A Yates, Seven Rivers.

Q That was not gas cap gas when it was originally layed

down was it? Were they not three separate reservoirs?

A Yes, sir, I believe I already said that I believed they were.

Q Did you not define gas cap gas as gas that is in contact with the oil column?

A I did.

Q How did this gas in the Yates, Seven Rivers come in contact with the oil column if it was not originally in contact?

A I would think through development of the area and through the well bores, many hundreds of well bores.

Q In other words, the motion of vertical movement is through the well bores, and not through the structures as such?

A Right.

Q As a hypothetical matter, if there is a full 640 acres anywhere in the Jalco Pool which has not been pierced by a drill immediately underlying that 640 acres, you would not have gas cap gas then by your definition?

A I don't believe anybody could answer that question. Nobody knows.

Q Do you have an opinion?

A For what it is worth. You stated that if there had been no well bores in this 640 acres?

Q Yes, sir.

A And the formations were originally separated?

Q Yes, sir.

A That the gas in there now would not be gas cap gas?

Q As you defined it as being in contact with the oil column.

A No way that you could classify gas cap gas unless it was in contact with the oil column.

Q What do you think it would be if it wasn't gas cap gas?

MR. ADAIR: Mr. Stahl, do you have any specific area on the Exhibit from which he testified?

MR. STAHL: No, it was a hypothetical question addressed to an expert witness.

MR. ADAIR: The point I am asking, the reason I am asking for the purpose of objecting to the question, unless it is related in some way or another to the Jalco hearing on consideration here today--

MR. STAHL: (Interrupting) No, sir, I did not have any particular 640 acre tract. I understand that you object.

MR. ADAIR: Yes, sir.

MR. STAHL: Upon what ground?

MR. ADAIR: It has no relation to this hearing. It is not germane, it is not proper cross examination in that it was not gone into, the feature of it, on the original examination.

MR. STAHL: He was qualified as an expert. That was a hypothetical question addressed to an expert.

MR. ADAIR: I believe we qualified him as an expert, please, in this area.

MR. SPURRIER: I think the counsel is entitled to an answer if the witness can give it, let him give it.

A All right, sir, in the case that you mentioned under my definition, it would not be gas cap gas, but this, I don't

think this condition exists in the area we are talking about.

Q Do you have an opinion as to what type of gas it would be either under the Rules of the Commission or your own as a qualified expert geologist?

A It would be simply a dry gas reservoir.

MR. STAHL; That is all.

MR. SPURRIER: Anyone else? Mr. Macey.

By: MR. MACEY:

Q In the Jalco Pool it is defined as producing on the Yates and all but the lower hundred feet of the Seven Rivers and the Langmat definition is exactly the same, am I correct?

A That is right.

Q If they were two separate reservoirs, what could cause two separate reservoirs?

A I would think an area in which you encountered no production between the two of them.

Q Would that definitely have to be the case?

A Geologically speaking as far as I am concerned, I think it would.

Q Would the area of no production have to be of any particular size, width?

A I think it would have to extend the full length of the area which you are trying to divide, any other case I would call it an intra-field not productive area, probably due to a local condition of permeability or what have you.

Q You say that it would have to extend the full length of

the field. How about the width of the field, how wide would it have to be?

A If it was too wide it wouldn't be any field.

Q But how narrow could it be and still provide a barrier

A I would say one well, one well wide.

Q Well now, that is, how wide is a well bore? I want you to get this, I want to know, you mean one location wide or one--

MR. ADAIR: For the purpose of making an objection, Mr Macey, does your question relate to any area on the map identified as Exhibit 43?

MR. MACEY: You are going to have to say that again.

MR. ADAIR: Does the question that you asked Mr. Bagwe relate to any area on the map known as Texas Pacific Exhibit--

MR. MACEY: (Interrupting) No, I don't have any area in mind. I am asking an expert geological question of an expert witness.

MR. ADAIR: He is qualified to answer that.

A In my opinion that one dry hole, not necessarily the 40 acres or whatever it is on, would be enough to divide them.

Q In going over the top of a reef so-called, I can't remember the exact terminology you used, you described it as going over the top of the reef into the Lagunal area, wouldn't it be possible for a narrow permeability barrier to exist in there somewhere?

A It would be possible, but I wouldn't say probable.

Q Do you know of any reason to show that it doesn't exist?

A We don't have any dry holes in the Jalco and Langmat or along this line.

Q If you had differential pressures on either side of the line and differential sulphur content, would it tend to point out a barrier between them?

A The pressures I don't know anything about. I wouldn't say it necessarily did on the sulphur content.

Q In order to determine whether a permeability barrier was there the well bore would have to permeate the permeability barrier, would it not?

A Yes, sir.

MR. MACEY: That is all I have.

MR. SPURRIER: Anyone else? Mr. Dailey?

By: MR. DAILEY: Homer Dailey, Continental Oil Company.

Q I would like to ask one question. Did you testify that the gas cap was not there originally before the drilling started in the area? In other words, you testified that the gas is gas cap gas in Yates and Seven Rivers? I believe Mr. Stahl asked a question about it being gas cap gas initially which I would take to mean the time that the initial drilling started in the area.

A No, sir, I believe originally the formations were separate and the gas in the upper portions of the Yates were probably not in contact with the oil column.

MR. DAILEY: That is all.

MR. SPURRIER: Anyone else? If not, the witness may be excused.

(Witness excused.)

MR. SPURRIER: We will stand in recess until 9:00 o'clock in the morning at the City Hall.

(Whereupon, the hearing was recessed until 9:00 a.m. January 22, 1954, in City Commission Room of the City Hall, Santa Fe, New Mexico.)

Morning Session, January 22, 1954, held at City Hall.

MR. SPURRIER: The meeting will come to order, please. I might warn you now that 12 o'clock sharp this hearing will be over for this month, if necessary we will continue it but Mr. Walker has a previous engagement that he has to meet at 12 o'clock.

MR. GIRAND: If the Commission please, my name is W. D. Girand and I am with the Me-Tex Supply Company. We have the Case on motion for rehearing in Case Number 584, which admittedly follows the present case. At this time we would like to move for a continuance of this Case until the February or March hearing which ever meets the convenience of the Commission. It is apparent that we would not be able to complete our Case within the time allotted by the Commission today.

MR. SPURRIER: Is there objections to counsel's motions

MR. SMITH: If it please the Commission--

MR. SPURRIER: Just a minute, Mr. Smith, let us continue the Case 584 to the February hearing. Now, Mr. Smith.

MR. SMITH: Are we ready to proceed with the Case?

MR. SPURRIER: Case 582.

MR. SMITH: I would like to recall Mr. Bagwell.

(Mr. Bagwell recalled as a witness.)

By: MR. SMITH:

Q Mr. Bagwell, during the course of your testimony yesterday, I left the hearing after your testimony rather with a somewhat clouded mind as to the exact status of these reservoirs.

I believe that your testimony intimated or stated that you thought the three different zones were all separated in their initial stage, am I correct? A That is correct.

Q And that the migration of gas has been caused by well bores all together, is that correct?

A Yes, I think most of it has.

Q Do you have an opinion or not as to whether or not there has been gas capped gas in each of these reservoirs?

A You mean originally, Mr. Smith?

Q Originally.

A Generally, I would say no, but there are possibly some locale exceptions.

Q Isn't it a fact that there are gas wells completed as such in the Queens formation? A Yes, sir.

Q Isn't the Queens the lower formation?

A Beneath the Seven Rivers.

Q The Yates is on top of the Seven Rivers. How much interval is there between the Yates and the Seven Rivers?

A The Yates is approximately 250 to 300 feet thick.

Q 250 to 300 feet thick, you say?

A Yes, sir.

Q Is it directly on top of the Seven Rivers or is there an impenetrable mass lying between the base of the Yates and the top of the Seven Rivers?

A The Yates lies directly on the Seven Rivers.

Q Well, is there communication between the two?

A I think through, probably through well bores and development that there is.

Q That is what confused me, Mr. Bagwell, it occurs to me that if a producing zone lies directly on top of another producing zone and without anything between them that there must be communication wouldn't that normally follow?

A There are probably, within the Yates and Seven Rivers certain dense layers which would probably separate them.

Q Is that continuous condition that would lie throughout the entire field?

A Yes, sir, I would think so.

Q Then, if I follow your statement here, there are dense sections, tight sections as the saying goes at the top of the Seven Rivers or at the base of the Yates?

A I don't know whether there is one directly at that contact or not, Mr. Smith.

Q I beg your pardon.

A I do not know whether there is one directly at the contact between the Yates and Seven Rivers.

Q I don't follow you. You mean the dense section?

A This dense section that you are talking about, I don't know whether it is right at the contact between the Yates and Seven Rivers or not.

Q You having stated there is a dense section there, does it have any porosity?

A A dense section

Q The dense parts, do they have any porosity?

A I would say they had relatively smaller amounts in less dense sections.

Q Do they have any permeability?

A I would say they had less than relatively --

Q (Interrupting) But there is certain porosity and permeability existing in even the dense sections, isn't that right?

A Probably very small amounts, yes, sir.

Q Isn't it a fact that gas will filter through almost insignificant porosities as distinguished from oil which requires a much higher porosity in order to get the movement through the sands?

MR. ADAIR: I would, ~~was~~ to properly answer that question, Mr. Smith, I think you ought to relate it to time.

MR. SMITH: I don't think, Mr. Adair, time is a factor. Let the witness answer the question. He knows the answer.

A I think what you said is true.

Q That leaves us then with this situation, you say it is dense enough that there couldn't be communication and yet you turn right around now and say there is a possibility. I presume I am drawing that inference from your testimony that there could have been filtering of this gas through the ~~speckastrata~~ as distinguished from going up the well bore alone.

A Yes, sir, I think in those dense sections that we are talking about the gas probably could filter through them but relatively.

Q That being the case then, so far as gas is concerned

there would be communication~~s~~ between the Seven Rivers and the Yates?

A I would think it would be in lesser amounts than within the Yates or the Seven Rivers.

Q In other words, we are talking now in terms of relative ly there would be communication but you don't think it amounts to a great deal, is that it?

A That is about it.

Q All right, now. Since we are talking in terms of relatively and we are talking about the fact this is less, what do you consider to be greater? We have to have both ends of our formula together here, you see?

A I would think it would be greater within zones that have more porosity and permeability and are not separated by any dense sections.

Q Have you examined corings from these various wells that Texas Pacific Coal and Oil Company has drilled?

A No cores.

Q No corings?

A No.

Q You have seen samples, though?

A Yes.

Q You have a personal knowledge then of the magnitude of the porosity and permeability as it goes up and down the respective bores, is that right?

A Yes, sir.

Q Let's move on, we are going kind of slow here. Let's move down from the Yates and the Seven Rivers on down into the Queens. The Queens is the zone from which you get most of the

RE: CASE 582 (REHEARING FEB 17 1954)

E. H. Foster of Phillips Petroleum Co. entered  
Order 835 into record of rehearing on above  
date

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oil, isn't that right?

A I would say from the Seven Rivers and Queen.

Q As I understand it, the bottom one hundred feet of the Seven Rivers is considered to be in the oil pool and the entire Queens is considered to be in the oil pool, is that right?

MR. ADAIR: Just a minute. There is no testimony with respect to that in the record.

MR. SMITH: We are having some now.

MR. ADAIR: Are you asking that question?

MR. SMITH: Yes, I am.

A Would you restate this, please?

Q Let me ask you this. So far as the oil production is concerned, the bottom one hundred feet of the Seven Rivers is considered to be in the oil pool and the Queens, all of the Queens in those portions where there have been completions of oil wells as such?

A I understood that it was the entire Seven Rivers and the Queens in the oil designations.

Q In the oil designations, the entire Seven Rivers. Well, what is your opinion as a geologist as to how much gas represented on the volumetric basis on a percentage wise basis also is there in the Seven Rivers with respect to the amount of oil that would be in the Seven Rivers?

A I think in most areas, it would be a very high ratio

Q Fairly high ratio? A Gas - oil.

Q You say high ratio, you mean gas to oil?

A Yes, sir.

Q In the Queens, I presume there would be relatively low ratio in most of the area?

A In most of the area.

Q The question I am leading up to is, then there is communication between the Seven Rivers and the Queens, vertical communication?

A Possibly in some places but I wouldn't say some over all.

Q In ~~some~~ of the ~~places~~ there would be communication?

A Yes.

Q That condition is quite often found in most oil reservoirs where you have stringer production and they are still recorded to be one continuous reservoir?

A If you had stringer production, I assume by stringers, there would be no communication between stringers.

Q Certain separate zones but from a geological standpoint you still consider it to be one reservoir? What I am getting to with dense zones here and there you sometimes have impeding of the flow of the oil but it is possible for the oil to percolate around and gradually get up and perhaps possibly be produced?

A Yes, sir.

Q Then, is it your opinion in view of the testimony that you have given this morning that all three zones can be considered to be one reservoir?

MR. ADAIR: By three zones, you mean the Yates, Seven

Rivers and Queens.

MR. SMITH: I am talking about all three, the Yates, Seven Rivers and Queens.

A At the present time in most places, I think that is, you could say that.

Q All right, Mr. Bagwell,

MR. SMITH: Do you have this ~~overlaid~~ map showing the 36 mile strip?

MR. ADAIR: Yes, sir.

Q Now, Mr. Bagwell, in order to refresh my recollection a little bit since I am a little hazy, the area in ~~green~~ represents what?

A I believe that is the Eunice Monument Pool.

Q That is the Eunice Monument Pool?

A Yes, sir.

Q Does it have production from all three of the zones we have been discussing this morning?

A I believe the designations on that is Seven Rivers, Queens, Grayburg and San Andres.

Q Well, there is no communications between the Grayburg and San Andres and the Queens though, is there?

A Mr. Smith, I am not too familiar with that pool.

Q That is quite all right. Which area is the Jalco Pool is that the one in blue here?

A I believe that is the Cooper Jal.

Q It is the Cooper Jal Pool. Where does the Jalco gas

Pool lie on this map?

A We have that--

Q That is on another map here?

MR. ADAIR: Do you want to put that up on top of it, you can see it that way.

MR. SMITH: All right.

Q Which area -- which Exhibit is this?

MR. ADAIR: 34.

Q On Exhibit 34, which area now represents the Jalco Pool or field?

A That is the area that is colored in pink or lavender whichever it is.

Q That roughly corresponds as this overlay portrays with the boundaries of the Cooper-Jal Pool which is an oil field or oil pool, is that right?

A Roughly, yes, sir, it overlays it.

Q Isn't it a fact that the oil wells in this area which is roughly 36 miles long are located on the east and west sides respectively and not in the middle?

A Will you repeat that, please?

Q Isn't the oil production encountered on the west side of this entire area that has been under consideration and which is colored on this Exhibit 34?

A Most of it, yes. There are local exceptions.

Q Isn't there also oil production on the east side of the same colored area on Exhibit 34?

A Do you mean east of the yellow shaded area?

Q Well, yes, it is not clear over here but isn't the oil production running clear down through here which is roughly down through the middle of the yellow?

A There is oil production in there.

Q That is right. All right, now, Mr. Bagwell, if it is a physical fact that this actually all of these zones in this entire area have communications and it could be considered to be one field, if the gas reserves as contrasted with the oil reserves are on a much higher order of magnitude, wouldn't it be better to call this a gas field with an oil rim than to call it an oil field with a gas cap?

A Mr. Smith, you have stumped me, your phrases there.

Q Oh, my phrases?

A Yes, sir.

Q Well, I gave you a hypothetical question. Let's get back to the one here. In your opinion, as a geologist and assuming from your testimony which is indicated that there is communication throughout the entire area that this is one continuous productive area, isn't the percentage of gas as contrasted with the percentage of oil in that area of sufficient order of magnitude that would cause this to be classified as a gas field with an oil rim rather than an oil field with a gas cap?

A Mr. Smith, I think that since we do have a relatively large gas column as compared with our oil column, I would be more inclined to call it an oil field with a gas cap.

Q Well, in order to explore that statement of yours a

little bit it would be necessary for me to know a little bit more about your ideas as to the order of magnitudes of the gas and the oil. Do you have an opinion with respect to that matter?

A I think originally there was approximately eight hundred feet of gas column and probably around one hundred fifty feet of oil column which had been distinguished by development in the well bore.

Q You are talking now, of course, in general terms. Is that an average throughout the entire field or does that take into consideration the fact that in the center part of the colored area you wouldn't have any oil production, you have the gas production from the Queens?

A Would you restate that please?

Q Considering the fact that you have gas production from the Queens down the middle of this colored area still where you wouldn't have any oil column at all did you take that into consideration in arriving at your one hundred fifty feet of oil column as contrasted with eight hundred feet of gas column?

MR. ADAIR: I have forgotten the question now.

MR. SMITH: I don't think the witness has.

MR. ADAIR: Would you read the question back?

(Question read)

A Yes, sir, I think I took that into consideration.

Q In other words, it is your testimony that the respective percentage of volumetric displacement in this combined

reservoir is on the order of one hundred fifty to eight hundred?

A Yes, sir, in the length of the respective columns.

MR. SMITH: I have no further questions.

MR. SPURRIER: Anyone else? Mr. Rhodes.

By: MR. RHODES:

Q I would like to ask one question, have you noticed any tendency in any of the producing formations here, shall we say thin down as they go over what you call your reef reflectio: that is, is there any ~~thinning~~ out at the apex on this formation or on this so-called structure?

A Yes, sir, I believe in some cases there is slight thinning.

Q A slight ~~thinning~~?

A Yes, sir.

MR. RHODES: That is all.

By: MR. MACEY:

Q Mr. Bagwell, are you familiar with Bulletin 18 of the State Bureau of Mines and Mineral Resources, have you ever examined that book?

A Not entirely. Certain portions of it.

Q Have you read the portion in the book pertaining to the South Eunice Pool?

A South Eunice? Yes, sir, I believe I have.

Q I believe you testified that originally in this area around your Texas Pacific Coal and Oil Company wells and the Jalco Pool area also in general that there was not a gas cap in the pool, that it was an oil pool. I am referring to three

questions which were asked you yesterday afternoon, two by Mr. Stahl and one by Mr. Dailey of Continental Oil Company which I believe is in the record.

A Would you restate it for me?

Q My question was this, I was under the opinion that yesterday you stated that the area around your leases in the South Eunice Pool originally was an oil pool. It was an oil reservoir and that by drilling through it and by communication of well bores in the area the gas migrated up structure so to speak?

A As best I remember I think I said that originally I believed that the formations were separated, and that through development and by connections with well bores that they are now interconnected.

Q What did the formations contain originally before they were ever tapped by any well?

A I think it was probably gas in the Yates and at least up Seven Rivers.

Q In other words, it is your opinion that the pool originally was gas in all of the Yates and in the upper Seven Rivers. By upper Seven Rivers how much of the total Seven Rivers?

A That I am just afraid I can't answer.

Q Have you examined any cores on any of the wells drilled on your leases?

A No, sir.

Q Have you examined the completion records of any of the wells drilled on your leases?

A Yes, sir.

Q Have you examined the completion records of the first well that your company drilled in Sections 6, 22, 36, mainly your State A, Account One, Number one?

A Not the entire completion record. I was mainly concerned with the upper portion of the Yates and Seven Rivers.

Q Where is that well located structurally on the trend that runs roughly north and south through the area?

A May I use this map to indicate?

Q Yes, sir.

MR. MACEY: .. We ask that the witness speak a little louder, please. I am sorry I would like to correct the location. The well is located in 21. I am referring to the Texas Pacific Coal and Oil Company Number One well located in the south west quarter of 21, 23, 36.

A No, sir, that well is in Section 22.

Q Where is that well located roughly on the structure?

A On the structure? As shown by the Yates contour that well is on the eastward flank of what we have been referring to as the reef reflection that is the lower eastern flank.

Q How far off the apex of that structure and how far below that structure is that well located from the standpoint of your contour map?

A It is approximately one half mile east of the apex of the reef reflection and you asked me how much lower structurally?

Q Structurally, it is?

A I will have to count that. Approximately one hundred twenty-five feet lower.

Q What was the total depth of that well and what formation is it completed in?

A Total depth was five thousand and ninety-five feet, and it was plugged back to 3620. I believe that would be the Yates and Seven Rivers.

Q Was it completed wholly within, was it completed within the bottom one hundred feet of the Seven Rivers or within the top one hundred feet? I am not trying to pin you down to the foot, I want to know approximately.

A May I refer to our cross section we put on as an Exhibit yesterday?

Q Yes.

A According to our cross section the well was plugged back approximately ~~seventy~~ feet above the top of the Queens, the Queen being as I remember pretty hard to define in that area.

Q What was the initial potential of that well and when was it completed?

A Completed for seven million cubic feet and the date I do not remember.

Q Wasn't it one of the earliest wells that you drilled in the area since it is your Number One well?

A Yes, sir.

Q It was probably the first well wasn't it or you probably wouldn't have numbered it Number One?

A I suppose so, I wasn't around at that time.

Q If that well was completed within seventy feet of the base of the Seven Rivers for seven million cubic feet of gas, doesn't it stand to reason that at the time that well was completed that there was a solid gas column from within seventy feet of the contact between the Seven Rivers and the top of the Yates?

A Let me, on that completion data say a few more words. Our casing, seven inch casing was set down at 4234 which would be below the Queen. Then, we plugged back to, I will have to correct that, plug back to 3668 so, our portion of Seven River which is one hundred feet above the Queen, in fact one hundred approximately one hundred sixty feet above the Queen is not open, it is shut off by casing and the casing shelved with nitro glycerin, it was shot with nitro. The lower most shot being 3560.

Q Let me get this straight. You shot the casing with nitro glycerin?

A Yes, sir.

Q Aren't you referring to the fact that the well was originally drilled to a total depth and then re-completed and plugged back and the pipe run and that the hole was originally shot in open hole sections and completed as a seventeen million foot gas well before it was completed and the pipe set in there and the hole re-completed? You certainly wouldn't shut nitro-- glycerin off in the pipe. You might do it to plug the well but you certainly wouldn't do it to complete the well?

A Mr. Macey, I am not too familiar with the completion work on that well.

MR. MACEY: In view of that, I would like the Commission to take notice of its records on that particular well and to note the total depth of the well at the time it was originally completed and to also note the fact that the well was completed as a seventeen million foot gas well, considerably below the crest of the apex of the structure and that there was a solid gas column above the total depth of that well or the plug back depth of the well at the time it was re-completed. That is all.

MR. SPURRIER: Anyone else?

MR. SMITH: I have one or two other questions.

By: MR. SMITH:

Q Isn't it a fact that on the west side of the Jalco Pool there is a very active water drive?

A Yes, sir, I think there is.

Q Isn't the effect of that active water drive to move the oil up structure as the gas is withdrawn?

A Yes, sir.

Q There is a possibility since there are some wells completed in that area that in that zone that are both gas wells and oil wells, there is a possibility that some of the gas wells may eventually become oil wells?

A That is correct.

Q And this migration could move across lease lines ?

assume. There is no impenetrable barrier with respect to that matter?

A No, sir, I don't think so.

MR. SMITH: That is all.

MR. SPURRIER: Any one else? Mr. Rhodes.

By: MR. RHODES:

Q What would you say is a major source of reservoir energy in this reservoir?

MR. ADAIR: I object to that if the Commission please That is not proper cross examination. The question is not within the scope of the direct examination.

Q Let me ask another one then. Would you say the reservoir was dipping more steeply on the west flank than on the east of the structure?

A Are you referring now to the reef reflection or the entire area?

Q Let's take the structure as a whole, both to the west of the reef reflection and over in your Lagunal area. Would you say that your structure is dipping more steeply to the west of the apex than to the east?

A Yes, sir.

MR. RHODES: That is all.

MR. SPURRIER: Any one else?

MR. FOSTER: May I be permitted to ask the witness some questions?

MR. SPURRIER: Yes, sir.

By: MR. FOSTER:

Q Mr. Bagwell, you are familiar with the State-wide Rule 106, are you not?

A Not by number.

Q Well, the Rule provides that when you drill an oil well or gas well through separate producing formations that is not interconnected that you should seal those formations off in order to prevent communications between separate zones. Did the Texas Pacific Company observe that Rule in completing its well?

MR. ADAIR: If the Commission please, in order to be a little more specific. Please ask the witness what well you are referring to and the date it was drilled and give the Commission the date of the Rules as you refer to them.

MR. FOSTER: I don't know of any Rule that was passed. I don't know when you drilled your well but I know you drilled some wells. The witness has testified that these formations are all separate. The Rules require for you to seal off these separate formations when you drill through them so as to prevent intercommunication.

MR. ADAIR: I object to the question. It is not within the scope of the call of this hearing.

MR. SPURRIER: We think it is, Mr. Adair. The witness will answer the question. Refer to your well files, if you wish. You are talking about the Jalco Pool, aren't you?

MR. FOSTER: Yes, I am talking about the area that is

under consideration here?

A Yes, I think we have shown on our cross section that our pipe was set above some of these producing formations.

MR. FOSTER: That is all.

MR. SPURRIER: Any one else? If no further questions the witness may be excused.

(Witness excused.)

MR. SPURRIER: Do you have another witness, Mr. Adair?

MR. ADAIR: I have some more evidence, if the Commission please. At this time, I would like to offer in evidence the testimony and the Exhibits which were offered by Mr. Stanley at the hearing the day before yesterday. We offer as Exhibit 54, a copy of the transcript of testimony of Mr. Stanley. That is the testimony if the Commission please, where Mr. Stanley showed that the take-off residue gas in Texas was directly effecting the take-off gas well gas in New Mexico. We offer as Exhibit 55.

MR. STAHL: If the Commission please. Excuse me, Gene. Would it be possible to have the reporter read Mr. Stanley's testimony at this time? Some of us were not at the nominations hearing.

MR. SPURRIER: It is not available, Mr. Stahl.

MR. ADAIR: We offer as Exhibit 55, the circle percentage platt prepared and introduced by Mr. Stanley and we offer as our Exhibit 56 the graph prepared and introduced by Mr. Stanley.

MR. RUSSELL: If the Commission please, we would like to tender into evidence at this time our Exhibits Numbers One through 56 including the subject numbers thereto.

MR. SPURRIER: Is there objection to anyone of these Exhibits?

MR. KELLAHIN: I assume that my running objections as regards the Langmat Pool will be entered into the record as regards the introduction of these Exhibits in behalf of Same-dan Oil Corporation?

MR. SMITH: Since Mr. Stanley's testimony is now a part of the record and I inquired yesterday as to whether or not he would be available for further questioning, I would like to know at this time, Mr. Adair, if Mr. Stanley could answer one or two questions, would it interfere with your order of proof?

MR. ADAIR: I would like to complete my case. You can put it on in rebuttal if you wish, if that is satisfactory with the Commission.

MR. SMITH: I prefer to consider my interrogation as cross examination rather than rebuttal. It is a highly technical point.

MR. ADAIR: If the Commission please, this completes the presentation of evidence by the applicant at this time subject, of course, to the right to offer rebuttal testimony and to make a final legal argument at the conclusion of the entire hearing. I am sure that the question has arisen in the minds

of some of the members of the Commission as to why we are here. Why we asked for a rehearing, since the evidence in this Case shows that for January at least, the allowables set by the Commission are higher than the minimum take provisions of our El Paso contract which is in evidence. That is the question that I am sure is in your minds as certainly legitimate question and I should like to try to answer it at this time. In other words, how are we hurt?

If the Commission please, the Statutes of the State of New Mexico require that in any application for rehearing, from an order of the Commission, must be filed within twenty days after the date of that order. As the evidence shows we have a contract covering our gas in this area which goes for some sixteen years yet. It is impossible, of course, to determine in twenty days the effect within which we must file our motion for rehearing. The effect of the Commission's order on our contract during the twenty year period or during the sixteen year period.

If we wait to determine the extent to which we may suffer property damage to our property rights and ~~cor~~relative rights and our contract rights, it would then be too late to appeal to the Commission or from the Commission on the order entered. That situation, I think, was highlighted at the hearing Wednesday, when upon application by one of the operators for an unorthodox unit, he was met by the objection that his request for an unorthodox unit came as a collateral

attack upon the Commission's order establishing orthodox units.

Right off the reel, of course, we are hurt by the loss as the evidence shows by the loss of three units of allowable. That by reason of the Commission's adoption of the orthodox unit that it has adopted. To restore that reduction or to restore the production that we have lost and to restore us to the status that existed prior to January 1, 1954 when proration took effect would require the drilling of three additional wells at a cost of some hundred and twenty thousand dollars.

In our opinion the drilling of those wells would be unnecessary, they would be unnecessary wells in that the acreage that we had attributed to our present wells and which we have lost would be reasonably drained by the wells or by our present wells. That, in itself, we think is sufficient injury to us to justify us coming before the Commission. Of course, you may say that the Commission can grant exceptions and restore that to us but before the Commission could grant us exceptions our time for appeal would have passed.

The main thing, however, that worries us are the possible abrogations of our minimum take provisions of our contract somewhere during the sixteen year period based upon nominations by the purchaser. That is his nominations or the allowable being set at a figure lower than our minimum take provision. Mr. Stanley's testimony showed the effect of takes in other States upon takes of New Mexico gas well gas. That

did not come as any surprise to us, because as the Commission's records will show El Paso's takes of our gas in 1953 as compared with 1952 from wells in this area were some thirty percent less and had that same percentage carried on over into this year, we would have already been below the minimum take provisions of our contract.

Still an equally ~~important~~ provision of our contract, bear in mind that the testimony shows that these contracts are common to some one hundred and three wells in the Jalco field alone, this is the obligation of the purchaser to take or pay for low pressure gas. That is gas above one hundred pounds pressure but below the pressure of El Paso's pipeline. Unless the producers can go to the market with their low pressure gas, those wells will be shut in.

We fear that those provisions of our contract which are also take or pay for provisions maybe in time or could be abrogated by the Commission's orders and gas prorations.

Finally, as the evidence shows we have quite a number of oil wells in the area. The Commission's records will show that we have some four hundred barrels per day production. Some of those wells as the records will show are producing oil from formations up in the gas pool vertical interval. Some of our wells are producing gas below the gas pool interval. Some of our wells and it was proper under the Rules of designation are open, both above and below the gas pool interval designations.

We don't know how the Commission in time will classify or reclassify those wells. We do know that if we wait to see our time to appeal here would have passed. I hope that I have partially at least answered some of the questions that I am sure are in the minds of the Commission. We are suffering immediate damage and the loss of gas units. We feel that January is not a proper month being a winter month and historically a high take month on all gas transportation facilities, that January allowable alone or February allowable alone is not the proper criterion upon which to determine what is going to be done in the future.

In that connection, I might point out to the Commission that setting an allowable that is a permissive thing. They are not required to take that allowable. What they actually take is going to determine whether we are hurt or not and whether the State of New Mexico is hurt or not. That is all I have, thank you.

MR. SMITH: You have no more evidence, Mr. Adair, not at this time?

MR. ADAIR: Not at this time.

MR. SMITH: Mr. Stanley, could you come around now?

MR. SPURRIER: We will take a short recess, Mr. Smith.  
(Recess)

MR. SPURRIER: Before you start, Mr. Smith, Mr. Russell reminds me that I did not accept the Exhibits and he wants to make a comment about them.

MR. RUSSELL: If the Commission please, in addition to the Exhibits which we have offered, we have offered all of the transcripts at the pertinent hearings. I believe two of those transcripts refer to Exhibits which were before the Commission at those hearings and would like to request that those Exhibits be made a part of the transcript under that number so there will be a complete record in the matter.

MR. SPURRIER: Without objections they will be admitted.

MR. KELLAHIN: I would like my original objection and I would like to have it noted the Exhibits insofar as they relate to the Langmat Pool go beyond the scope of the hearing that Samedan is without notice and hearing for opportunity to be heard in this case.

MR. RUSSELL: If the Commission please, I would like to repeat that boundary line is as much Jalco as it is Langmats. Any Exhibit that shows the boundary line, if it include Langmat as well as Jalco would necessarily be pertinent to our Case.

MR. SPURRIER: We will duly note the objections and the Exhibits will be admitted. Now, Mr. Smith.

MR. ADAIR: One moment, please, if it please the Commission, I want to correct a statement that I don't know whether I stated it incorrectly or not a minute ago. I stated that El Paso's takes of Texas Pacific's gas in 1953 from gas wells in this area were some thirty percent less than in 1952.

If I did not make it clear, I meant that their average takes per one hundred sixty acre units were that much less. The total gas takes were close to the same. We had more wells on the line in 1953 than we had in 1952.

MR. SPURRIER: Mr. Smith.

(Mr. Stanley recalled as a witness.)

By: MR. SMITH:

Q Mr. Stanley, you are employed by the Commission here, I believe?

A Yes, sir.

Q As an engineer. You know of course after being present that the testimony offered at the hearing on Wednesday with respect to gas allowables has now been adopted and made a part of this record?

A Yes.

Q I believe you have been present during the testimony that has been given by Mr. Bagwell too, have you not?

A Yes, sir.

Q So, you are familiar with what he had to say?

A Yes, sir.

Q Mr. Bagwell gave an estimate as to the order of magnitude of the gas with respect to the oil which I believe was one hundred fifty to eight hundred or roughly fifteen percent?

A Yes, sir.

Q What is your opinion with respect to that matter?

MR. RUSSELL: If the Commission please, I would like to object to that question, that it is beyond the scope of the direct examination of Mr. Stanley and Mr. Smith has made

the point that he wishes this to be cross examination. There was no reference to that.

MR. SMITH: May it please the Commission the highly technical point that he is urging might be proper in a Court but in Commission hearings, I think that the Commission could very well let the point ride.

He is not objecting to the question being answered. He is objecting to whether he is my witness or his witness. Is that your point, Mr. Russell?

MR. RUSSELL: I object to the question first. It is outside the scope of direct examination.

MR. SMITH: Unfortunately we don't have the testimony here so we can't determine that matter right now.

MR. SPURRIER: The Commission would like to hear Mr. Stanley's answer.

Q Well, I will ask the question of you--

MR. RUSSELL: I object to it as a question on cross examination and request that he make him his witness for rebuttal purposes.

MR. SMITH: Which comes back to the point I made a while ago. I don't think it is of any great consequence as far as the Commission is concerned.

Q Will you answer the question?

A Can I elaborate a little, Mr. Smith. I think that primarily the Yates and Seven Rivers formation is a gas formation with the exception of local geology as we have previously testified before this Commission and a good example is the

Falby-Yates Pool. We do have an occasional oil trap within the Yates and Seven Rivers formations. However, as a whole, I would classify the two formations principally as a gas pool.

Q With respect to the Queens and the fact that Mr. Bagwell has testified that there is communication in all three, would you lump all three together and classify them as a gas field?

A I think there is communication between the Yates, Seven Rivers and Queens, therefore in that statement I have classified all three pools. In order to better understand the problem, I think that if we would go back to the history of the drilling in this field, back in 1928, I think when the field was first discovered, the operators themselves drilled for oil and not for gas and that has been true, the oil has been voided, there is communication between all three zones and since a greater space has been voided, I think by the oil that is produced, we are primarily going to end up as a gas reservoir in all three formations.

Q With respect to the matters which have been injected in this pool which indicate a rather tangled situation from an engineering standpoint and from a legal standpoint so far as contracts are concerned, would it be a recommendation to the Commission to make further inquiry and studies into the best manner in which this problem should be handled?

A I recommend that that study be made for classificati

MR. SMITH: That is all.

By: MR. MACEY:

Q In connection with your testimony which you made yesterday morning, you prepared an Exhibit more or less of a pie-shaped Exhibit showing the percentages of gas taken by the El Paso Natural Gas Company by residue gas, dry gas in Texas, residue gas and dry gas in New Mexico, is that correct?

A That is right.

Q I would like you to briefly go over this again because Governor Mechem was not at the hearing on Wednesday. Give him the percentage of total Texas residue that was taken by El Paso during 1953?

A Mr. Macey, in conjunction with that graph, could I have the other graph?

Q Yes, sir.

A I would like to put it up here on the board, please.

Q First of all, I would like you to with reference to this Exhibit, the round Exhibit in relationship to the graph I would like you to explain to the Commission what this percentage represents?

A All right.

Q I am referring to the total Texas residue percentage.

MR. SPURRIER: Has that Exhibit got a number?

A Yes, sir, it has.

MR. ADAIR: In this particular case, the circle Exhibit is Number 55.

A Well now, first of all during this discussion we were primarily concerned with El Paso Natural Gas Company's operati-

in the Jal area. In that Jal area and the figures furnished to me, El Paso Natural gas for the year 1953 had taken some four hundred and seventy four million nine hundred sixty two million feet of gas. This area had served southeastern New Mexico principally Lea County and they also transmitted gas across the line from Texas into their Jal plants and, of course, treated that gas ~~in~~ compressed it and prepared it for the western markets. I attempted in this respect to draw this pie-shaped affair as Mr. Macey called it, to show you the relative percentage of the various sources of gas that El Paso takes. The total Texas residue gas which is the white area is 54.6 percent. The Lea County residue is 21.4 percent. The Lea County dry gas is 14.8 percent. Texas dry gas is insignificant in the fact that it is only 1.4 percent and the Dumas dry gas is 7.8 percent. Now, then I have tried to relate this percentage into a graph form by months for the year of 1953 showing how this gas is taken by months.

I tried to bring up the point that the total residue gas from Texas is dependent upon the oil producing ~~days~~ of Texas and whenever the oil producing ~~days~~ are many, the residue gas in Texas will rise and we are at the mercy of the oil producing ~~days~~ in the State of Texas and El Paso Natural Gas Company having to have a flexibility of operations is very fortunate that they do have and are tied into huge dry gas reserves in Lea County because as the residue gas take is large, our dry gas production of course is low.

They use this dry gas source of production in the State of New Mexico as a cushion for their operations and the flexibility that is required. You can see that our dry gas curve here in New Mexico fluctuates seasonally in one sense. It also fluctuates by the residue gas take in the State of Texas. Now, during last January and February, I brought out the point that they were running approximately eight million cubic feet of gas during that period, the curve decreased some in the summer months which was also due to demand and due to the residue gas take in Texas and now has a tendency to increase starting with October through November, December. I am sure that it will be high during this month of January.

Q Mr. Stanley, in connection with what Mr. Adair said in his closing statement he referred to a minimum purchase contract, minimum take requirements of their contract with El Paso. Now, as the residue gas volume goes up our dry gas goes down, is that correct? A That is correct.

Q Now, you also noted the residue gas trend in New Mexico looks fairly even?

A Yes, sir, it is a fairly stable curve and also brought up the fact, the fact that I brought up to ask the Commission to adopt a non-flare order, the Phillips gas plant in the City Limits of Hobbs, I think it should be distinguished, it is wasteful. We are now enjoining a great network of pipelines system being introduced into the State, I think that the non-flare order should be adopted by the Commission.

Q If the Commission were to adopt into its allocation formula a minimum allowable on a well. That is if the minimum allowable as set by these contracts as Mr. Adair testified or stated, I should say, they were approximately 85 percent of the wells in the pool operated under that contract if the Commission were to establish a minimum formula of approximately five hundred fifty thousand which I believe is what the contract says. It is a take or pay proposition. If we absolutely require El Paso Natural to take that gas and their demands reach the stage where they could not take that gas, wouldn't they have to flare some residue gas and take the dry gas?

A I see no other alternative.

Q Wouldn't that be waste?

A It would be waste.

Q Therefore, is it your opinion, that a minimum take requirement even though it be in effect right at the present time in contracts is not part of a prorationing system of gas in New Mexico?

A Under the present Rules and Regulations, I would say Mr. Macey, unless they were changed. Under the present system.

Q Do you know of any way you could put in a minimum allowable and be absolutely sure there wouldn't be any waste involved?

A I don't know. I don't know.

MR. MACEY: That is all the questions I have with reference to these two Exhibits.

A I might say off the record on this Phillips gas line plant.

(Off the record.)

MR. SPURRIER: Does anyone else have a question of Mr. Stanley? Mr. Kelly..

By: MR. KELLY.

Q Mr. Stanley, in answering Mr. Macey's question in which he said that if the minimum take provision of five hundred fifty thousand a day was placed into an order and El Paso found that they would have to either one, reduce their dry gas take below the minimum take provision or ~~two~~ flare casinghead gas, you answered that if they went to flare casinghead gas that would constitute waste, did you not?

A Yes, sir.

Q In your opinion, if El Paso cut their dry gas take to below the five hundred fifty thousand per day, let's say down to fifty thousand feet per day which would return to the operator a very small sum of money?

A Yes, sir.

Q And would not allow the operator to pay our his investment in the dry gas well, would you not think that would constitute economical waste as far as dry gas wells are concerned?

A I think so. I always have believed that an operator should get his fair return of money on any investment that he makes.

Q Therefore the Commission should take into consideration economical waste in allocating dry gas?

A Yes, sir, I think that is true.

MR. KELLY: Thank you.

By: MR. MACEY:

Q In connection with what Mr. Kelly has just said. You have made a study of El Paso's take during the past year of the Permian Basin, have you not?

A No, in this particular area. I am not familiar with all their operations but I am familiar somewhat with their operations in the Jal area.

Q Are you familiar with the producing figures of gas wells in the Jalco Pool, for example?

A Somewhat, yes, sir.

Q Do you know of any instances where their average take on a good gas well, I am talking about an average gas well in the pool, is capable of meeting the maximum requirements of take, do you know of any instances where the production went down to fifty thousand cubic feet per day on the average?

A No, sir, I believe that El Paso has always taken considerably more gas than that.

Q Do you know of any reason why they should cut down to that extreme fifty thousand?

A No, sir, of course, what could actually happen would be that there would be a large demand for oil, that if the State of Texas adopted say thirty day producing at any time, I would

perhaps during the summer months some of the gas wells may be shut in under those extreme conditions.

Q In the winter months they come back on, would they not?

A Yes, sir.

MR. KELLY: In that connection, if it please the Commission, I did not say that the El Paso ever got down to fifty thousand.

MR. MACEY: I didn't say they did.

MR. KELLY: They could get down to fifty thousand as shown by a graph placed in the record and I believe by the El Paso Natural Gas Company in one of the cases that Mr. Adair referred to El Paso, showed their total take by years, over a period of years, they showed that total take increasing by years but they also showed on the same graph that their percentage take of dry gas by years was a decreasing factor. I am afraid if you would project that ~~curve~~ of dry gas into the future then, it is possible that the take of dry gas would get below the economical limit that is necessary for the producer to have in order to go out and develop dry gas reserves in New Mexico. I believe that gas is in the record.

MR. SPURRIER: Mr. Stahl.

By: MR. STAHL:

Q Mr. Stanley?

A Yes, sir.

Q You testified if the Commission set a minimum allowable of five hundred fifty thousand MCF per day that in instances where El Paso could not take that much they would have to flare

residue gas. You said that would be waste, do I recall your testimony correctly?

A Yes, sir, Mr. Stahl, I believe that any gas that is burned and not utilized could be sold as waste.

Q Mr. Stanley, is it within your knowledge that Southern Union and Permian Basin Pipeline Company are both taking dry gas out of Lea County, New Mexico at this time under purchase contracts with various operators?

A Yes, sir.

Q If those purchase contracts provide a minimum take of less than five hundred fifty thousand, if the Southern Union or the Permian contracts or any of them provided for a minimum take or pay of less than five hundred fifty thousand, in your opinion if the Commission went to setting a minimum allowable would they not have to set the minimum allowable for Lea County or for a particular pool at the lowest of any of the contracts of the three companies?

A Well, Mr. Stahl, I think that that question, I would rather not answer because I am not familiar enough with contracts and other related matters pertaining to the contracts. I think that would be administrative or perhaps a legal technicality.

MR. STAHL: Thank you.

MR. SPURRIER: Any one else? Mr. Woodruff.

MR. WOODRUFF: I would like to make a statement.

I am Norman Woodruff with El Paso Natural Gas Company. Since our general type of contract utilized in Lea County has

been mentioned also submitted in the previous hearing as discussed yesterday by Mr. Adair. I would like to point out that in the normal type contract which I believe also is typical of Mr. Adair's contract or the one with Texas Pacific in Article 11, respective thereof that said minimum average shall be averaged over each calendar year. Or the applicable portion thereof that the well is or could be connected to buyer system for only a part of the calendar year under consideration. I believe this portion of the contract provides that El Paso fluctuates their takes from dry gas wells during the year so long as the average during the year is at least the minimum prescribed in the contract. Further, not being entirely familiar with the graph mentioned by Mr. Kelly indicating percentages of take from the various sources that supply El Paso Natural Gas Company from the Permian Basin area, I can only draw a conclusion.

However, he referred to the graph as indicating a percentage of take from the various areas. Since El Paso's demand has increased considerably and has increased considerably in recent years a percentage could very well decrease without meaning that the total volume taken is also decreasing. I believe that probably our records would show on production that there has been no essential overall decline in the take of gas on an average for the year out of the Lea County area in recent years. Thank you.

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

MR. MACEY: I want to ask Mr. Stanley some questions not relating to these graphs but I think in as much as Mr. Stanley is Mr. Smith's witness and he brought him in here to testify in relation--

MR. SMITH: (Interrupting) I would like to object to the statement he is my witness. He is the Commission's witness

MR. MACEY: He was brought to the stand at your request, is that correct?

MR. SMITH: That is correct.

MR. SPURRIER: Do I understand you want to bring Mr. Stanley on as your witness for direct examination?

MR. MACEY: That is right.

DIRECT EXAMINATION

By: MR. MACEY:

Q Mr. Stanley, are you a graduate petroleum engineer?

A Yes, sir, I am.

Q Have you drilled wells, operated wells in the Jalco or Cooper-Jal Pool area?

A Yes, sir, I drilled wells, was in charge of the drilling operations and completion of a number of wells in the general area for Anderson Pritchard Oil Corporation.

Q Mr. Stanley, are you familiar with the general reservoir conditions in the Jalco and Cooper-Jal Pools?

A I have a working knowledge of the working conditions in the Jalco Pool.

Q Is it not a fact that a great number of the wells pro-

ducing in the Jalco and Cooper-Jal Pools produce large volumes of water?

A Yes, sir, on the west side they do produce larger volumes of water.

Q Mr. Stanley, in connection with the production of the gas in the pool you stated that you thought that the entire reservoir was connected, is that correct?

A I do.

Q You think that there is gas producing in the top of the upper portions of the structural area and oil on the flanges, is that correct?

A That is correct.

Q All right now, if the gas is pulled off of the top of the structure in excess amounts what will happen to the oil?

A It will get a greater encroachment of water from the west side as we void the spaces now occuppied by oil and gas.

Q You think that the excessive production of gas would tend to decrease the ultimate production of the oil?

A I think that it would.

Q In order to clear the record, will you state what the productive zones as defined by this Commission are in the Cooper-Jal Pool?

A In the Cooper-Jal Oil Pool?

Q Yes, sir.

A Yates, Seven Rivers and Queens.

Q Are you sure about that?

A No, not the Queens, excuse me.

Q Isn't it a fact that there are local areas where the Queen is productive within the defined limits of the Cooper-Jal Pool?

A I believe that it is.

Q There are a few local conditions that might be considered

A Yes.

Q When you are talking about that area, you are talking about all three zones, is that correct?

A That is correct.

Q Are you familiar with the sum of the production figures on leases in the South Eunice Jalco Pool area. I say both of them because there is a question as to whether there is or isn't a pool?

A Yes, sir.

Q I want you to look at these figures at the bottom of this sheet and tell the Commission the approximate monthly production of this well and identify the well?

A All right. Mr. Macey has special reference to the City Service Oil Company, their Claussen leases located in Section 6, 18 and 20 in Township 22 South, Range 36 East. These figures as I read are for 1953 and are indicated as dry gas production. There are four wells listed here Claussen Number One, Claussen A Number One, the Claussen A Number 3 and the Claussen B Number 6. Now, on the Claussen One in viewing these figures and I assume they are indicated as MCF, are they not, Mr. Macey?

MR. MACEY: That is right.

A During the entire year their average monthly production as I scan these figures is approximately ninety million, excuse me, correction, approximately ninety thousand MCF per month for the year on the Number One well. On the A-Number One, they increased considerably in the average monthly production for the Clausen A Number One is in the general neighborhood of approximately two hundred thousand MCF per month. That is also true of the A Number 3 and the Clausen B Number 6 will average, well its average is so variable that I would rather not read it into the record unless I had a calculator to figure it.

Q All right now, Mr. Stanley, immediately above that tabulation you will find some Texas Pacific Coal and Oil Company wells.

A All right.

Q Is there any well listed in that tabulation in Section B?

A Yes, sir there is a State A Account Number Two Well Number 41.

Q I want you to go to the wall and refer to those two sections and tell me if that well doesn't offset the City Service wells that you just talked about?

A All right. Yes, sir, now Sections 5, 42, 36 is indicated by the information furnished to me by Mr. Macey are the Texas Pacific Coal and Oil State Account Number Two Well Number 41 does offset the City Service Clausen wells in question.

Q All right, are there not also wells in Section 7

operated by Texas Pacific which are south offset to the Clausen lease in Section 6 and offsets in Section 18.

A Yes, sir, that is correct.

Q Would you read for the Commission's benefit the total production for the year 1953 from the Number 41 well?

A The total production in MCF for the Texas Pacific Coal and Oil Company State A Account Well Number 41 is five-hundred seventy-one thousand-nine hundred-seventy-nine MCF.

Q You show a production record of eleven months, is that correct?

A That is correct

Q Approximately ~~at~~ how much a month is ~~that~~ Account?

A Well, now that average is variable.

Q Just divide by 11.

A Approximately fifty thousand MCF per month.

Q They are directly offsetting some wells that produce considerable volume of gas greater than that?

MR. RUSSELL: It appears that this line of testimony is going into a question of ~~correlative rights~~. That question is not before the Commission on this rehearing. Any evidence with reference to ~~correlative~~ rights that may be brought out cannot be properly considered by the Commission in support of the original order.

MR. MACEY: I haven't mentioned the word ~~correlative~~ rights. I might state I don't intend to mention them

MR. RUSSELL: Nor refer to them.

MR. MACEY: With reference to these wells, I am not

going to refer to the word ~~correlative~~ rights.

MR. SMITH: I believe the application of Texas and Pacific sets forth that one of the reasons for rehearing is that there is no evidence as to ~~correlative~~ rights.

MR. RUSSELL: If the Commission please, that is perfectly correct. We take the position at this rehearing this Commission cannot receive into evidence or consider any testimony or evidence on waste or ~~correlative~~ rights; other than what was in the official record of the hearings on which the order was based. It is a general principle of administrative law that they cannot consider anything outside of the record. Anything new that is or may be offered at this time is irrelevant.

MR. MACEY: Mr. Russell, was your testimony as to the structure or anything else in the record of the previous hearing?

MR. RUSSELL: That is in support of our case, not in support of the Commission's order. That was entered sometime ago. We are attempting to in effect erase the line not make it.

MR. SPURRIER: The witness may proceed. What is the source of these figures, Mr. Stanley?

A They are all Oil Conservation Commission figures. Official records requested by the different companies that are required to file these forms.

MR. SPURRIER: Very well.

A Getting back to the question in averaging the Texas Pacific well in question. I said that the approximate average was fifty thousand to one or fifty thousand MCF per month as compared for some two hundred thousand for the offset wells of City Service.

Q Mr. Stanley, in connection with the Commission's definitions of waste, I am going to hand you this for the sake of brevity and let you read this underscored portions.

A I am reading from the Statutes of the State of New Mexico, Section Two, paragraph A, Underground Waste. "As those words are generally understood in the oil and gas business and in any event to embrace the inefficient excessive or improper use or dissipation of the reservoir energy including gas energy and water drive of any pool and so forth."

Q First of all, you think it is the improper use of reservoir energy for one operator to produce, approximately ~~four~~ times the amount of gas that his offset does?

MR. RUSSELL: I would like to renew my objections. Any of that testimony is immaterial to this hearing. There is no evidence that that was before the Commission at the other hearings on which the order was based and can't be considered at this time. In our Case in chief we entered certain Exhibit which was primarily for the purpose of showing the improper delineation of the pools. We opened that question. That is subject to rebuttal at this hearing. We offered no evidence of any nature of waste or correlative rights and it is improper for anyone else to introduce them at this hearing.

It can serve no purpose. I would like to renew my objections to this or any other testimony to that effect.

MR. SPURRIER: The objection is overruled.

MR. RUSSELL: May I have a continuing objection to all questions or testimony relative to waste and ~~correlative~~ rights.

MR. SPURRIER: Certainly.

Q Now, Mr. Stanley, in connection with the Clausen wells you are not particularly saying that they are being produced at excessive rates, are you, is that correct?

A No. We are just comparing production with offset operators.

Q You don't know if they are producing excessively or not? You would have to make a further study?

A Would have to make a further study of reservoir characteristics of the two wells, their capability, the effect of water which might be prevalent in that area. I think for the record that City Service in some instances on the Clausen leases is now troubled with water.

Q If you had a gas column and you were moving water up structure, wouldn't the oil come before the water?

A Yes, sir, it should unless you had ~~coning~~ and included the oil entirely from the well bore by excessive production and not the proper use of reservoir energy.

Q If you got the water pulled into the well that would be an evidence of ~~coning~~, is that correct?

A That is correct.

Q Is that wasteful?

A Yes, sir, it sure is.

Q Is there any evidence that there is water production from these gas wells on the Clausen lease?

A There is.

MR. SPURRIER: Let's have your attention up here.

A There is.

Q Mr. Stanley, getting on to another subject. You served as secretary to the Committee which was appointed by the Commission to devise the gas rules which resulted in the stand-by rules, is that correct?

A That is correct.

Q At the same time as that Committee was formed, were there not two Committees formed, one to study the pool rules and one to study the delineation of the pools, also?

A That is correct. I think that Mr. Hill and the Committee itself as a part of their work and in the administration felt that that was necessary and appointed two separate Committees to study each problem separately.

Q Was each company that was represented of the ten representatives, was each of them a member put on each committee?

A Yes, to the best of my knowledge.

Q Texas Pacific was on that Committee, were they not?

A I believe they were.

Q They were given the opportunity to serve on the pool delineations Committee to the best of your knowledge, is that correct?

A That is correct.

Q Do you know of anything that they put into the minutes of the meeting pertaining to the delineation of the Jalco Pool at the time that the Committee was working on the Rule and delineations?

A I recall that they did not.

MR. MACEY: That is all I have.

MR. SPURRIER: Anyone else?

MR. RUSSELL: If the Commission please, I would like to ask if we maybe permitted to cross examine Mr. Stanley without waiving our objections as to the immateriality and relevancy of his testimony and save our objections?

MR. SPURRIER: Certainly. We will take a five minute recess.

(Recess)

MR. SPURRIER: The meeting will come to order, please Mr. Russell.

MR. ADAIR: Someone else can have him first if they want him.

MR. SPURRIER: Does anyone desire to question Mr. Stanley?

MR. ADAIR: I have one question if the Commission please.

By: MR. ADAIR:

Q Do you know whether or not the City Service Clausen wells, whether or not they are presently producing gas, that is

since the first of the year?

A I don't know whether they are or not, Mr. Adair. I do know that they produced gas during the year, 1953.

Q Would you say they were classified as gas wells?

A Yes, sir.

Q Then, why do they not appear on the gas proration schedule?

A Well, am I right on that? Mr. Adair, may I relate on that?

Q Yes, give the facts to the Commission.

A Those particular wells in question are connected, I believe, to the United Carbon Company and there was some discussion before this Commission that United Carbon Company wanted to exclude those particular wells of City Service from the proration schedule until such time as the Commission could decide upon their disposition and inform all the parties in question. I do think I may be wrong, I do think that the Commission has finally disposed of this Case, have you not? Here is a letter dated January 19, 1954, you want me to read it into the record?

MR. ADAIR: I would like to see it first. I have no objections to your reading it into the record or you can state to the Commission what is in it.

A I never have read the letter myself. I would assume that both letters are identical, are they not? One is addressed to United Carbon Company and the other is addressed to City

Service Oil Corporation or Oil Company. I believe these letters are not alike.

Q I didn't read this one.

MR. MASSEY: If the Commission please. H. E. Massey with the City Service Oil Company. I think that due to the date on this directive and its relative connection with this particular case that we will object to those being entered as evidence.

MR. ADAIR: We are not offering them in evidence. If it was considered that we were offering them in evidence we will withdraw the offer and let someone else tender them, if they do want them.

MR. MACEY: Those letters are a matter of Commission's records. Those are just copies of the letters. I think the Commission can take recognition of any of its records and reports at any time. I think it vital to this case. I don't think it is a reflection on anybody.

MR. SPURRIER: Read the letter, Mr. Stanley.

A "This letter is written by the Oil Conservation Commission, Santa Fe, New Mexico signed by W. B. Macey, Chief Engineer, directed to City Service Oil Company, Hobbs, New Mexico, and also copies to go to United Carbon Company, Incorporated, Eunice, New Mexico, the Oil Conservation Commission at Hobbs, New Mexico and Fletcher A. Catron, attorney in Santa Fe, New Mexico. City Service Oil Company, Hobbs, New Mexico, Gentleman; Reference is made to our discussion of December,

1953 pertaining to the use of gas from your Clausen, Clausen A and Clausen B leases in Sections 6, 18, and 20 of Township 22 South, Range 36 East, Lea County, New Mexico by the United Carbon Company. An examination of our records reveals that the following wells are producing from the Jalco Gas Pool and must be produced and prorated in accordance with the Rules and Regulations governing the Jalco Gas Pool. Clausen Well Number One in the north west quarter of the southeast quarter of Section 6, Township 22 South, Range 36 East. Clausen A Well Number One-A in the northeast quarter of the northeast quarter of Section 18, Township 22 South, Range 36 East, Clausen A Well Number 3-A northeast quarter of the southeast quarter of Section 18, Township 22, South, Range 36 East, and the Clausen B Well Number 6-B in the southwest quarter of the northwest quarter of Section 20, Township 22 South, Range 36 East. Two wells operated by City Service and located in the Clausen lease are not producing from the productive limits of the Jalco Pool and are therefore not subject to proration at this time. Please bear in mind that there is a possibility that these wells may be prorated in the future. These wells are as follows: Clausen Number 4 in the southeast quarter of the southeast quarter of Section 6, Township 22 South, Range 36 East and Clausen Number 8 in the northeast quarter of the northeast quarter of Section 6, Township 22 South, Range 36 East. The reason that these two wells are not considered as producing from the Jalco Pool is because our records reveal that they produce from a zone in

a lower Seven Rivers and the Jalco Gas Pool is defined as being productive from the Yates and all but the lower hundred feet of the Seven Rivers. The Number Four Clausen is producing from a fifty foot Section 2500 to 3589 in parenthesis the top of the zone 3500 being eighty nine feet above the base of the Seven Rivers. The Number A Clausen is producing from a 22 foot interval."

~~Parent~~thesis "3502 to 3542 being 98 feet above the base of the Seven Rivers. Your January production will be considered as being produced against your allowable assigned. Please furnish our Hobbs office the required plats and well information as required by Order Number R-368-A. We are instructing the proration department to assign the allowable on these four wells effective January 1, 1954. We are enclosing a copy of a letter being sent to the United Carbon Company. Very truly yours and as previously mentioned signed by W. B. Macey, Chief Engineer." I believe that the other letter is different. I don't know. You want me to read it into the record?

MR. SPURRIER: Yes.

A This letter is addressed to United Carbon Company, Eunice, New Mexico.

Q Pardon me, Mr. Stanley, in the interest to save time, the reference in the letter to the wells is the same as in the other letter. The only change is in the heading of the original letter and the last two paragraphs, I believe.

A I will read the last two paragraphs of this letter

addressed to United Carbon Company. "Therefore it will be necessary for you to nominate your requirements of gas from these wells and if your requirements are such that you will have to obtain additional gas , you will have to make other arrangements to obtain this gas from another source. We realize that this will seriously curtail your operations but this situation has created very serious inequities and must be corrected. For your information we are enclosing a copy of a letter which we are sending to the City Service Oil Company pertaining to this matter. Very truly yours, W. B. Macey, Chief Engineer."

MR. ADAIR: What is the vertical interval, Mr. Stanley of the producing horizons in the Jalco Gas Pool as delineated by the Commission?

A The Yates and all of the Seven Rivers but the last one hundred feet.

Q In your opinion based upon your studies or is not the Jalco Gas Pool improperly delineated from the vertical standpoint?

A Mr. Adair, I have accepted these delineations by the recommendation of the people that worked on this particular problem. I, myself, have not studied the situation and therefore cannot answer your question.

Q Do you know of any permeability barrier that exists throughout the Jalco Pool at exactly one hundred feet above the base of the Seven Rivers?

A I haven't studied that question.

Q Still you were competent apparently to say that you thought that the Seven Rivers and the Yates formations and Queens were all one reservoir?

A Yes, sir.

Q Then, if they are all one reservoir then the pool is improperly delineated, isn't that correct?

A From the vertical limits. I would like to go along with Mr. Smith in thinking that I would like to study and I may change my thinking personally.

Q If you testified that the Yates, Seven Rivers and all constitute a single reservoir?

A Yes.

Q To the extent at least that a pool delineated within that reservoir it is not a common source of supply, is it?

A That is right, if they are all classified as one producing zone in actuality that would be right.

MR. ADAIR: That is all I have.

MR. SPURRIER: Anyone else? Mr. Macey.

By: MR. MACEY:

Q Mr. Stanley, do you think it is possible for anybody to absolutely and positively define the exact limits of an oil or gas pool or an oil and gas pool?

A Well now, if you have special reference to these gas pools that are located in this particular area as shown on the Exhibit on the board it would be a very difficult thing to do

Q Are you aware of provision in the Statute and I am referring to Section 10, paragraph 12, I would like you to read that.

A "To determine the limits of any pool or pools producing crude petroleum or natural gas or both and from time to time to redetermine such limits."

Q Don't you think that that is broad enough that the Commission has the power to determine a pool limit and delineate it as such and to redetermine it if the facts are presented in the proper case at the proper time?

A Yes, sir.

MR. SPURRIER: Anyone else? If not the witness may be excused.

(Witness excused.)

MR. SPURRIER: Mr. Adair, the Commission would like to know if you have a witness that can testify as to the source of energy in the Jalco Pool?

MR. ADAIR: I don't have a witness, no, sir, I do not. Not properly qualified to testify as to the source of energy within the areal extent of the Jalco Pool, I do not. I don't believe, if the Commission please, that is within the scope of the call of this hearing.

MR. SPURRIER: Now, we might come to that point. In your application for rehearing you mentioned the Commission's authority in Section 2-A, you also say in B of 2-B that is that the Commission is without authority to prorate gas for the sole purpose of protecting **correlative rights**. So, you have mentioned **correlative rights** and there is no evidence in the record to indicate the abuse of **correlative rights**.

There is no evidence in the record, that was paragraph C, this is paragraph D. There is no evidence in the record to establish that there is waste from the gas wells of the Jalco Pool. There is no evidence that waste will be prevented. Do I understand since you have objected to testimony on waste and ~~cor-~~  
~~relative rights~~ that the only paragraph that you are really talking about or that you are bringing forward in this case is paragraph H which says, "Finding of fact Number f in Order Number R-368-A is a finding that the Commission has not prior to the undertaking of proration of gas evaluated and delineated the actual productive limits of the Jalco Gas Pool which is a prerequisite of such order." In other words, your only point in this rehearing is the delineation of the pool?

MR. RUSSELL: No, sir, Mr. Spurrier, the entire matter insofar as the application for rehearing is concerned is based upon the authority of the Commission to issue a prorating order under the facts which were before the Commission at the time that the Order was entered.

That is the question of law. That the Commission is without authority to issue proration for the sole purpose of protecting ~~correlative rights~~. That is a matter of law. All of our points that we have brought out in the application for a hearing in substance, we will say is this partly, that there was not substantial evidence before the Commission at the time that the Order was entered to show that any of the conditions preceeding to the entry of such an order was there.

We have not brought out any evidence on correlative rights or waste. We say the Commission had to have at the time they entered the Order substantial evidence on those points before they could enter the Order and it would be unnecessary and a useless thing to put in anything at this time since it could not be considered by the Commission in support of an order previously entered, that is our position in our application.

MR. HINKLE: If the Commission please--

MR. SPURRIER: Mr. Hinkle.

MR. HINKLE: Clarence Hinkle representing Humble Oil and Refining Company. Before the Commission makes any ruling on Mr. Russell's motion as to the matters that can be taken up at the hearing. I would like to call the Commission's attention to the provisions of the Rule 1212, which provides for the filing of motions for rehearing within 20 days, the Commission shall grant or refuse any such application in whole or in part. As I understand the order of the Commission in granting this hearing was, you didn't exclude it as just part it was in whole. You didn't exclude it as "The Commission shall grant or refuse any such application in whole or in part within 10 days after the same is filed and failure to act thereon within such period shall be deemed a refusal thereof and a final disposition of such application. In the event the rehearing is granted, the Commission may enter such new order or decision after rehearing as may be re-

quired under the circumstances. It is our position that since the rehearing has been granted that all concerned have a right to introduce any evidence they want to germane to the subject matter and that the Commission may consider any evidence, any new evidence that is introduced at the rehearing.

In other words, it is a complete new hearing de novo. I think the Commission has a right to make a new order on the evidence introduced at the hearing or, well as any other evidence at any other hearing.

MR. RUSSELL: In answer to Mr. Hinkle, in referring to the fact that our application for a rehearing has been granted in its entirety, that is true. I would also like to point out to the Commission that when we make up an application for rehearing, it is necessary that we put in such an application everything that we can possibly think of that may come out and have a bearing on our Case at the time of such rehearing. Because if we do not specifically point it up in our application then, we have waived such a right to bring it up at the hearing, itself. We have listed all of the various factors which we think are important and which we feel we have covered and a majority of them will probably be covered in our argument of the law. I would like to state our position insofar as the evidence is concerned which we did not open up on our case in chief. That it is a generally recognized principle of law that an administrative agency cannot enter orders based on its own information without sufficient information or record.

having been introduced into evidence. They cannot act on their own information. Any information upon which an administrative agency bases its order must be introduced at the hearing on which that order was made after notice to all interested parties so that they can attend, offer rebuttal and cross examine witnesses. Any records which the Commission may have in its office on which they are contemplating basing a portion of their order, those records should be at the hearing. They should be introduced in evidence. All interested parties should know what is before them.

We are in the position that at the hearings on which the orders are based the record of those hearings, transcript, Exhibits is the sole basis to determine whether or not the Commission acted in an arbitrary matter or whether it was reasonable. We take the position that our case in chief brought out no evidence as to either waste or **correlative rights**. We say that the record on which the order was based contains no evidence of waste, or injury to **correlative rights**.

We have introduced the records, the transcripts of all of those hearings. They are the records which must be examined to determine whether those facts were present and if there was substantial evidence to support them at the time the order was entered in this rehearing they cannot consider matters concerning them for the reason that this hearing is primarily establishing the record of the previous one, determining whether or not there is sufficient evidence on which

the order was based and if not then the order is not good and we would ask, of course, that it be revoked. That is our position and I think it is proper.

MR. WOODWARD: If the Commission please, Mr. Woodward of Amarada. I am not aware of the well established rule of administrative law which precludes an administrative body from considering new matters on a rehearing. However, I think that is beside the point inasmuch as Section 19 as read specifically permits the Commission to enter a new order. Now, as I understand the Texas Pacific's contentions, it is that the only alternative that the Commission has now before it is to sustain its previous order or revoke it entirely.

It may not consider new evidence or new information. It may not correct whatever mistake it made. I submit that the destroys 90 percent of the value of the rehearing. If a rehearing is not for the purpose of allowing an administrative body to correct its mistakes, I don't know what it is for.

MR. SPURRIER: Is there anyone else? Mr. Foster.

MR. FOSTER: We have got some testimony we would like to introduce.

MR. SPURRIER: Have you completed your case?

MR. ADAIR: Yes, except for rebuttal.

MR. MACEY: I would like to introduce as Exhibits the letters which Mr. Stanley read and also the records of the Commission to which he referred.

MR. SPURRIER: Did you all hear Mr. Macey's offer of evidence?

(Marked Exhibits One, 2,  
3 for identification.)

MR. SPURRIER: Mr. Macey intends to introduce or does introduce or offer in evidence the two letters which Mr. Stanley wrote the one addressed to City Service and one for United Carbon and also the production figures on the Clausen wells. Is there objections?

MR. MACEY: I believe I was objected and overruled.

MR. SPURRIER: That is right.

MR. MACEY: I would like also at this time to introduce all of the company's production records on the Jalco Pool

MR. SPURRIER: Is there objection?

MR. RUSSELL: I object to them on the grounds they are not material at this hearing. They can't be considered by the Commission at this hearing as a basis of substantial finding on which the other order was based. Same objection as to the testimony.

MR. SPURRIER: Your objection is noted and the evidence will be admitted.

MR. MACEY: If the Commission please, as far as we are concerned on the objection if all the production figures of the Jalco Pool are introduced, we have no objections but we do object to entering only a part of the production figures from the Jalco Pool.

MR. SPURRIER: Now, Mr. Foster. Let me have your

attention in view of the time element, we will necessarily have to continue this case to the regular February hearing.

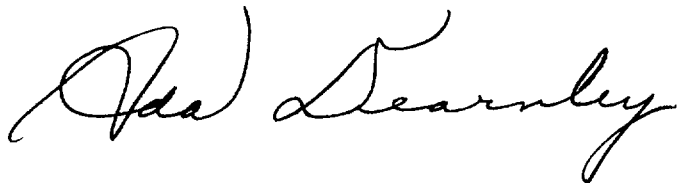
MR. RUSSELL: If the Commission please before it is closed, I would like to renew at this time my motion to suspend Order Number R-368-A pending the rehearing.

MR. SPURRIER: Motion is denied.

REPORTER'S CERTIFICATE

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings in Case No. 582, Rehearing, taken before the Oil Conservation Commission on January 21 and 22, 1954, contains a true and correct record of said proceedings to the best of my knowledge, skill, and ability.

DATED at Albuquerque, New Mexico, this 30th day of January, 1954.

A handwritten signature in cursive script, reading "Ada Dearnley". The signature is written in dark ink and is positioned to the right of the typed name.

BEFORE THE  
OIL CONSERVATION COMMISSION  
STATE OF NEW MEXICO  
AT SANTA FE, NEW MEXICO

TRANSCRIPT OF PROCEEDINGS

CASE NO. 582

(Rehearing Continued)

February 17 and 18, 1954

ADA DEARNLEY & ASSOCIATES  
COURT REPORTERS  
ROOM 105-106, EL CORTEZ BLDG.  
PHONES 7-9645 AND 8-9546  
ALBUQUERQUE, NEW MEXICO

# R E G I S T E R -

Regular Hearing, New Mexico Oil Conservation Commission 9:00 A.M.  
February 17, 1954  
Santa Fe, New Mexico

NAME	REPRESENTING	LOCATION
J. D. Cooper	Skelly Oil Co.	Tulsa, Oklahoma
Carl Lea	Skeely Oil Co.	Tulsa, Oklahoma
W. J. Stewart	Skelly Oil Co.	Tulsa, Oklahoma
Gerald McGraw	Cities Service Oil	Bartlesville, Okla.
L. C. White	Sun Ray Oil Corp.	Santa Fe, N. M.
J. C. Ginton	Gulf Oil Corp.	Midland, Texas
D. C. Brown	Sun Oil	Midland, Texas
Lynn Wolfe	Stanolind Oil Pur.	Tulsa, Oklahoma
G. L. Shoemaker	Stanolind Oil	Midland, Texas
George Kinschfield	Engineers Comm.	Hobbs, N. Mex.
H. E. Wendt	Tide Water Assoc.	Hobbs, N. Mex.
J. M. Tharp	Tide Water Assoc.	Houston, Texas
E. H. Foster	Phillips "66"	
Homer Bailey	Continental Oil	Ft. Worth, Texas
G. W. Winter	Stanolind Oil	Midland, Texas
R. D. Grimm	Phillips Pet. Co.	Bartlesville, Okla.
H. T. White	Phillips Pet. Co.	Bartlesville, Okla.
R. L. Denton	Magnolia Pet.	Midland, Texas
Seth Muzel	Sinclair Crude Oil	Roswell, N. Mex.
J. R. Lennon	Magnolia Pet.	Midland, Texas.
M. T. Smith	Shell Oil	Midland, Texas .
H. M. Smith	Shell Oil	Hobbs, N. Mex.
H. S. Skinner	Conoco	Fort Worth, Texas

ADA DEARNLEY & ASSOCIATES

COURT REPORTERS

ROOM 115-106, EL CORTEZ BLDG.

PHONES 7-9645 AND 5-9546

ALBUQUERQUE, NEW MEXICO

NAME	REPRESENTING	LOCATION
Harry Dippel	Conoco	Fort Worth, Tex.
J. T. Elsie	The Texas Co.	Houston, Texas
W. H. Everett	The Ohio Oil Co.	Houston, Texas
Coe Mills	The Ohio Oil Co.	Midland, Texas
E. J. Pierce	Mid. Cont. Pet. Corp.	Midland, Texas
H. E. Massey	Cities Service Oil	Hobbs, N. Mes.
Edward Wright Jr.	Dalport Oil Corp.	Dallas, Texas
L. W. Folmer	The Texas Co.	Fort Worth, Texas
L. F. Shiple	The Texas Co.	Fort Worth, Texas
V. F. Bullnie	The Texas Co.	Midland, Texas
Dick Booker	CSO Co.	Roswell, N. Mex.
W. W. Mankin	The Texas Co.	Fort Worth, Texas
N. G. Payne	Continental Oil	Wichita Falls, Tex.
E. W. Nestor	Shell Oil Co.	Hobbs, N. Mex.
Alan C. Roberts	Cities Service Oil	Midland, Texas
Ted Wilson	Cities Service	Roswell, N. Mex.
Ross Madule	Magnolia	Dallas, Texas
Ross L. Malone, Jr.	Gulf	Roswell, N. Mex.
Ralph L. Gray	Buffalo Oil Co.	Artesia
J. R. Green	Skelly Oil Co.	Eunice N. Mex.
C. A. Hill	Shell Oil Co.	Midland, Texas
V. T. Lyon	Continental Oil Co.	Fort Worth, Texas
J. R. Luttrell	Shell Oil Co.	Midland, Texas
G. E. Trumble	Samedan	Midland, Texas
Martin A. Row	Sun Oil Co.	Dallas, Texas.
J. K. Smith	Stanolind	Ft. Worth, Texas
R. L. Boss	Gulf Oil Corp.	Ft. Worth, Texas

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

NAME	REPRESENTING	LOCATION
Jason Kellahin	Attorney	Santa Fe, N. Mex.
R. E. L. Batts	Gulf Oil Corp.	Ft. Worth, Texas
Wm. R. Frederici	Stanolind-Shell	Santa Fe, N. Mex.
A. R. Ballou	Sun Oil Co.	Dallas, Texas
Don Walker	Gulf Oil	Ft. Worth, Texas
E. P. Keeler	Magnolia	Dallas, Texas
Ed Noble	Samedan	Tulsa, Oklahoma
Max E. Curry	Skelly Oil Co.	Hobbs, N. Mex.
A. A. Kemnitz	Samedan	Hobbs, N. Mex.
W. G. Abbott	Amerada	Monument, N. Mex.
L. A. Hanson	O. C. C.	Artesia
John A. Woodward	Amerada	Tulsa, Oklahoma
D. W. Mitchell	El Paso Natural	Farmington, N. Mex.
L. O. Galloway	El Paso Natural	Farmington, N. Mex.
F. Norman Woodruff	El Paso Natural	Houston, Texas
J. W. Baulch, Jr.	El Paso Natural Gas	Jal, N. Mex.
C. M. Bumpass	Gulf Oil Corp.	Hobbs, N. Mex.
T. L. Ross	Gulf Oil Corp.	Ft. Worth, Texas
R. W. Allen	El Paso Natural Gas	Farmington, N. Mex.
E. G. Coel, Jr.	El Paso Natural Gas	Farmington, N. Mex.
W. E. Bernhardt		Roswell, N. Mex.
V. M. Stricklen	El Paso Natural	Farmington, N. Mex.
R. T. Wright	El Paso Natural	Jal, N. Mex.
W. M. Rodgers	El Paso Natural	Farmington, N. Mex.
Oscar Thomas	El Paso Natural	Farmington, N. Mex.
R. C. Sears	Warren Pet. Corp.	Tulsa Oklahoma
O. Gordon Oldham	Warren Petroleum	Tulsa, Oklahoma

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ROOM 105-106, EL CORTEZ BLDG.  
PHONES 7-9645 AND 5-9546  
ALBUQUERQUE, NEW MEXICO

NAME	REPRESENTING	LOCATION
Q. B. Davis	Southern Union	Dallas, Texas
A. M. Wiederkehr	Southern Union	Dallas, Texas
Dudley C. Phillips	Sinclair Oil & Gas	Tulsa, Oklahoma
Frank E. Poulsen	Sinclair Oil & Gas	Ft. Worth, Texas
A. H. Floyd	Sinclair Oil & Gas	Roswell, N. Mex.
A. L. Porter Jr.	O. C. C.	Hobbs, N. Mex.
W. E. Hubbard	Humble	Houston
S. J. Stanley	O. C. C.	Hobbs
Clarence Hinkle	Humble Oil & Ref.	Roswell, N. Mex.
C. S. Neel, Jr.	Humble	Midland, Texas
R. S. Dewey	Humble	Midland, Texas
R. S. Christie	Amerada	Tulsa, Oklahoma
R. T. Montgomery	O. C. C.	Artesia, N. Mex.
Elden H. Foster	United Carbon	Pittsburgh,
T. A. Eaton	United Carbon	Santa Fe, N. Mex.
Jack M. Campbell	United Carbon	Roswell, N. Mex.
Merle B. Rogers	El Paso Natural	Jal, N. Mex.
E. A. Utz	N. M. O. C. C.	Santa Fe, N. Mex.
C. F. Bedford	Stanolind Oil & Gas	Ft. Worth, Texas
J. H. Vickery	Atlantic Refining	Midland, Texas
E. M. Knight	Stanolind Oil & Gas	Roswell, N. Mex.
J. W. House	Humble Oil	Midland, Texas
J. N. Dunleavy	Skelly Oil	Hobbs, N. Mex.
O. P. Nicola, Jr.	Phillips Pet. Co.	Bartlesville, Okla.
R. F. Holland	Lowery Oil	Albuquerque, N. M.
John M. Kelly	Independent	Roswell, N. Mex.
J. J. Abendschan	O. C. C.	Aztec, New Mexico

NAME	REPRESENTING	LOCATION
Emery C. Arnold	O. C. C.	Aztec, New Mexico
Charles C. Harlan, Jr.	Foster Morrell	Roswell, New Mexico
Ray E. Seifert	Amerada	Midland, Texas
J. E. Lewis	Amerada	Tulsa, Oklahoma
M. H. Culfender	Phillips "66"	Bartlesville, Okla.
Albert Gackle	Gackle Oil Co.	Ft. Worth, Texas
Foster Morrell	Independent	Roswell, N. Mex.
Dan G. Howard	Warren Pet. Corp.	Tulsa, Oklahoma
G. E. Stahl	Permian Basin P. L.	Omaha, Nebraska
G. L. Tribble	Permian Basin P. L.	Omaha, Nebraska.
Paul S. Johnson	Trinity Production	Hobbs, N. Mex.
George W. Selinger	Skelly Oil Co.	Tulsa, Oklahoma

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
February 17, 1954

IN THE MATTER OF:

Notice is hereby given by the State of New Mexico, through its Oil Conservation Commission, that Texas Pacific Coal and Oil Company, upon proper petition, has requested a rehearing in Case 582 (relating to rules and regulations for the Jalco Gas Pool, Lea County, New Mexico); that in said petition, petitioner asks rescission of Orders R-368 and R-368-A entered in Case 582 under dates of September 28, 1953, and November 10, 1953, respectively; that the Commission, by its Order No. R-368-B, has granted said rehearing and set it for 9 a.m. on January 21, 1954, at Mabry Hall, State Capitol, Santa Fe, New Mexico, at which time petitioner and other interested parties will be heard.	) Case No. 582 Rehearing Continued
--	---

BEFORE:

R. R. Spurrier, Secretary, Oil Conservation Commission  
E. H. (Johnny) Walker, Commissioner of Public Lands  
Honorable Edwin L. Mechem, Governor

TRANSCRIPT OF PROCEEDINGS

(Notice of publication read in Case No. 582.)

MR. KELLAHIN: I am Jason Kellahin, representing Samedan Oil Corporation. Rather than interrupt the case as it proceeds, I would like to reaffirm our objections in connection with the boundaries in this case for the reasons previously stated. I would like to have the objection show to any testimony --

MR. SPURRIER: (Interrupting) As far as the Jalco Pool?

MR. KELLAHIN: Where it has a common boundary. May I have a ruling on the objections, please, or are you arguing the objections, sir?

MR. RUSSELL: No.

MR. SPURRIER: The record will show that Mr. Kellahin's motion is a continuing motion throughout the case. Mr. Russell.

MR. RUSSELL: Mr. Commissioner, I would like to get a clari-

fication of a statement, or an offer, by Mr. Macey, which appears in the transcript on Page 157. As it appears in the transcript, it reads as follows: "Mr. Macey, I would like also, at this time, to introduce all of the company's production records on the Jalco Pool". We should think that probably should be Commission's.

MR. MACEY: I believe you are right. The intent was to introduce all of the Commission's production records on the Jalco pool, and we offered them in evidence. I believe they were introduced.

MR. RUSSELL: It is my question whether the company should be Commission, and if the transcript could be changed accordingly. At this time, I would like to offer into evidence Texas Pacific's Exhibit Number 57, which is the Commission's Gas Prorationing Schedule, for the month of February.

MR. SPURRIER: Without objection it will be admitted. The record will be changed to show that should be "Commission".

MR. RUSSELL: The applicant rests.

MR. SPURRIER: Anyone else have testimony to present in this case?

MR. FOSTER: If it is permissible, Phillips would like to introduce some testimony at this time.

MR. SPURRIER: It is.

MR. FOSTER: If the Commission please, I would like to state that Phillips Petroleum Company's holdings in the areas in controversy here are relatively speaking, small. We are not here to particularly join issue with the Texas Pacific in this matter, but the Texas Pacific has a controversy with the Commission, and we feel that it is to our best interest to support these conservation

orders. That is the reason we are here. We want to present some testimony here, designed to show that these orders protect correlative rights, and that they were necessary in order to prevent waste in the gas pool.

R. D. GRIMM

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

DIRECT EXAMINATION

By MR. FOSTER:

Q Will you state your name to the Commission and reporter?

A R. D. Grimm.

Q Where do you reside?

A Bartlesville, Oklahoma.

Q You are employed by Phillips Petroleum Company?

A That is correct.

Q What capacity?

A I am Assistant Manager of Reservoir and Reserve Division in the Economics Department.

Q What is your professional training?

A I am a graduate engineer, Bachelor of Science Degree in Petroleum Engineering from the Missouri School of Mines.

Q What year?

A 1937.

Q Have you practiced your profession since the time of your graduation?

A Yes, sir.

Q And how long with Phillips Petroleum Company?

A 17 years, approximately.

Q Sir?

A Approximately.

Q Approximately 17 years. What are your duties as an employee of Phillips Petroleum Company, and in the capacity that you have stated?

A My duties are to supervise the estimate of reserves, rates of production, reservoir work for the Economics Department for use by the management of our Company in their future building and plans.

Q And in the discharge of your duties to Phillips Petroleum Company, have you had occasion to study the Eumont, Arrow and Jalco and Langmat Gas Pools in Lea County, New Mexico?

A Yes, sir.

Q For what purpose was that study made?

A Well, originally I had charge of this particular area as a district engineer of the Economics Department for the reservoir and oil work. Since that time, I worked both for our company and with other companies in studying the area, mainly in connection with El Paso Natural Gas Company's building of their first line to the West Coast, and subsequent enlargements, and since that time with Permian Basin Pipeline Company when they made their original application before the Federal Power Commission for a certificate of convenience and necessity to build their line from this area up to the Panhandle area.

Q Over how long a period have your studies continued in these gas pools?

A Between 12 and 13 years.

Q Have you made a recent study of the pools for the purpose

of testifying in this case?

A Yes, sir.

Q First of all, I would like to submit to the Commission, the witness has been qualified to testify in this case.

MR. SPURRIER: His qualifications will be accepted.

Q First, would you detail for us, Mr. Grimm, the general development pattern in the pools that we are talking about? On what acreage pattern has the pool generally been developed?

A Well, the acreage pattern on the gas pool, as it is presently designated is on 160 acre pattern. However, the pools are being developed in the main in recompleting wells which have been developed upon a 40 acre for oil production.

Q Generally, the development for gas wells in the pools that I have mentioned here has been on 160 acre pattern, is that correct?

A That is right.

Q Have you made any study for the purpose of determining what is the efficient drainage area of a gas well in these pools?

A I have made such a study on these pools and many other pools in the past ten, twelve years.

Q Would you tell us what, in your opinion, is the efficient and economic drainage area of a gas well in the Eumont, Arrow and Langmat and Jalco pools?

MR. RUSSELL: If the Commission please, I would like to object to any evidence presented by Judge Foster's witness, with reference to the Eumont pool, as being outside the scope of this hearing, and also the Langmat pool, other than as the common

boundary is concerned. ADA DEARNLEY & ASSOCIATES

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MR. SPURRIER: Let the witness answer the question.

Q Will you answer the question, Mr. Grimm?

A In my opinion, any well within the boundaries of these pools, can economically drain as much as 640 acres, if not more.

Q Would you say that the pattern, as fixed by the Commission at 160 acres, is fair and equitable pattern, as far as these fields are concerned?

A Yes, sir.

Q You would say that although, in your opinion, you would say that a well might drain considerably more acreage than that?

A That is right.

Q You know it will drain that much, don't you?

A Yes, sir.

Q You know that probably it will drain in excess of that acreage?

A Yes, sir.

Q Percentagewise with a percentage of the pool, as far as the gas wells are concerned, is developed on a pattern of 160 acres?

A Between 25 and 35 percent.

Q Percentagewise, as far as the oil wells are concerned, what percent of the pools are developed on a 40 acre pattern?

A In my opinion, essentially 100 percent.

Q Essentially 100 percent? A Yes, sir.

Q Is it a fact that most of these wells, or a good many of these wells in these different pools, the oil wells are now nearing a depletion stage?

A A large percent of them are, yes, sir.

Q What percentagewise would you say?

A I don't have that figure.

Q You don't have that figure?

A No, sir.

Q You know it is a larger percent?

A Yes, sir.

Q Those wells that are being depleted, the oil wells, it is safe to assume that they will be, in the future, converted to gas wells, is it not?

A I think a large percentage of them will be reconverted to gas wells. I don't know that each one will be, because they are on 40 acre spacing, the gas wells are at present given 160 acre spacing, I can see no need for all four oil wells on 160 acre tract being reconverted into gas wells.

Q But there will be some reconversion of those wells?

A Yes, sir.

Q And some of them on 40 acres?

A Yes, sir.

Q Is that true?

A Yes, sir.

Q A good many of these oil wells in the area have braden-head, do they not?

A Yes, sir.

Q And they are now producing oil, or gas, through the braden-head, is that right?

A Yes, sir.

Q So that essentially, you have there in the area that we are talking about, a large number of gas wells, that is wells

that are producing gas through the bradenhead, that are located on 40 acre units?

A Yes, sir.

Q And some of those will remain that way, in your judgment?

A Yes, sir.

Q Now, there has been a good deal of testimony here in this record, Mr. Grimm, about whether the Jalco and the Langmat pools particularly, whether they are oil pools or whether they are gas pools. Have you any opinion on that controversial subject?

A In my opinion, they are essentially gas pools.

Q How do you determine, in your own thinking, at least, whether an area is essentially a gas pool or whether it is essentially an oil pool?

A The relative volume of the total reservoir, which is initially, or presently, filled with either oil or gas, should determine that.

Q And what is the situation in the Jalco and Langmat area, particularly on that subject?

A By far, the majority of the reservoir is filled with gas.

Q And in your opinion, has the Commission properly classified the various pools there as gas pools, rather than as oil pools?

A Yes, sir.

Q Another controversial matter is the division line between the Jalco and the Langmat pool. I want to direct your attention over there to the map at the extreme left, and will you identify that as Phillips Petroleum Exhibit Number One, down there at the

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bottom. Put a one on it so we will know what it is.

A (Witness complies.)

Q Directing your attention there to Phillips Petroleum Company's Exhibit Number 1, will you tell us what that map represents? What is it?

A This map represents the area in southeast Lea County, New Mexico, which embraces the Eumont, Arrow, Langmat and Jalco Gas Pools, along with the considerable portion of the oil producing area within the same general area.

Q I am wondering -- Go ahead.

A On the map are placed the outlines of the three or the four gas pools mentioned, as well as the January, 1954 acreage, allocated to gas wells by the New Mexico Conservation Commission. In addition, the wells which are classified as gas wells, on the January, 1954 Gas Proration Schedule, are also designated. In addition, there has been a comparison made between the average production of these wells for the first eleven months of 1953, with the projected allowable for the first six months of 1954 as shown on the January, 1954 Gas Proration Schedule. The wells which are projected to have more allowable per month, for the first six months of 1954, than their average production during eleven months of 1953, are colored in red. That is the wells or the acreage which is listed as supporting these wells. I am sorry, I believe I misspoke myself. The wells are colored in blue, if they have more.

Q They are what you call your blue wells, down there in the legend?

A That is right.

Q In addition to the coloring, there is a figure on the map

on each acreage tract, which gives the increase in average production per month. It is listed as plus some figure, which will be in millions of cubic feet per month.

A That is correct. The acreage colored in red shows the wells and their tributary acreage, which are projected to have an allowable less than their average production for the first eleven months of 1953. In addition to those two colors, there is a color here, brown, with an indication of an "nw" which indicates that wells that are on the schedule for the 1954 gas proration schedule which were not listed as producing through 1953.

Q What do the letters "nw" stand for, in your thinking?

A In my own thinking they stand for new wells, insofar as the Commission is concerned. It doesn't necessarily mean that they are physically a new well. They may have been sitting there for a long time.

Q It means wells that have obtained a connection to a pipeline since the institution of prorationing by the Commission?

A That is correct.

Q Isn't that correct?

A Yes, sir.

Q What other legend do you reflect there on the map?

A I have in addition, a notation of an "ow" by a number of wells that are placed on this map, which is simply a notation of wells which we have on our own records --

Q (Interrupting) You mean Phillips Petroleum Company --

A (Continuing) Phillips Petroleum Company, which showed production during 1953 and not carried on the January, 1954, proration schedule.

Q In other words, those "ow" wells are the ones that the records of Phillips Petroleum Company show they are producing gas wells, but the records of the Commission doesn't show what they are?

A That is correct.

Q What does that "ow", in your thinking there, stand for?

A It can stand for either old wells, or oil wells. It may be either one.

Q It may be either one?

A Yes, sir.

Q In any event, you found in the areas that we are talking about, wells which are now on the schedule of production of the Commission since the institution of proration, that were not carried, that is on the gas schedule, that were not carried on any schedule prior to the advent of prorationing?

A That is correct.

Q Is that correct?

A Yes, sir.

Q Do you know whether those wells were producing before proration went into effect here, or not?

A No, sir, I do not.

Q You wouldn't know about that? I want to get back to the blue and the red colored acreage there on the map, which you explained that the blue wells are the wells which are under proration as instituted by the Commission now receiving more gas allowable than they were receiving prior to the advent of prorationing. And the red colored acreage contains wells that are now receiving less gas allowable than they were receiving prior to the

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advent of prorationing. What does that indicate to you, Mr. Grimm?

A That indicates to me that under the system of gas takes in effect in 1953, that correlative rights were not being protected.

Q In other words, would you say --

MR. RUSSELL: (Interrupting) If the Commission please, to save my continuing to object, I would like to renew my objection to any evidence with reference to correlative rights as being immaterial and outside the scope of this hearing, and would like to have a continuing objection to all such testimony.

MR. FOSTER: I might explain to the Commission that is our position under the statute, that the Commission may prorate gas and absent waste for the purpose of protecting correlative rights. That is, in other words, you don't have to have waste. I think you got it, however, but we will attempt to prove that too. But we also think that you do not have to have waste in order to be able to prorate gas in these fields, because you are authorized to prorate it for the purpose of protecting correlative rights as well as for the purpose of preventing waste.

MR. RUSSELL: The courts take the opposite position.

MR. FOSTER: That is something that the Commission can't settle. It is a legal argument.

MR. SPURRIER: Judge, can you have the witness explain his statement about correlative rights?

MR. FOSTER: He didn't even get through.

MR. SPURRIER: The record will show your continuing objection, and the witness will proceed.

Q Will you go ahead, Mr. Grimm?

A In addition to the information shown on this map, showing

that the method of production during 1953 did not protect correlative rights, it also shows very clearly, a waste of underground energy in that on these tracts of essentially the same area, when one tract takes more gas than its immediately adjoining tract, it means that it is lowering its bottom hole pressure more than the adjoining tract, or has a tendency to, which means it is producing gas from a further point in the reservoir, and because of this, it has a greater bottom hole pressure drop to the top of the well, and it takes more energy then to pump the gas to its ultimate market. So, as well as not protecting the correlative rights, it also shows waste.

Q Would you say that the system of proration that has been inaugurated by the Commission that correlative rights in these fields are now being protected?

A Yes, sir.

Q Would you say that under the present basis of proration by the Commission, that correlative rights were not protected under pipeline proration that existed in the field in 1953?

A That is correct.

Q Why do you say that under the pipeline system of proration that existed in these fields, correlative rights were not being protected?

A Because, as shown by this exhibit, that adjoining tracts were taking considerably different amounts of gas during 1953, and if one owner owned 160 acres and got more than the man owning the adjoining 160, then the adjoining 160 acres didn't have the correlative rights protected; he was losing gas, and that is correct.

Q This was the case, was it not?

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A Yes, sir.

Q So that under pipeline proration before the advent of proration by the Commission, there was a wide variance in gas between tracts of equal size?

A Yes, sir.

Q Can you give us some of those instances, just for purposes of your expression?

A Well, I have to go to the next map to do it.

Q Well, do that, and mark it Exhibit Number Two.

(Witness complies.)

MR. RUSSELL: If the Commission please, while he is marking the map, may objections extend to all questions with regard to waste also, as being outside the scope of the re-hearing?

MR. SPURRIER: Your objection will be contained in the record, Mr. Russell. Go ahead.

Q Directing your attention there to Phillips Petroleum Company Number One, will you tell us what is reflected on that map?

A Number One?

Q I mean Number Two.

A On Exhibit Number Two, we have posted the monthly average gas production for the wells in the Eumont, Arrow, Jalco and Langmat gas pools for the first 11 months of 1953. The 12th month was not available to us at the time this exhibit was made. We have placed on this exhibit, immediately adjacent to the well symbol, the average monthly production in millions of cubic feet.

Q That map is designed to show that production on an unregulated basis just doesn't protect correlative rights, isn't that true?

A That is right.

Q Can you point out some of the specific examples that are reflected on that exhibit?

A Well, in the Southeast quarter of Section 30, Township 21 South, Range 35 East had three wells producing during 1953, the total monthly take off those three wells is approximately 28,000,000 a month. The quarter section to the north had no gas wells, we are not listed as producing; the one to the west had one well producing an average of 15.6 per month. To the south was one that produced 6.5; to the east, no wells; to the northeast, there was one well of 3.9 million a month.

Q Going back over there to Exhibit Number One, how has the order of the Commission putting in force proration, tended to correct that situation that you have just pointed out?

A In that particular quarter section, it doesn't have an allowable, it isn't on a schedule as yet. The quarter section to the north has a gas well which just appeared on the schedule, and which didn't produce last year. It would be to the west, the gas well there is on a 80 acre unit, and has had its allowable cut some 4,000,000 a month. The one to the northeast is on an 80 acre unit, and has had its allowable increased 7,000,000 a month. To the south there is an 80 acre unit which has had its allowable increased 4.8 million a month. I assume that any time they want to put that particular one on the proration schedule it would get some, I believe, some ten million a month, I am not too sure what the well would be; I think it would show on the schedule.

Q That tends to correct the inequities between withdrawals, between wells under regulated system and under a non-regulated

system, does it not?

A That is correct.

Q Can you give us one more example; I don't want to burden the record with them.

A In the southwest quarter of Section 9, 23 South, 36 East, there were two wells listed as producing during 1953, which produces some 20 million a month. To the east there was one well owned by the same operator that produced 16 million a month. To the west there was one well that produced 13 million a month. To the south, there was no well; to the north, there was one well producing 18 million a month. To the southwest, there was one well producing 5.2 million a month.

Q How has that been corrected, as reflected on Exhibit Number One?

A As shown in Exhibit Number One, every one of the wells has had an increase in production, or an allowable over its last year production, and to the southeast there is a new, two new units have been added which, of course, increased over nothing as far as last year is concerned.

Q Of course, giving a well an increase in an allowable doesn't mean it gets it, does it?

A That is right.

Q It gives it an opportunity to get it?

A Equal opportunity.

Q That is all the Commission can do, it can't make a well produce?

A Yes, sir.

Q ~~That is what you mean by protecting correlative rights,~~

each one an equal chance to produce the gas that is in place beneath the land on which the well is located?

A Yes, sir.

Q Is that what you have in mind?

A Yes.

Q Before I leave Exhibit One over there, those N. W. wells that are in brown, that exhibit reflects that before proration went into effect, there were a large number of wells in these fields that had no pipeline connection, does it not?

A Yes, sir.

Q And that immediately after proration went into effect these wells were connected to a pipe line?

A I assume they were connected to a pipe line, at least they were given an allowable, and I don't think they would have asked for an allowable if they didn't have a market.

Q Well, are they shown on the schedule?

A Yes, sir.

Q Presumably, as far as you know, they are now producing?

A That is right.

Q They were not doing that before?

A That is right.

Q That, in your judgment, if the order did bring that about, would that tend to protect correlative rights?

A Yes, sir.

Q Still directing your attention there to Exhibit Number One, there has been a lot of controversy here about the dividing line between the Jalco and the Langmat Pools, have you given that any study?

A Yes, sir.

Q Was that a subject of study prior to this controversy here between the Commission and Texas Pacific, as far as you were concerned?

A Yes, sir.

Q And have you arrived at any conclusion as to whether or not there is any effective barrier between the Jalco Pool, as delineated by the Commission, and the Langmat Pool?

A In my opinion there is no barrier from a reservoir standpoint.

Q From a reservoir standpoint, in your opinion, is the area that comprises the Jalco and the Langmat Pools one common source of supply, or one common reservoir?

A Yes, sir.

Q Let me ask you this further question. Is there any practical objection, however, to prorating them or separating them for proration purposes, in your judgment, at this time?

A No, sir.

Q Would you say that the Commission, as a practical matter, has accomplished a beneficial use by separating the two pools for proration purposes?

A In my opinion, yes, sir.

Q It is a fact, is it not, that the only way that any owner of the gas well in the Jalco Pool and the Langmat Pool could possibly be injured by the present line of demarcation between the two pools would be for the allowable in the two pools to become greatly disproportionate?

A Well, if I understood the question, that is correct.

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Q Do you have some figures on what the allowable in the Jalco Pool is as it is presently constituted, as compared with the present allowable in the Langmat Pool?

A Yes, sir.

Q Would you place those in the records, please?

A You mean for February, or for January?

Q Well, for either month, or if you have them, for both months; we will be glad to have them both.

A We have. 160 acre unit allowable as shown on the February schedule for the Jalco Pool, 30,358,000 cubic feet; for the Langmat Pool, comparable allowable is 40,357,000 cubic feet.

Q Is there enough difference in the two allowables, do you think, to cause any interference with correlative rights between the owners in the different pools as they are now classified by the Commission?

A There might be right along the line.

Q It might be close, but you don't think it has?

A Yes.

Q But you don't think it has reached that point yet?

A No, sir.

Q When it does reach that point, when the allowable in the two pools do become so disproportionate that correlative rights are not being protected, it would be your recommendation that the two pools be prorated as one pool, is that right?

A That is correct.

Q Is that right?

A Yes, sir.

Q It is a fact, isn't it, that in prorating pools, that it

still is sort of a common practice to divide them, just for convenience purposes, for purposes of convenience?

A That has been done many times.

Q The only way that anybody can get hurt there is for the allowables and the nominations in the two pools to become greatly disproportioned?

A That is right.

Q Would it be your recommendation that for the present at least, that the pools, as delineated by the Commission, be allowed to remain as they are?

A Yes, sir.

Q Now, I want to direct your attention to the third map which you have on the board, and if you would, identify that as Phillips Petroleum Company's Exhibit Number Three.

(Witness complies.)

Q Will you just explain to the Commission what that map is, please?

A That map shows the pipeline connection of all gas wells on the January, 1954 gas proration schedule; that is it, I guess.

Q Well, that is all it does show?

A Yes, sir.

Q Let me ask you the purpose in preparing that map, Mr. Grimm, was to show that pipeline takes, if ratable as between connections, between connections between the pipeline, were not ratable as between takes in the field, is that right?

A That is right.

Q Does that map show that?

A Yes, sir.

Q Explain just how it does.

A It shows that any one pipeline system has connections scattered all the way up and down the whole trend, and that if each pipeline system took rateably between the wells to which it was connected.

Q On whatever basis it might determine rateable take?

A That is correct. If they took rateably within their own system, this would still not be taking rateably with the other pipeline systems, and it would be probably that as they cross individual lease lines and individual gas unit lines, that you would have non-rateable takes.

Q Therefore, you would fail in protecting correlative rights?

A Yes, sir.

Q Do you regard it as necessary that the Commission institute some system of proration in these fields in order to protect correlative rights?

A Yes, sir.

Q Turning to the question of waste, have you made any study, Mr. Grimm, for the purpose of determining whether any waste has been committed in these areas or not?

A I have.

Q Over what period of time did your studies extend?

A We have made a continuing study of this whole gas situation since I first became associated with the Phillips Economic Department back in 1941.

Q To your knowledge, over how long a period of time has waste been occurring in these fields?

A Since the first well was drilled into.

Q And that is even continuing up to the present time, isn't it?

A Yes, sir.

Q Have you made any charts or graphs for the purpose of illustrating waste that is occurring in these fields?

A Yes, sir, I have a graph.

Q Would you place that on the board?

MR. SPURRIER: Let's take a short recess.

(Recess.)

MR. SPURRIER: Mr. Foster, you may proceed.

Q Mr. Grimm, will you identify the chart that you just placed on the board there as Phillips Petroleum Company's Exhibit Number Four?

(Witness complies.)

Q Will you explain to the Commission, and for the purpose of the record, what is reflected on that chart?

A This chart shows in a graphical form the millions of cubic feet vented per month from four gasoline plants in Lea County, New Mexico, which are connected to both casinghead and gas wells within the area of the Eumont, Jalco and Langmat fields.

Q As to the amount of gas being vented to those plants, what does the exhibit show?

A It shows it for each individual month. However, for December of 1953, it shows that at the Warren Monument Plant there was some 22 million cubic feet vented, for the Phillips Eunice Plant, there was 50, about 55 million cubic feet. For the El Paso Jal Number One, there was about 24 million cubic feet, and

for El Paso Jal Number Two, there was approximately 45 million cubic

A I would say in the order of seven to ten times.

Q Seven to ten times greater?

A Yes, sir.

Q In view of that situation, is it your judgment that it is necessary to limit the production of gas from these wells in order to prevent waste?

A Yes, sir.

MR. FOSTER: If the Commission please, I would like to introduce the Exhibits 1, 2, 3 and 4, and the schedule that has been referred to as part of Exhibit 4.

MR. RUSSELL: The applicant objects to the introduction of those records for the reason they are not within the scope of this hearing.

MR. SPURRIER: The Exhibits will be admitted.

MR. FOSTER: I believe that is all.

MR. SPURRIER: Does anyone have a question of this witness?

MR. ADAIR: If the Commission please, I have a few questions.

CROSS EXAMINATION

By MR. ADAIR:

Q Mr. Grimm, I believe that you testified that there was no reason whatsoever for drawing the line that now separates the Jalco and Langmat Pools, as delineated by the Commission?

A I testified that from a reservoir standpoint there was no reason.

Q In other words, there is no reason, from a reservoir standpoint, that is geological or engineerwise, for drawing the line where it is?

A From a geological standpoint and from a reservoir standpoint. Engineering takes into account economics, and I didn't so testify.

Q From a reservoir and a geological standpoint, there is no reason for delineating the Jalco Pools east line where it is delineated?

A That is correct.

Q Then to that extent, the Jalco Pool, as delineated by the Commission, is not a separate common source of supply, is it?

A That is correct.

Q I believe you testified that, in your opinion, one well will drain at least 640 acres?

A Yes, sir.

Q If that well happened to be located anywhere along the east line of the Jalco Pool, but in the Langmat Pool, then that well would drain across that line, would it not?

A In all probability, yes, sir.

Q That would be true all up and down the 36 mile line separating the two pools?

A Yes, sir.

Q You testified something with respect to correlative rights. You testified also that the allowable for the month of February in the Langmat Pool was somewhere in the order of 40,000 MCF per month?

A Yes, sir, that is what the schedule reflects.

Q The schedule was something in the order of 30,000 MCF per month in the Jalco Pool?

A That is right.

Q In other words, the Langmat Pool allowable is in the order of a third greater for February than that of the Jalco Pool?

A When compared to the Jalco Pool, yes, sir.

Q Don't you think that correlative rights would be disturbed along the entire length of the 36 mile line, if the actual takes of gas were in accordance with the allowables?

A I think I so testified, yes, sir.

Q Will you refer to your Exhibit 1 and point out to the Commission within the area delineated as the Jalco Pool, one single instance where correlative rights were disturbed in 1953, and were cured as a result of gas prorationing?

A From --

Q (Interrupting) Within the areal extent of the Jalco Pool, in Exhibit 1, point out to the Commission one single instance, if you please?

A I can do it much better on Exhibit 2. I can -- here, I don't have the exact figures on Exhibit 1 on the west half of Section 17 -- Wait a moment, I have to check my ownership on that one. Wait a moment, that is all owned by the same operator.

Q Isn't it a fact --

A (Interrupting) In the southwest quarter of Section 4, Township 23 South, Range 36 East, and in the southeast quarter of Section 5, same township and range, the allowable on the eastern quarter section mentioned was increased five million, and the allowable on the western quarter section, over its production in 1953, and on the western quarter section mentioned, was increased twenty-eight million over 1953. Now, I do not have the figures of the production, but the allowable would tend to correct inequitable withdrawals across those two quarter sections.

Q If you don't have the actual production figures you don't

know whether correlative rights were disturbed in 1953?

A In 1953, yes, sir, I have those figures. I said that the 1954 allowable would have corrected it.

Q Is there anything about a gas allowable that requires a gas purchaser or gas user to take the gas?

A No, sir.

Q Then how can you say that gas proration has corrected any inequities that may have heretofore existed?

A Assume that he put in a market demand and he wants to satisfy the market demand, he has to take it according to what his allowable is. Whether he does or not I can't say.

Q You are comparing actual production in 1953 with what he might take in 1954?

A If he satisfies his market demand.

Q To that extent you are comparing apples and oranges, aren't you?

A I wouldn't say that.

Q It is not comparable?

A Big apples and little apples may be.

Q In one case you are speaking of production and the other case you are speaking of permissive?

A Proposed production, that is correct.

Q How do you know that the same permissive take -- He could still take in 1953, anything he wanted to, couldn't he?

A Yes, sir, as long as he used it for legislative use.

Q As long as he complied with the Commissions uses as to the benefits and the use of gas?

A That is correct.

Q So far as you know has there been a market demand for all of the natural gas taken during 1953 from the Jalco Pool?

A No, sir.

Q Do you know?

A Yes, sir.

Q Has there been a market demand for it?

A No, sir, some of it was wasted.

Q Where?

A I don't have the records here, but I could find them.

Q How do you know that some of it was wasted?

A Because I saw it.

Q Give the Commission the extent and tell us how gas proration would correct it.

A I don't have specific leases where it was wasted in 1953. I drove up through there, I know that I saw it vented. In 1954, I know that it is still being wasted in certain places.

Q So, to that extent, gas proration hasn't changed that?

A No, sir, it hasn't prevented it at all.

Q Wouldn't a more direct way to take care of that waste be for the Commission to put into effect, Rule 404? Are you familiar with Rule 404?

A No, sir.

Q It deals with the equalization of the gas well gas, describes it shall be used for certain benefits and uses. Did you not testify on your direct examination that, in your opinion, the casinghead gas produced from the Jalco area was produced from the same reservoir as the dry gas?

A Yes, sir.

Q Would it follow then, that the oil produced from the wells in the Jalco Pool was produced from the same reservoir as

the dry gas?

A Yes, sir, assuming you mean the Jalco Pool to be the area, not the vertical extent.

Q I am talking about the areal extent of the Jalco Pool.

A Yes.

Q I am talking about the oil produced from the wells within that areal extent.

A Yes, sir.

Q You testified that casinghead gas was produced from the same reservoir as the dry gas?

A Yes.

Q You testify now that the oil was produced from the same reservoir as the dry gas?

A Yes.

Q Does it follow then that it is all casinghead gas?

A No, sir.

Q Wherever the gas is in contact with the oil, is it casinghead gas?

A No, sir, only when produced.

Q I will ask you the question another way. Where the gas is in contact with oil, is it gascap gas?

A I can be.

Q Are you familiar with the Commission rules and definitions, which provide that gascap gas is casinghead gas?

A No, sir.

Q The Commission, in several cases, Mr. Grimm, has granted operators -- I believe possibly your company is one of them -- permission to dually complete gas wells in the Yates formation, oil wells in the Seven Rivers formation. Are you familiar with those applications?

A I am familiar that there are some. The individual cases,

no, I am not.

Q Under your definition, if any such dual completion exists within the Jalco area, under your definition then, you have one well producing two allowables from the same well bore, do you not?

A One well producing one allowable of oil and one well producing an allowable of gas. If you call it two --

Q And the gas associated with the oil, or the casinghead gas, that is produced from the oil is still coming from the reservoir as the gas is?

A I am sorry, would you repeat that question, I lost it?

Q I am talking about a Yates gas completion and the Seven Rivers oil completion.

A Yes, sir.

Q I wanted to be sure that it is your testimony that the casinghead gas produced with the oil, from the Seven Rivers oil completion was coming from the same reservoir as the gas that is produced from the Yates? I believe that is your testimony, is it not?

A Yes, sir.

Q If one well will drain 640 acres, Mr. Grimm, or at least 640 acres, I believe that was your testimony, was it not?

A Yes.

Q Would you recommend to the Commission that they re-define their gas unit?

A No, sir.

Q Put them on a basis of 640 acres?

A No, sir.

Q Does the drainage area of a well have anything to do with the lease lines or fence lines?

A No, sir.

Q So, that in prescribing the proper proration units, the Commission, if it is going to give consideration to the area that is drained by the well, should be permitted, then, under its definition of units to cross section lines, should it not?

A I don't believe I quite understood that one -- If I might have it again.

Q If a well will drain 640 acres, at least, and forming it, under the proration unit which the Commission ascribed to that well, should not the Commission be permitted to cross section lines, if the operator owns acreage that is across the section lines?

A I think so, yes.

Q Your Exhibit 4 there, on the gas venting, do you know what percentage of that gas vented was gas well gas and what percentage was casinghead gas?

A I have no way of knowing that. No, sir. I know that they processed both kinds. I assume it was co-mingled.

Q You have no way of knowing, even if you shut in all the gas wells, some gas would still be vented?

A Certainly, it would be minimized. Yes, I think they would have to vent some gas in the operation of the plant.

Q That is necessary in all plant operations?

A Yes, sir.

MR. ADAIR: That is all.

RE-DIRECT EXAMINATION

By MR. FOSTER:

Q When were you last up through these fields here, for the purpose of seeing whether any gas was being vented?

A Monday.

Q Of this week?

A Yes, sir.

Q Did you notice them venting at that time?

A Yes, sir.

Q Could you tell us where the vent was occurring?

A I could tell you one.

Q Could you give us one of them?

A Yes, sir. The north half of Section 9, 22 South, Range 36 East.

Q Who owns that lease?

A Texas and Pacific Coal and Oil Company.

MR. FOSTER: That is all.

RE-CROSS EXAMINATION

By MR. ADAIR:

Q Give the description again.

A North half of Section 9, Township 22 South, Range 36 East.

Q My map does not show any gas well located on that tract.

A I didn't say it was a gas well.

Q You said gas?

A I said gas was being vented and burned.

Q Let me ask you whether or not it was from a gas well?

A I have no idea.

Q Will you look on your map there and see if there is a gas well on it?

A Gas well listed — I don't know whether there is or not. There is a gas well, it is in the northeast quarter.

Q Do you know whether or not the gas that was being vented came from that particular well?

A No, sir.

Q Would the gas being vented there, that you observed, have anything to do with gas proration?

A Yes, sir, I would think so.

Q If it were casinghead gas?

A Yes, sir.

Q Is it your contention here that casinghead gas is subject to gasproration?

A It is my contention that we had an order that called Jalco and Langmat as gas well, and they could produce gas without limiting gas-oil ratio, as long as it was used for beneficial usage.

Q My point is this, Mr. Grimm, gas proration did not prevent venting of that gas, did it?

A No, sir.

MR. ADAIR: That is all.

By MR. KELLAHIN:

MR. KELLAHIN: Samedan, Continental.

Q You testified that you found no difference between the reservoirs, which would justify, from a geological or reservoir point of view, the line between Langmat and Jalco. Did I understand you correctly?

A Yes, sir.

Q Did you find any discrepancies between the characteristics of the two pools at any point?

A No, sir.

Q Did you find any difference in the bottom-hole pressure in the vicinity of that line, on one side or the other, within the two pools?

A There are some slight differences, but no discrepancies that would indicate to me they were different reservoirs.

Q Could you establish a trend as to those differences? Are they higher, for example, in the Langmat, or lower in the Jalco, or vice versa?

A I don't think so.

Q Did you find any difference in sulphur content?

A There is some difference in sulphur content over the pool, as a whole, but that is true, in many other gas reservoirs.

MR. SPURRIER: Could you speak up a little, Mr. Grimm?

A I will try.

Q Do you find any uniformity in that difference, as between the Langmat and Jalco, Mr. Grimm?

A I have not. I have not made a study specifically for that, other than I have studied the difference in the content, and find no reason to believe that they justify a difference in the reservoir.

Q How many wells have you examined as to bottom-hole pressure?

A Well, I don't know how many wells. I have either drawn or had drawn bottom hole pressure maps on this area, I believe, on every bottom hole pressure survey that has been made since 1941, on a number of wells, I didn't make a count of.

MR. KELLAHIN: That is all, thank you.

MR. SPURRIER: Anyone else?

MR. STAHL: Mr. Stahl, Permian Basin Pipeline.

Q Just one or two questions. I believe you testified that

during 1953 there were certain inequities existing in the various pools under discussion, did you not?

A Yes, sir.

Q When was gas proration put into effect?

A January 1, 1954.

Q Mr. Grimm, as a practical matter, will the institution of gasproration as of January first mean that all of the inequities which existed prior to January first be automatically eliminated as of January 2nd?

A No, sir.

Q In other words, operators and pipeline companies, if they operate in conformance with the rules and regulations as established by the Commission, will tend, over a period of time, to eliminate those inequities which did exist, will they not?

A That is right.

Q But, it does take some period of time?

A Yes, sir.

MR. STAHL: That is all.

MR. SPURRIER: Anyone else?

By MR. MACEY:

Q Mr. Grimm, you testified as to the allowable in the Jalco and Langmat Pool during the month of February?

A Yes, sir.

Q You brought out the point that the Langmat was approximately one-third greater during the month of February, the assigned allowables, than the Jalco, is that correct?

A Yes, sir.

Q Are you familiar with what they were during the month of January?

A I have a schedule that I could --

Q Will you give the Commission those figures?

A During the month of January, 1954, 160 acres in the Jalco Pool was allowed 36,421,000 per month. 160 acres in the Langmat Pool was allowed 30,852,000 per month.

Q So, that from the figures that you just read it appears that the allowables assigned to Langmat, in relation to the Jalco were greater one month and then the opposite was true the next month, is that correct?

A That is correct.

Q Have you studied our rules that have been devised in the gas pools?

A Yes, sir.

Q Is there any concrete way to equalize them over a one month period, as between pools, unless all of the nominations were considered as a unit?

A I don't believe so.

Q But, you could equalize them over a period of, say, six months, couldn't you?

A Yes, sir.

Q Therefore, there wouldn't be any inequities between pools, would there?

A Not over a six month period, that is right.

Q You were questioned by Mr. Adair, pertaining to dual completions. Do you see anything wrong with allowing a dual com-

pletion, allowing the dry gas to be produced from the Yates zone and the so-called casinghead gas and oil to be produced from the Seven Rivers zone? Do you see anything wrong with that?

A No, sir, not as long as the quantities were controlled. Unrestricted production would tend to promote waste.

Q As long as the gas was put to beneficial use, is that another factor?

A Well, that is another factor, but, as between the two completions, the use of the gas, I don't think would necessarily effect the reservoir itself.

Q Mr. Grimm, pertaining to proration units, you testified that a well would drain at least 640 acres, but from the practical standpoint it is your recommendation that the proration unit should be an area of 160 acres, is that correct?

A I believe 160 acres would be a practical proration unit within these fields, inasmuch as a good part of the wells are bradenhead completions and you already have those completions available as soon as they are officially cleaned up and put on their schedule.

Q You would prevent economic waste in some respects by staying at 160 acres, would you not?

A I believe so, and would cost less money.

Q Don't you think there should be some control on where a well is located in that 160 acre area, when you assign it 160 acres?

A I believe that there should be rulings as to a regular location on 160 acres, or, for that matter, on any unit. However,

I think it should be left open for exceptions to be granted, providing the surrounding operators did not object.

Q By exceptions, you mean a unit greater than 160?

A Both a unit greater than 160 and exceptions to the spacing of the well within the 160.

Q Do you think it protects correlative rights to prorate, if you allowed an operator to have an allowable greater than 160, if the well location were in such a position that it would be completely on one side of the unit, in relationship to the other side?

A I believe that the allowable could be so set as to protect correlative rights. It is probable that if 640 acre unit, such as you described, were given four times the allowable of 160 acre unit that it would probably produce some of its gas from neighboring acreages, and in turn be drained of some of its gas from neighboring wells on the other side.

Q You testified also to the affect that the Jalco-Langmat area was essentially a gas reservoir, is that correct?

A Yes, sir.

Q If this Commission were to allow unrestricted withdrawals of gas from that area, would that not tend to reduce the total recovery of the oil on the oil rim of this reservoir?

A Yes, sir, it would cause oil to migrate up in the reservoir, into the gas zone and wet the formation, the reservoir walls, as it were, and be lost forever, as far as producing is concerned.

Q That would be very wasteful, would it not?

A Yes, sir.

Q Mr. Grimm, back to this exception on 160 acre unit, aren't there cases where, if the Commission did not allow exceptions that it would result in the confiscation of property, that it wouldn't be economically feasible for some operator to go over to that end of the unit and drill a well, and if he wasn't allowed he would essentially lose his property unit, isn't that correct?

A That is right.

Q Mr. Grimm, you have the Langmat and the Jalco, you consider them a common reservoir, is that correct?

A Yes, sir.

Q What about the Queens zone in that reservoir?

A I believe it is common with the others.

Q You believe that the vertical limits of the Jalco and Langmat Pools should be extended to include the Queen, is that correct?

A Yes, sir.

Q What about the Eumont with relationship to the Langmat and the Jalco?

A I believe they are all one reservoir.

Q In other words, we have got one great big gas sheet that extends from the top of the Yates to the base of the Queen, is that correct?

A Yes, sir, even lower in some instances.

Q Are you familiar with the pool delineation that the Commission set up in Case 245? Have you studied that at all?

A Not as a case number. I may be familiar with it.

Q But that was the order which the Commission set up these

pools, the Jalco and the Langmat and the Arrow and the Eumont. Have you studied the record or any of the testimony involved in those cases?

A I have not studied the record or any of the testimony of the record, that is right. I have seen some of the exhibits.

Q Could you specifically state which exhibits you might have seen, was it the map that outlined the pool boundaries, by any chance?

A I may have it here, I don't know. I did see the map that outlined the pool boundaries. I don't -- It seems -- I don't know it as a number. I am sorry, I do not have any of those maps here.

Q In view of the circumstances, is it your recommendation that the Commission re-define the vertical limits of the four pools, which you have listed on the map, and combine them into one common pool?

A Did you say vertical?

Q Well, I said vertical, insofar as I was talking about the Jalco and Langmat. The Jalco and Langmat do not include the base of the Seven Rivers and Queens zone, as the Eumont does, I believe.

A If you mean from a reservoir standpoint, I think that that would be the simplest thing to do. From an administrative standpoint, I have no quarrel with the way that they are presently delineated.

Q Do you see anything wrong with the way they are presently delineated?

A No, sir.

Q Do you know of any reason why under their present delin-

eation, anyone will be deprived of any of their rights, or there would be any waste involved if we left it the way it is?

A I think, the only suggestion as to the way it is, I think it probably should be broadened to include more area for each of the pools, in order to be sure that there are no vacant areas within the reservoir that are not taken care of by at least one or the other of the pools. I think, as it is now delineated, I think it can be very definitely used to prevent waste.

MR. SPURRIER: Are there any other questions of the witness?

MR. KELLY: I would like to ask the witness one question.

By MR. KELLY:

Q What is your definition of a gas well?

A Gas well is a well that penetrates a reservoir in which the reservoir fluid is in a gaseous state and when it is produced it produces only fluid which was in a gaseous state in the reservoir.

MR. KELLY: That is all.

MR. SPURRIER: We will take a recess for lunch and come back at 1:30.

(Noon recess.)

#### AFTERNOON SESSION

MR. SPURRIER: The meeting will come to order, please. Judge Foster, do you have anything more?

MR. FOSTER: No, sir, we are through.

MR. SPURRIER: I might say this, do you have anymore to present, Mr. Adair?

MR. ADAIR: We may have a little more.

MR. SPURRIER: The Governor can't be here until later this afternoon. He would like to hear the rest of the case. I suggest that we pass or recess Case 582 until he can be back.

(Whereupon the taking of further testimony in Case 582 was continued.)

M O R N I N G   S E S S I O N  
Thursday, February 18, 1954 -- 9:30 A.M.

MR. SPURRIER: The meeting will come to order, please. Before we get into the hearing, I have an announcement or two. One is a directive, which we dated February 10th and asked for operators in the Tubb and Blinbry Pools for well logs. We note in the directive that very few of the logs have been submitted. The Commission needs those logs and we need your cooperation in getting them in. We left one thing off the directive and that was that they should be mailed to the Hobbs office. If they have been mailed to Santa Fe we will see that they get there, but it will save time and confusion to mail them directly to the Hobbs Office.

The first case we want to consider this morning is to go back into Case 582, the Jalco Gas Pool. Mr. Stahl.

MR. STAHL: If the Commission please, I would like permission to make a brief statement because I have a plane to catch at 10:00 this morning.

MR. SPURRIER: Very well.

MR. STAHL: In reviewing the transcript of the re-hearing and in listening to the testimony which has been presented, it appears to Permian that certain elements of dispute might have easily been resolved by some other method than by an order of the Commission which then has the possibility of going on up through the Courts. If I might briefly review the method by which these rules were derived, it might be of help to everyone.

As you will recall, an industry committee was asked to devise

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a set of basic proration rules for the proration of gas in the four County area. That was done, and as anyone who knows, who served on the Committee, there certainly was no agreement between all companies represented. It was thought by people serving on the Committee that any rules, even though we knew that they were probably vague in some cases, probably incorrect in others, would be of help to the Committee in setting up proration. So, as you all know, those standby rules were written. Only one set of rules was written, even though it was to apply to many diversions, to wit: nine different gas pools, with different problems in each pool. The Commission then put those rules into effect, effective January 1st. It seems obvious, at least to Permian, from the evidence that has been put in in this rehearing order, that there are certain elements that need further definition in the rules; that the rules, as they stand, are probably improper. They do need some clarification. So, it would seem to me that it would save everyone's time and money, besides, we would know where we stand rather than having to wait for the Supreme Court to tell us where we stood, if the Commission would take it upon themselves either to appoint another industry committee to study certain of the specific problems and come up with recommendations, or on their own motion to set hearings to review each of these problems and postpone an order on the rehearing, as requested by T and P, and all others have an opportunity to review either what is the result of the Committee work, or what may be the result of the Commission's opening up certain of these matters on its own motion.

For example, we have listened with a great deal of interest

to the evidence. We feel that there are generally five areas of dispute at the present time. The first of these is with respect to the pool limits. Since there is dispute about that, it would appear that the way to handle it would be to hold a hearing, at which time each interested person could come in and put on their evidence with respect to whether the pool should be redefined or not. That appears to be one of the main elements. It would seem to me to be beneficial to the Commission at this time to get the thoughts of all the expert witnesses, which could be made available on where the pool limits should be. The second area of dispute at this time, as we see it, is whether an operator has the right to multiple allowables for one well. For example, if you have 480 acres in a particular section, and you have one well, whether you will be permitted, providing that you can justify to the Commission, on the engineering evidence that you will have three allowables granted for that one well. As it is presently written you are permitted to ask for an exception but there has been no policy or no rule laid down, to date, by the Commission with respect to knowing where you stand. So, it seems if the Commission would properly qualify that right by saying that the operators have to show - demonstrate through engineering evidence that the granting of a larger allowable, or a multiple allowable, is justified. If they knew they had that right to start out with, we would eliminate the second area of dispute.

The third area, as we see it, is in the definition of a gas well, as opposed to an oil well, particularly in those pools which are primarily gas pools, but do have a rim of oil around

them. I don't think there is any serious dispute among the various operators, it is simply a question of clarification. Again, no one knows exactly where they stand.

The fourth item, which is a corollary of the third, is that the proration of oil wells in a gas area at this time, the effect is rather vague. If the operators knew that if they had an oil well in what is designed as a gas pool, and if they were going to be permitted to produce the oil upon the same basis as the gas is produced from an off-setting gas well, it would go a long way to resolving what appears to be a lot of objections.

The fifth area of dispute, which seems to me relatively minor, and easy to take care of, is to eliminate the necessity of a hearing on an unorthodox location of an existing well. In other words, an oil well which is played out, which has not been located properly under the gas rules where the operator wants to re-complete that as a gas well and get an allowable on it, even though it does not conform to the Commissions spacing order with respect to gas wells, since it is an existing well it seems to me only proper that some procedure be set up, other than the necessity for hearing for classifying that as a gas well.

These five items, of course, present some problems, but it seems to me we are not going to solve the problems by taking this matter up through the Courts. If there is an area in which the Commission and the operators can work to solve the problems, short of litigation, it seems to me it would be to everybody's benefit. Reviewing evidence that T.P. has put on their objections, their first objection deals with the boundary line. They have put in evidence

saying that the boundary line is improper. It seems to me it behooves all of us to find out whether the boundary line is improper, and if it is to move it. Their second area is with respect to the granting of the three unit allowable for one well where they have 480 acres which is contiguous. They have made application, which as yet has not been heard. Here again is an area that can be resolved short of the Courts. The first point they have raised is whether their minimum take provisions in their contract with El Paso would be abrogated by Commission action.

It seems to me, here again is something that can be resolved. T. P. has readily admitted that they have not been hurt and that El Paso has been taking more than the 550 a day minimum. It seems that at such times as T. P. is hurt they then have right to legal action, which fully protects their rights, even though the time for questioning the validity of the proration order may have passed. Permian Basin Pipeline Company feels as I feel, many of the operators and interested parties do, that there is an area in which through cooperative action, and through re-writing the rules to specify what your rights are a little more clearly, we can avoid litigation in this suit and still continue with proration.

I thank you, and I will see you next month.

MR. SPURRIER: Mr. Hinkle.

MR. HINKLE: Clarence Hinkle, representing Humble Oil and Refining Company. I would like to make a brief statement on behalf of Humble. We agree, in part, with what Mr. Stahl has proposed, but in part disagree with him. We believe that the evidence put on in this case clearly establishes that gas pro-

ration is necessary in order to prevent waste and protect correlative rights. We want to commend the Commission on their action that they have taken so far in inaugurating gas proration in southern New Mexico. We think that the field rules that were adopted for these individual fields were probably the best that could be gotten up under the circumstances.

We feel, however, that the Commission, as well as most of the operators realize that these rules are going to have to be amended from time to time, to take care of inequalities as they bob up and do exist. This evidence has also shown that there is an honest difference of opinion as far as the delineation of some of the fields are concerned. We would like to suggest to the Commission that it appoint a technical committee to study the special field rules that have been adopted and to study or re-evaluate the definition of the various gas pools in the light of proration, with possible revision of them to cover the separate reservoirs as they exist; for that committee to report back to the Commission in ample time before the end of the present six months proration period, so that the Commission may adopt additional rules or revise the present rules to take care of the inequalities that may exist; and to also possibly revise the delineation of the fields. I think that particularly applies to the Jalco and the Langmat Fields, and those others where there may have been a lot of old wells drilled. It is a problem that is hard to cope with. The Commission has a hard job working out all of the inequalities.

I think, also, the Commission should consider in connection with entering a supplemental order or an amended order in this case, the revision of the rule, with respect to setting up standard

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units. There is ample testimony in the record to show that one well will adequately drain 640 acres. I think the Commission could solve a lot of these problems, administratively, if they would amend your field rules in the Jalco case, which is pending, to provide for a standard unit of 640 acres. That would mean that the 640 would get an increased allowable, which would be equal to four times the allowable of 160, which has not been set up. It would also mean that the Commission could assign, administratively, without these hearings, acreage in each section to the different wells and in reality accomplish the same thing that you are trying to accomplish by setting up the 160 acre units the hard way.

I think the rules should also be amended to provide that no exception would be allowed to the straight section, 640 standard unit, except where consent of all interested parties is obtained. That would take care of the case that was put on here yesterday by the Gulf. You could make an exception of that kind after a hearing and after you showed the consent of all parties or showed that the proponent of the application owned all the acreage involved.

I think, by following that kind of procedure it would answer 95 percent of all the complaints and, as I say, it would eliminate the filing of a lot of these application for the approval of unorthodox units. In the end it would accomplish the same thing that the Commission is attempting to accomplish by the 160 acre standard unit, which you have set up under this present order. There are a lot of operators who have held back the filing of their application for approval of communitization agreements and unorthodox or non-standard units simply because they wanted to see which

way the Commission was going to rule on this matter. There has been no order, as Mr. Stahl brought out, yet, approving an unorthodox location. If you would amend the rules, as I have suggested, then I think it would be clear what the problem is, and you could immediately straighten out the whole matter. Then, by appointing this committee, by the end of this six months period, and having the experience of this proration period, at least three or four months to go by, to show what the inequalities are, and where they exist and how they should be remedied, the Commission would then be in a position to revise the rules to take care of all the inequalities and possibly re-define these fields as the T. P. has suggested.

MR. SMITH: J. K. Smith, Stanolind Oil and Gas Company. I would like to subscribe to the statements that Mr. Hinkle has made. I think it is a reasonable approach and a fair approach, and there are one or two other matters that present themselves, from a technical standpoint. There has been evidence in the record which would indicate that gas may migrate from the Langmat Pool over into the Jalco Pool, and since the original call of the docket on this particular proceeding didn't contemplate the fact that another purported field would be affected, there might be some question as to the jurisdiction of the Commission in this particular proceeding. I think, however, there has been enough evidence in the record to establish that there are certain disturbances of equality rights in the Jalco Pool which would justify the Commission in holding the order open during a period of time of review, as to whether or not the Langmat Pool and the

Jalco Pool do constitute a common source of supply.

I certainly heartily subscribe to what Mr. Hinkle says in respect to making a complete review of this entire area in order to establish whether or not the withdrawals have been in such a nature as to protect correlative rights of all the parties in the entire area. I am not familiar with the present situation with respect to the sales of gas to the Carbon Black Plant down there. I recall there was some evidence in the record before that the withdrawals in the sour gas end of the field to the Carbon Black Plant, from the City Service lease were in order of nine times the withdrawals of the gas from the T. P. lease. Of course, such a disproportionate withdrawal, completely unregulated would cause an accelerated movement of gas across the entire area. I think those are factors which the Commission must, of necessity, consider under the directions of the Conservation Act.

MR. SPURRIER: Mr. Kelly?

MR. KELLY: I would like to subscribe to Mr. Stahl's recommendation in that the Commission appoint a technical committee, provided, of course, that it is represented by all segments of the industry, including the independents, and also, I would like to see the Committee study in particular the defining of the gas well. It is my understanding that a neighboring State has a statutory definition of a gas well as one being, as a well that produces in excess of 100,000 cubic feet of gas per barrel of oil.

I think, if some type of definition is put into our order, that the confusion resulting after a man drills a well and wondering whether he is going to be put on the gas or oil proration schedule, will be minimized.

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So far as this matter of litigation is concerned, it is practically impossible to satisfy everybody or to write a perfect order, or, as far as that goes, to put anything before any group composed of as many diverse elements or interests as may be represented in this situation. If you are going to wait until eventually you get some kind of an order that completely satisfies everybody, this gas will have long since disappeared. We suggest that you hold on to what you have now. We agree with the appointments of committees to study the matter and improve it, but we do not suggest that you discard a year's work and a year's negotiation on the part of the operators and start afresh at this time.

MR. SPURRIER: Mr. Rowe?

MR. ROWE: Martin A. Rowe, representing Sun Oil Company. We concur in part with statements from practically all of those who have preceded me here this morning, but I think we have probably dissented in part from practically all of them. Our thought is that there are probably some wrongs in the rules that have been written. We concur in the idea that if those things are to be corrected, that a new hearing would have to be called with proper scope of notice to cover it to carry out whatever the evidence shows is necessary. For example, if the evidence shows, as it appears to me to have been shown by the evidence presented here yesterday that 640 acre unit was the one that could be sufficiently drained by one well, then it appears to me that the order should be written following the evidence, but after a parliamentary hearing.

Now, as to the idea of appointing a technical committee to

feet.

Q Over what period of time is gas vented reflected on that Exhibit Number 4?

A For the 12 months of the year, 1953.

Q 12 months of 1952. Have you also prepared a schedule that shows the operators and wells that are reflected in the chart there?

A Yes, sir. For each gasoline plant whose vented gas I reflected on Phillips Exhibit 4, I have a schedule that shows, by months, the number of casinghead wells connected, the number of dry gas wells connected, the total number of wells connected, the monthly gas processed in MCF, for casinghead, dry gas and total, and the total gas vented at the plant for the month.

Q Let me ask you this question. You have used the term "casinghead gas" and "dry gas".

A Yes, sir.

Q For the benefit of the Commission and for the record, will you tell us what you mean by those two terms?

A Casinghead gas is that gas that is produced from an underground reservoir with oil production and from the same well bore.

Q And what do you mean by the term "dry gas"?

A Dry gas is gas produced from a well which is produced without any oil, and is produced from a reservoir which contains only dry gas, or from that part of a reservoir which contains only dry gas.

Q Now, the gas that you defined here as casinghead gas is produced from the same common source of supply, or the same common reservoir as the gas that you have found as dry gas, is it not?

A Yes, sir.

Q Now, the oil wells that are in these areas, some of them have gas-oil ratio limitations, do they not?

A That is right.

Q Would you regard that gas that is being vented in these plants, including the Phillips Plant, as being wasteful?

A Yes, sir.

Q Do you think it ought to be stopped?

A Yes, sir.

Q Do you think a proration, such as the Commission here has promulgated, limiting gas well gas production to market demand will prevent gas waste?

A It will reduce waste and prevent waste. I do not believe it will completely abolish it.

Q It won't stop it?

A That is right.

Q But, it will slow down a little, won't it?

A Yes, sir.

Q Bearing in mind that one of the statutory definitions of waste in this State is the production of gas in excess of the reasonable market demand or the transportation facilities for the handling of the type of gas produced, what would you say, would you say that the producing capacity of these gas wells in these fields is in excess of the reasonable market demand for gas in the area, or the transportation facilities in the area?

A In my opinion, the producing capacity of the gas in the area is many times greater than the transportation facilities.

Q How much greater?

Mr. SPURNIER: Mr. Woodward?

Mr. WOODWARD: We think it is apparent that this is a problem requiring continuing study. However, it has been under consideration for nearly a year now, and these various orders do not purport to be the final orders or the last word, they are probably not the best rule that could be written. There may be other methods that could have been taken, but we think that recognizing that this is a transition of order inasmuch as it clearly contemplates further study of the allocation factor that some real progress has been made in the course of a year. We would be reluctant, after a year's consideration, probably long overdue, to discard what progress has been made.

So far as we can see, there are two problems presented by these fields. One, of course, being the proration or limitation on production to meet market demand from the field as a whole. The second is a problem arising from the fact that your well locations are largely established, your wells have been drilled some years ago as oil wells and recompleted as gas wells, and then you have then the problem of dedicating acreage to these various existing wells. Now, much, much time and negotiation has been spent in attempting to work out means of satisfactorily dedicating acreage to these various existing wells.

We don't object, in any way, to further study, in fact we think that the order as it stands now, clearly contemplates it. We urge the Commission to do so. We ask them to hang on to what they have now and modify and improve what they have, rather than after a year's study and all this lengthy negotiations to discard and start over again.

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further study the thing. I believe that is probably our differing point. We doubt the advisability of doing that. It occurs to us that the Commission has its own staff to study these things. It has its own staff to study the evidence presented at these hearings and that is the matter that the Commission is to pass on the evidence presented at these hearings and not what the ideas of some outside committee might have. In other words, I can well see where it might be construed as an insult to this Commission to suggest they get somebody else to do the work. I think that the Commission should pass upon the evidence presented at these hearings and not have some committee take a vote as to what their ideas are on these matters. So, I would like to urge the Commission to not appoint this technical committee or any other committee of any kind, but if another hearing is necessary, to get out a new notice and do whatever is necessary based upon the evidence presented at the hearing.

MR. SPURRIER: Mr. Adair?

MR. ADAIR: If the Commission please, Mr. Stahl came by earlier this morning and asked if it would be all right with us to interrupt our case in order to make a statement, which, of course, it was all right with us. We don't object to the statements that have been made. We would like to go ahead and complete our record in this case. After we have done so, I would like at that time to answer some of the matters that have been raised here on the floor.

MR. SPURRIER: Very well.

MR. RUSSELL: I presume that other interested parties are

going to offer any testimony or evidence at this point, is that correct?

MR. FOSTER: Mr. Chairman, I had one matter that I would like to call the Commission's attention to before I saw that we had concluded our case. I could do that very briefly if I may do so now.

MR. WALKER: Proceed.

MR. FOSTER: I have been looking over the February proration schedule. I would like to offer that part of the February oil proration schedule that deals with the Langley-Mattix Oil Pool and the Cooper-Jal Pool in the record. I think it very well speaks for itself. You find that there are a number of wells there, including some owned by Phillips, that are producing considerable quantities of gas and very little oil. Perhaps one barrel or two barrels, three barrel wells, you will find that type of well on the schedule. I would also like to offer for the record, Order Number 835, entered by this Commission on September 8, 1949, which did away with gas-oil ratios in all of those fields where gas was being put to some lawful beneficial use. Now, we find ourselves in this situation that we have a portion of the gas wells that are subject to regulation by way of restricting their production to reasonable market demand, as determined by the Commission. Right across the property line you will have a well that is regulated as an oil well, that is producing very little oil, but at the same time there is no regulation at all in the limitation on the gas production from that well. And the gas from each of these wells that I have mentioned, the one that is regulated and the one that isn't regulated is being produced from the same common source of

supply or common reservoir. Now, there is nothing technical about that. That is something that just meets the eye. I just want to make it a part of this record, so that this Commission will have it in the record. It seems to have been a theory developed here that you just have to protect an appeal proof record here, or this Commission doesn't have anything to stand on. I don't share that view with anybody, I don't think that is necessary. I think the Commission that knows something can take that into consideration, whether they put it in the record or not, without an order. It may be convenient, it may be desirable to make all of these things a matter of record, but certainly there must be some limitations on the record that has to be made in any of these cases, particularly in view of the statute. At least that leaves the door wide open to everybody, if, as and when they get to the courthouse with respect to introducing testimony there, rather than here.

One or two other remarks before I close. It seems to me that one of the things that the Commission must decide here, in order to eliminate some of these controversies, if they can be eliminated, is whether or not you are going to administratively prorate these areas as gas fields, or whether you are going to prorate them as oil fields. The Commission, in this Order 835 that I mentioned, said in the order -- Whatever you based it on, I don't know, I wasn't here, I didn't hear any of the records, didn't hear any of the testimony, but you declared, back in September of 1949, that these areas that we are talking about were essentially gas fields. But, at the same time, without appearing to be critical of the Commission, operators have gone about their separate

ways, operating as an oil field where they had an oil well, gas field where they had a gas well. Well, honestly, the time must come, if it hasn't already arrived when that sort of an operation is going to have to be eliminated, and you are going to have to, if you are going to have effective proration and conservation of both oil and gas in the areas, make up your minds which you are going to do and then administer the field under whatever definition you may choose to give it.

I think the Commission has done an excellent job up to now and I don't think that -- I have a feeling, somehow or another, from all I have heard and listened to here in these hearings, in the meetings of the advisory committee, of which I happen to be a member, my company did, I represented them at times, and others at other times, that there are probably some operators that just don't want proration. If that is the case, as to those operators, it doesn't make any difference what kind of an order you write. If you devise a perfect order, it still wouldn't suit them because they just don't want proration for one reason or another. I am not criticizing them for that, maybe they feel that their interest must have been served, but I just want to point it out as one of the problems that you have to contend with here in these matters. If you recall, at the very outset of this thing, I told you it was going to be a long, tiresome, tedious one and we are liable to lose our patience, lose our perspective in these matters, and I can well understand how that can be, because I am getting pretty dog-gone tired of the fight itself. But, it is something that you can't give up on, you have to keep going. We feel that we are

spending a lot of time, a lot of money and spending a lot of manpower in these controversies here, sometimes all out of proportion to what our actual interest in the matter is. It seems to me that if you want proration, we want proration on some fair and equitable basis, in these areas it is being put to somewhat of a disadvantage here. Those who don't want it continually keep telling us to bring in something that will show that we are entitled to it. As to this 640 acre spacing suggested, that was debated extensively in these advisory committee meetings. Phillips Petroleum Company, at that time, took the position that one well in these fields would appreciably and economically drain 640 acres. Now, that is still our position. We urge the adoption of that sort of a rule. Many of the operators, however, felt that, due to the way the field had been developed, that it might be better to have a hundred and sixty acre units. Well, you got to give and take, you can't always have your way, so in that instance we gave. We still believe that 640 acres would be the proper drainage area of a gas well. We are not going to insist on that position to the extent of disrupting in any way the efforts of this Commission, in accordance of the wishes of the large majority of the operators, going to count noses on the proposition, who have a smaller drainage unit. If you want to do it, I don't think it is going to make too much difference one way or the other. I think that 640 acres would be a better approach, but if you want to leave it at 160, it is all right with the Phillips Petroleum Company, as far as we are concerned. We have made up our mind on that.

I want to take this opportunity of commending T. P. for their

presentation of the facts in this case. I think every operator has a right to come in to this Commission and make his honest good faith intentions about anything that affects his property or his property rights in the field without in the least being criticized or condemned for doing it. I think a good strong dissenter sometimes is a good medicine. Certainly we have found it in T. P. I don't agree with a lot of things they say, but I do agree with some of the things they say. On those things, that I have agreed with them, I don't agree that you get the end results that they want to attribute to those things. For instance, I don't think at the present time that it makes a bit of difference whether you put a line between the Jalco and Langmat field, or over further east, or move it further west. The Commission, of course, represents all sides and it has a position in this matter, and one of being able to efficiently and economically administer these things. From the administrative point of view, I think you can leave the line where it is, at least until it becomes evident that somebody is being hurt or injured by it. Now, it is one thing to step on the cat's tail and another thing to hurt it by doing it. Certainly until somebody is actually hurt or injured by this order, their property rights are actually being taken away from them, I don't see much reason for the Commission to be excoriated by some of these contentions.

I don't want to see us lose what we have already gained here in these hearings and in these meetings, and in these records that we have made. The Phillips Petroleum Company certainly would have no objection to the Commission appointing a small committee. I

think it should be small, you make it large and it gets to be unwieldy, a small committee, if you wish, as suggested by Mr. Hinkle of Humble to study these matters and make these recommendations. Of course, that becomes quite a responsibility when you get on one of these committees. You have to spend a lot of time and a lot of money, and a lot of manpower, but I think the industry owes that to the Commission. We have got a public duty to perform in regard to these matters in our service to the Commission. That is our viewpoint about it. You make the committee small and let them consider these matters and suggest changes, write out definite changes, proposed changes, have your hearings on them, support those by testimony and give everybody a chance to get his say in on it. I don't see any harm in coming from that approach.

I believe that about sums the position of Phillips Petroleum Company in this matter. I think we need some real/<sup>re-</sup>examination of the vertical and areal limits of these fields, in all of these fields in all of these areas. You may desire, from the evidence you have heard, to re-define a proration unit, but above all, until you get something better than what you have got, I think we ought to string along under the orders that we are operating on. If some operator is too unhappy about it, why, then, of course, he has a perfect right to appeal, go to the courthouse. Nobody's feelings should get ruffled about that. That is the way we operate and that is the way it ought to be.

MR. SPURRIER: We will take a short recess.

(Recess.)

MR. SPURRIER: Mr. Kellahin?

MR. KELLAHIN: Attorneys for Texas and Pacific indicated they wanted to proceed. I would like to inquire if we would have an opportunity to make a statement? No, testimony, just a statement.

MR. RUSSELL: If the Commission please, I would prefer that they all make their statements prior to our closing statement, if it is agreeable with the Commission.

MR. SPURRIER: Mr. Kellahin?

MR. DIPPEL: Harry Dippel of Continental. I think that everybody appreciates that the Commission has probably given more time to this question than anybody has a right to expect. I think that it goes without saying that everybody has tried with all his might and main to present his company's or his own individual interests here in as favorable a light as they can be presented, without doing violence to the obligation that every operator owes to himself and to this Commission as a public body. Certainly Continental Oil Company is interested in seeing that its rights are properly protected. We, as representatives of Continental have that obligation, but I can't help but feel that all of the operators, when they come to a hearing of this kind, are somewhat in the same position that a lawyer is in when he goes into Court. He is an officer of the Court and he owes that Court some obligations and he owes himself some, and unless he bears those things in mind he isn't going to discharge his responsibility.

We feel that perfection is certainly highly desirable at all times, but human experience has long since taught us that it is not very likely of attainment. Continental would like to say

generally that it agrees with the statement made by Mr. Woodward representing the Amerada. We feel that it would be unwise, if not in fact fallacious for the Commission to, in effect, throw out the window what has been accomplished thus far. There has been an opportunity to observe results for only a very short period of time, about a month and a half. Certainly, we learn by trial and error and we know that this is not a sufficiently long period of time to really be able to evaluate the results. I think it has been clearly demonstrated by testimony here that there has been some improvement, that the change resulting from the adoption of the rules that were adopted has been in the right direction. As long as progress is being made, that is about all that we can expect, and Continental feels that definitely progress has been made. With respect to the suggestion -- I believe Mr. Woodward made it, that they had no objection to appointing a committee to look into the matter of pool delineation, Continental has no objection to appointing such a committee, but we suggest that it is very unlikely that such a committee would come in with recommendations that represented the unanimous opinion of everybody. I think that is just as sure to follow as everything, but surely the Commission remembers how difficult it was for previous committees to agree on very many substantial things.

I would like to suggest that we all bear in mind what we certainly know so well, that anytime anybody feels that his interests are being jeopardized, or that he may already have sustained this injury, that this Commission is always open to them. We feel in that connection then that if the matter of pool delineations need any further special attention that that ought to be

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approached upon the basis of a new application for that purpose, on behalf of somebody who wants that, and then after proper and adequate notice, have a public hearing, at which everybody can bring all of the evidence and testimony that they feel is justified, in the same manner as was done originally when the pools were delineated as they are now. So, we would urgently recommend that the Commission keep what it has, amend the rules if the evidence that has been submitted here at this hearing indicates that amendments are justified, and let's keep making progress. Let's don't throw away what we have accomplished and try to start all over.

MR. KELLAHIN: Jason Kellahin, representing Samedan Oil Corporation. Samedan Oil Corporation subscribed to the statements that were made by Mr. Woodward in behalf of Amerada and Mr. Dippel in behalf of Continental. I would also like to further point out that the question of pool delineation has entered into this case and I believe that we have somewhat lost sight of the fact that the question was raised. At least, it is my belief that the question of pool delineation was raised, not for the purpose of re-defining the pools, but to attack the proration order itself, it being essential that a pool be delineated before an order in that pool. In that connection, we would like to point out that a Commission did enter valid and final orders delineating the pools. Of course, the rules can be changed, the statutes and the Commission provide for hearings for delineation and re-delineation of pools. As a means of attacking the proration order entered in the Jalco Pool, I do not think that the Texas Pacific position can be sustained because of the fact, on February 17, 1953, the Commission

entered Order Number R-264 which delineated the pools. In that order, the case was continued to the April hearing and successfully continued to a number of hearings. The Texas Pacific agreed to the delineation of the pool as shown by the record introduced in this case. Further, on November 10, 1953 the Commission in Case 245 and 521 entered its Order Number R-264A which extended the boundaries of the pool following those successive continuations of Case 265. It is true that the question in 521, the pool delineation, was within the call of the docket. No testimony was offered and no order entered. The order entered on November 10, 1953, we submit was a final order. The proper order is not to attack that order, but to call for a new hearing, if the question of pool delineation is to be considered by this Commission. We subscribe in general to the statements that have been made by the two companies and we would be glad to participate in any study, in the event the Commission so desires.

MR. CAMPBELL: If the Commission please, I would like to make a statement on behalf of Leonard Oil Company of Roswell. The statement that I want to make involves the question of how to proceed if the Commission wishes to, in undertaking to make changes or improvements in the existing orders; with reference to delineation of pools, establishment of proration units and any other matters that the Commission feels need to be changed. In making this statement, I do not wish to criticize anybody who has ever served on any of these industry committees. They spent a great deal of time, and I am sure conscientious effort in trying to present to the Commission, recommendations that they feel are proper. However,

I feel that the Commission should proceed with caution in appointing industry committees indiscriminately to recommend matters of policy to it. Certainly, industry committees and the data such as the oil industry has available should be available to any regulatory body at any time, as a matter of fact, actual information. However, the staff of the Commission has the responsibility, based upon the facts that are presented to it, to reach decisions of policy. I -- And this may surprise the Commission and Judge Foster, I agree with most of the things that he said this morning. However, I can not concur with his statement that the Commission should proceed without full recognition of their obligation as a regulatory body to hear evidence and to reach independent conclusions based on that evidence.

I concur with Mr. Rowe's statement this morning that if these are matters which need to be threshed out, the Commission should call hearings and people should come before the Commission and present their evidence and testify, and the staff of the Commission should then make its decision. If the staff of the Commission is not adequate for that purpose, if it is not adequate to correlate all the information, technical information that the industry can make available to it, then the staff should be enlarged, but it should not, in any respect, and I don't think it is good for the State of New Mexico or the industry to delegate its authority to any industry committees when it comes to the matter of basic policy, such as the establishment of the size of proration units and the matters of those kind. Those are things that should be heard before the Commission, and the Commission

should make its independent decision.

I believe that may be one of the difficulties we find ourselves in. I urge, along with some of the other people that made statements, if the Commission wants to take a look at some of these matters, if they want to leave the present orders, in fact, until they can take a look, that they call hearings and give proper notice and have people come before them and present evidence and testify. I don't think the Commission has spent too much time on the matter. I don't think it can spend too much time on a matter of such consequence, as the industry in this State and to the people of the State of New Mexico. I urge that you proceed with caution in appointing industry committees to make recommendation and inaugurate those without public hearing.

MR. VICKERY: J. H. Vickery with Atlantic. Atlantic favors the continued adoption without change, at this time, of the presently established pool rules for the Jalco Gas Pool, as set out in Order R-356. Atlantic is aware that changes in the orders may be necessary from time to time, and it is recommended that these changes, that the consideration of these changes be confined to separate hearings, covering only the specific portion of the rule that appear to be in need of revision at that time.

MR. SPURRIER: Anyone else?

MR. WOODWARD: If the Commission please, I would like to ask the Commission if the ruling is that those persons interested in making a statement are required to make that statement prior to the completion of the Texas Pacific's case? I submit that is somewhat irregular to comment on a case until it is completed. We

would like to hear the rest of their present case. I am sure, if they care to make any comments on statements that are subsequently made at the closing of their case they would have leave to do so. We would like to withhold any comment on that matter until they have rested.

MR. RUSSELL: If the Commission please, the case itself, insofar as the applicant is concerned, has been closed. Then, we assume that all other interested parties withholds their presentation, and then the applicant, in conformance with normal procedure, would be given the privilege of closing the case for closing argument, if there is no further evidence or testimony to be introduced by the applicant.

MR. SPURRIER: This will be your closing argument?

MR. RUSSELL: Closing argument is all.

MR. WOODWARD: If the Commission please, it is a technical matter. It is practical to this extent that we think it will save some time. In order to make any sort of statement on the issues at hand, I think it would be necessary for us to ask Texas Pacific that they clarify our understanding of their position on certain issues that they have raised in their application and in their evidence. I feel sure that they will adequately clarify their position on those matters when they have summed up their case. So far as making a final closing argument after they have summed up their case and statements have been made, I am sure they will have leave to do so. But, at this point they have simply stopped giving evidence and have not drawn together or in any form of summation outlined the contentions that they are making, and, while

I think the record adequately discloses those, it would certainly save time, rather than a process of interrogation to clear up some of these contingents.

MR. SPURRIER: Anyone else have anything more in the matter before Mr. Russell makes his closing argument? Mr. Russell.

MR. WOODWARD: Before you start, I want to get this clarified. We understand we will have an opportunity to make our statements when he is finished.

MR. SPURRIER: Mr. Woodward, we are trying to get this thing shut down as quickly as possible. I believe if you have a statement to make you should make it.

MR. WOODWARD: Our questions have been raised in the interest of saving some time, and if the Commission would prefer that we make our position clear at this time, we ask that we be given an opportunity to clarify our understanding by submitting to Texas Pacific certain questions as to their stand. Is that agreeable?

MR. SPURRIER: Go ahead.

MR. WOODWARD: These questions are simply designed to clarify our understanding. I wonder if we are correct, or if it is Texas Pacific's position that waste is actual production, waste of gas is actual production in excess of market demand and not simply capacity to produce in excess of market demand. Is that Texas Pacific's position here?

MR. RUSSELL: Well, if the Commission please, it seems to me that we are being called upon to answer a question that we have objected to in the testimony all the way through.

MR. WOODWARD: I think the record will show that waste is actual production in excess of market demand and not the capacity to produce in excess of market demand. I don't want to waste the time of asking the Commission to go back over and read the record. We can't intelligently discuss the case unless we know what it is here. In order to establish that fact, reading this record over again is a great waste of time. If, as our transcript indicates, that is the statement they have made, we would like to find out if that is still their position.

MR. RUSSELL: That is our position.

MR. WOODWARD: All right. The second question concerns notice and hearing. As we understand the Texas Pacific position, the orders in this case are not valid inasmuch as proper notice and hearing was not given. Is that correct?

MR. RUSSELL: I believe that is correct.

MR. WOODWARD: I believe you so stated, at those show cause hearings.

MR. RUSSELL: I believe so.

MR. WOODWARD: With respect to this question of pool delineation, is it Texas Pacific's position that the accurate delineation of the pool is a jurisdictional fact that the Commission must find in order to enter a valid order?

MR. RUSSELL: That is correct.

MR. WOODWARD: On the last point, is it Texas Pacific's position that the operation of this order may, at some future time, impair some legal right that Texas Pacific enjoys under its contracts?

MR. RUSSELL: That is correct.

MR. WOODWARD: With those matters cleared up, Amerada would like to state that it is in sympathy with what the Commission has done and has sought to do in these proration cases. It believes that proration in these fields is necessary, that the Commission is invested with the authority to deal with the problem and that it has exercised its authority as a matter prescribed by law.

We should also like to make a statement with respect to certain specific issues raised by Texas Pacific in this re-hearing. Assuming, without conceding for the moment, that the Commission is only empowered to prorate production of, or gas production for the prevention of waste, we think there is some evidence that waste has occurred, is occurring, but there is definitely evidence in the record of prospective waste to the extent of the field potential substantially exceeding market demand. To paraphrase, Texas Pacific's contention that waste is actual production in excess of market demand, and not the capacity to produce in excess of market demand, we might point out that, as a practical matter, the only waste that the Commission can prevent is prospective waste. There is nothing they can do about past waste. So, to limit them to a situation where waste has occurred, seems a rather futile jester, unless there is an element of prospective waste involved. The reasoning on this point is that the applicant, unless waste is actually being committed, the Commission is without power to prorate production and waste not having been committed in the Jalco Pool, the Commission did not have the authority to issue this order. We note that waste is specifically prohibited by the Act.

If an operator obeys the law and is not producing in excess of market demand, because he may not, a purchaser, under his entire production, under their definition of the jurisdictional facts necessary for the Commission to act, the Commission is without power. In other words, he obeys the law. He doesn't commit waste, but his property is confiscated. Now, if that is what the Act means, we think it is patly unconstitutional. We don't think the legislature, in prohibiting waste, intended to authorize confiscation. I think the legislature made it perfectly clear in other sections of the Act, specifically setting up standards by which gas production could be prorated through pools. They specifically indicated that that was not their intention and that the Commission was invested with the necessary power to properly distribute the production in such field.

So, on the second question of notice and hearing, we believe the show cause order embodied every element of notice that the Commission intended to conduct a hearing on the merits of proration of the Jalco Pool on a specified date. The record shows that it did have a hearing, that the Texas Pacific had an opportunity to be heard, and that it was, in fact, heard. On those facts we do not think that Texas Pacific is in a position to complain about the notice and hearing afforded, having appeared in that matter.

Third, with respect to the question of delineation, we ask that the Commission take notice of the fact, the exact outline of an oil and gas pool can never be known without more profitless drilling than anyone is willing to undertake, to date. If exact delineation, or approximate delineation was a prerequisite, if

that was a jurisdictional fact, many pools would be nearly exhausted, or nearly exhausted before the Commission got jurisdiction of the matter. We would like to find out, that pool is located in some three States, and there has been, by three State authorities -- or at least three States, possibly four, there has been some 60 field orders that have been reviewed by 13 appellate Courts. In each of those cases the Court noted that the exact outline of the pool was not known and that fact did not prevent any of the three Commissions from having the necessary jurisdiction to prorate production in those areas.

Upon the last contention, it has also been contended that Order 8-368-A impairs the obligations of Texas Pacific's contract with El Paso Natural. We note that contract was expressly made subject to this Commission's regulations in the fourth major clause provided by that contract. As we construe that contract, Texas Pacific is under no obligation to deliver more gas, and El Paso is under no obligation to take or pay for more gas than Texas Pacific can lawfully produce under this order, notwithstanding minimum and maximum take provisions of their contract. We cannot accept the reasoning that this contract is only subject to valid orders, and the order is invalid because it impairs the obligations of applicant's contract. This is tantamount to saying that applicant's contract is only subject to regulations which do not affect that contract. We see no obligation of that contract that is being impaired or will be impaired.

In conclusion, if this Commission cannot act until some operator breaks the law and commits waste; if it cannot act until the outline of every pool it grants regulate is known; and if its

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power does not extend to subjects with respect to which private persons have previously contracted, then this Commission is one of the best attended debate societies in the country.

MR. SPURRIER: Anyone else?

MR. SMITH: J. K. Smith. Just one other fine technical point. Mr. Woodward inquired of Texas Pacific as to certain matters which affected their position. I don't think the question has been asked as to whether or not they have any other items, or other positions, or are they going to confine their final closing arguments just to the points brought out by Mr. Woodward?

MR. RUSSELL: Our closing argument, as I recall, does not cover any points which were not covered by our application for re-hearing.

MR. SMITH: This raises the additional technical question, since we have got to the point of tying our hands after they get through speaking, as to the effect that the ordinary Court proceedings, you have an opening statement, a second closing statement which is confined not to new matter. In other words, they are supposed to state their entire case in opening argument. I suggest, therefore, in order to save time, that Mr. Russell here will express himself to start with on the opening statement side of it, and, at that time, if anyone objects to new matter being interjected that they be given a chance to answer any new material beyond the scope as originally inquired into by Mr. Woodward.

MR. RUSSELL: It appears, the only way for me to clarify this is to give my closing argument, see what is new and start over. All I can say is that my closing argument I am sure does not

cover anything that has not been covered.

MR. SPURRIER: Are you ready, Mr. Russell?

MR. RUSSELL: I am ready.

MR. SPURRIER: Proceed.

MR. RUSSELL: If the Commission please, I would like to state the position of the applicant, Texas Pacific Coal and Oil Company with reference to the power of the Commission to enter an order prorating gas. I think there are two conditions proceeding under new rules and statutes, which the Commission must follow before entering such an order.

The first of these is a proper definition and delineation of a pool. The second is the determination that proration of gas is necessary to prevent waste. Now, under the first point the Commission must give notice of the hearing for the purpose of defining and delineating the gas pool. We take the position that that is a jurisdictional matter. Being a jurisdictional matter, of course, it is subject to attack at any time. There is no period in which we are limited to objecting to it. However, we do not rely merely on that point. We also rely upon our application for re-hearing, and the notice of the docket for the regular hearing on September 17, 1953, which contains the following statement, "the following cases 582 through 590 inclusive, are all brought up by the Oil Conservation Commission on its own motion for establishment of individual pool rules for each pool named. The rules being concerned with well spacing, gas proration and allocation, proration units, pool delineation, and other related matters. Insofar as they pertain to the general rules for gas proration as set forth in Order B-356 in Case 521."

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So, I think clearly the order which we appealed from, and the notice of that hearing brings the question of pool delineation within the period in which we have taken our appeal. Now, it has been our contention all the way through that at such hearing, the Commission must have before it, at the time of that hearing, substantial evidence to support any findings which result from that hearing.

It is true that this is not a Court of law, and is not bound by Court rules and so forth, but when there are generally defined principals of law concerning such things, I think it behooves the Commission to keep one eye cocked on that particular point because if a case should go to the Court, then that rule of law is going to be applied. Without citing authority of which there is numerous authorities, that an administrative body can not consider matters of their own knowledge nor which were not presented at a properly given hearing. The reason being that a Commission can not sit back, take notice of the records which they may have in the office without interested parties knowing what records they are looking at; taking advice from the technical committee on their reports without letting all of us know what that information was. The orders referred to statements of interested parties. I don't think the Commission can consider any statement made by any interested party which was not made at the hearing, nor can they base their decision on any data which was not before the Commission and the interested parties at the hearing.

Everybody has a right to examine any exhibits offered into evidence, to cross examine any witness, and to offer any informa-

tion they may have, in reb uttal. That is one of the two main objections which was made by the applicant throughout the case; first that the Commission could not consider at this re-hearing any testimony or evidence which was not before the Commission in the previous hearing as the basis of the original order, which was entered in this case. I have gone through the various transcripts and exhibits which were before the Commission at those hearings. In my opinion, as to some points there is no evidence. I do not feel there is substantial evidence as to any of it, which would support that order.

Now, at this re-hearing a great deal more evidence, testimony, exhibits were introduced, a great deal of which we will say would support the Commissions original order, but I don't feel they can use it as a matter of law to support that order. I do say this, and it has been our position that the Commission can consider at this re-hearing, any evidence or testimony which they want to hear or that any other interested part themselves wants to hear, or wants to offer; and that particular evidence or testimony can be made the basis of a new order. Our only contention on that is this, that all of this evidence and testimony has been introduced by the Commission, that now, if I am right, and they can't use it to support their old order, then they are faced with the problem they have to enter a new order.

We have had the Langmat Pool introduced, we have had the Rumont Pool introduced. The question arises, what sort of a new order can be entered that isn't objectionable. I would like to read Mr. Kellahin's objection at the outset of the hearing, and

carried all the way through. We want to state our objection to anything in a way of a collateral attack being made on the proration order which has been entered into the Langmat Pool. It was not advertised as a part of the hearing and it goes beyond the scope of the hearing. We are without notice that such an attack is to be made. We are not prepared at this time to answer it."

Well, that is the problem at this time. The testimony, in my opinion affirmatively shows that Eumont, Langmat and Jalco should probably be one pool, but the Commission is up against the proposition, if it is so declared as a result of this hearing, then perhaps that order is definitely subject to attack by Mr. Kellahin. He has made his objections all through here. So, it may not have accomplished too much in that regard, except I feel that this re-hearing definitely has brought to the Commission, and everyone else interested, a great deal of additional information which was not before the Commission previously.

Now, going to the second point in my contention that after an order, proper order defining and delineating a pool is entered then they must find that a proration order is necessary to prevent waste. The authority, in my opinion, of the Commission, will enter a proration order for gas as based upon the statutes first and then the rules of the Commission which are based upon the statutes. The first one is Rule 601 of the Commission, which sets up the defining and delineating of the pool. I would like to read the last sentence in that particular order, which is this: "There shall be no proration or allocation of gas production unless and until the provisions of Rule 602 are followed." We go to 602,

which states as follows: "When the Commission determines that allocation of gas production in a designated gas pool is necessary to prevent waste, the Commission after notice and hearing, shall consider the nominations and so forth." Then it goes on to say: "The Commission shall include in the proration schedule of such pool, any gas well which it finds as being unreasonable discriminated against through denial of access to gas transportation facilities and so forth, and in setting up in allocating production among the gas wells in the pool, delivering to a gas transportation facility, upon a reasonable basis and recognizing correlative rights." It starts out that you must, you can't enter a gas proration order until 602 has been complied with. That says when to prevent waste. The only mention of correlative rights is after the Commission has determined that proration is necessary to the allocation of production, then, in setting up the order, they will recognize correlative rights. That is based upon the Statute 12-C, of the Section 12-C, the statute which starts out similar to the Commissions rule, whenever to prevent waste, the total allowable of natural gas production, of gas wells produced from any pool in this state is fixed by the Commission, than that which the pool can be produced if no restrictions. They again go into allocating production, they will recognize correlative rights.

It is our contention that these are jurisdictional matters which must be found by the Commission.

I would like, also, to point out in the statutes that there is a definite distinction between proration, or waste rather, in the case of oil and in the case of gas. I would like to point out, particularly, Section 2-B of the statute, which states that

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the non-ratable purchase or taking of crude petroleum oil in this State, such non-ratable taking and purchasing causes, or results in waste, as defined in Sub-sections A, B and C of this Section, and causes waste by violating Section 12-A of this Act. I would like to point out to the Commission that such a provision does not rule in the rule or statute with reference to gas. Non-ratable take is gas under the statute with reference to oil, but not with reference to gas.

I have here what appears to be a prepared statement, but it isn't. I will be glad to offer a copy to the Commission. In my opinion, from reading the rules and statutes covering the proration of gas, the power of the Commission to prorate gas is limited to those cases from which, first, there has been a proper delineation and definition of the pool, and, second, a finding by the Commission that it is necessary to prevent waste and there must be substantial evidence in the record to substantiate the Commission's findings that it is necessary to prevent waste. In the absence of such an affirmative showing that there is waste in the pool and that it is necessary to prorate gas, I think that the Commission then must turn to Sections 14 and 14-E of the Statutes. Your ratable take provisions of the statute will accomplish everything that is sought to be accomplished, I believe, by the proration order in this case. Non-ratable take not being waste under the statute, as far as gas is concerned, but is, as far as oil is concerned.

Now, going into procedure, the Commission, of course, has been created by statute and must conform to the statute in setting up or handling the procedural question. Now, Section 17 of the statute

is the one which covers the procedure. It is rather brief, but it says: "Except as herein provided, the Commission can not enter an order without first proper notice and hearing of such hearing, and the matters which will be taken up at that hearing, except in a case of an emergency." Well, there was no emergency declared in either of these cases or in this case, and I would like to point out in the orders, Order Numbers R-356, Case 521 has a finding, well, first the Commission says: "Now, on this 28th day of August, 1953, the Commission, a quorum being present, having considered the testimony adduced, the exhibits received in the hearings and being fully advised in the premises, finds that for the prevention of waste and protection of correlative rights, proper special rules and regulations relating to the proration of gas well gas produced in gas wells of Lea, Eddy, Chaves and Roosevelt Counties, should be promulgated."

Well, again on the basis of this order, I did go back through the transcripts to determine what the Commission had reference to when they mentioned the exhibits and the testimony. And, having gone through it, was of the opinion that there is no, or at least, substantial evidence to support the order. In Section B of the orders is the following, "that the following rules will apply to defined gas pools in Eddy, Lea, Chaves and Roosevelt Counties, only after hearings are held and an order issued on each individual pool. These rules shall be considered as standby rules and shall be used as a guide." Well, that was entered in August. It sets out that the rules will not be put into effect, they shall apply only after hearings are held and orders issued in each individual

pool. I think Texas Pacific and everyone else was under the proper impression that there would be a notice of hearing for each individual pool, at which time each interested person in each pool could come forward, offer what testimony they have, examine what the others have had, and then proceed from there. Yet, in September, the following month, the Commission entered its Order 368 in Case 582, stating that: "Now, on the 28th day of September, 1953, the Commission, a quorum being present, having considered the statements of interested persons and the official records of the office and other pertinent data, and after being fully advised in the premises finds --" Again we check back through the transcripts and so forth, there appears to be nothing in there that would substantiate the order and the notice refers to statements of interested parties. Everyone has a right to know what the statements were, who made them. The official records of the office, they have a right to know what specific records were used and what the purpose of them was. We should have had an opportunity to examine them; other pertinent data, which covers a multitude of sins.

Then, the orders were put into affect, and further order, "that all parties interested in the Jalco Pool and the rules therefor be and each of them, are hereby ordered to show cause at 9:00 o'clock on October 26th at Santa Fe, New Mexico, why the rules and regulations referred to herein above, with any essential amendments shall not be put into affect as of November 1st." I question the authority of the Commission to enter an order. I do not feel that the order itself respectively refers to the information and data on which the orders were based. Examination of the

the official transcript of the cases does not indicate information which would support such an order.

I feel that there was no substantial evidence, as I said before, to support the original order of the Commission; that a great deal of testimony and evidence has been presented at this hearing and I am sure that it is evidence and testimony which the Commission is glad to have presented to them, but I feel that it must necessarily be basis of a new order and can not be used in support of an order previously entered and therefore, they must look to the question of how it can be, this information can be used in promulgating a new or amended order which will not be subject to attack, for the reason that proper notice was not given as to the subject matter to be covered by these hearings.

With that I would like to conclude and have Mr. Adair answer some of the previous questions of the other interested parties.

MR. ADAIR: If the Commission please, unless some of the other people present have something additional, that concludes our presentation of our re-hearing in Case 582. The record is now closed in the Case 582. I would like to go off the record, if the Commission please, and make an off the record statement.

MR. SMITH: In view of Mr. Adair's statement, I would like to make one additional suggestion, not by way of answer or argument, but as a suggested procedure. It appears that in view of the jurisdictional question that has arisen, that the Commission continue this re-hearing as the part of the original hearing, advertise the remainder of these pools on the question of pool delineation, for future hearing, at which time that hearing could be consolidated

with this hearing and carried forward as a part of the whole. I think that would perhaps take care of the jurisdictional question.

MR. SPURRIER: You may proceed.

(Off the record statement by Mr. Adair for Texas Pacific Coal and Oil Company.)

MR. SPURRIER: We will take a short recess.

(Recess.)

MR. SPURRIER: For the record, the Commission will continue the Jalco Re-hearing Case to March 17th and the present proration orders will stay in full force and effect. We don't know quite how we will re-advertise, but we will re-advertise for the taking of additional testimony on the four pools, Eumont, Arrow, Langmat and Jalco.

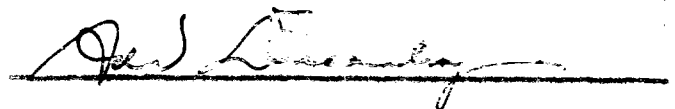
Does anyone have anything further to say in this case? If not we will recess for lunch and be back at 1:15 sharp.

(Noon recess.)

#### REPORTER'S CERTIFICATE

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings in Case No. 582, Rehearing, taken before the Oil Conservation Commission on February 17 and 18, 1954, contains a true and correct record of said proceedings to the best of my knowledge, skill and ability.

DATED at Albuquerque, New Mexico, this 23rd day of February, 1954.



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

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TRANSCRIPT OF PROCEEDINGS

CASE NO. 582

Regular Hearing

BEFORE THE  
OIL CONSERVATION COMMISSION  
STATE OF NEW MEXICO  
Santa Fe, New Mexico  
May 19, 1954

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IN THE MATTER OF:

Jalco Gas Pool Case. (Continued in  
relation to Case 673.)  
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)  
) Case No. 582  
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BEFORE THE FULL COMMISSION

TRANSCRIPT OF PROCEEDINGS

MR. CAMPBELL: If the Commission please, once more for the record, I would like to state that the case has been closed and awaiting an order of the Commission. We have no objections to it remaining on the docket pending the issuance of order of the Commission.

MR. SPURRIER: You have no objections. Do you make a motion to continue or do you think it is necessary?

MR. CAMPBELL: We don't care, we are awaiting an order of the Commission. The case has been closed. Unless an order is entered prior to the June hearing, I believe it should be on the docket so that we can, if we desire, at that time, request some action by the Commission on the case.

MR. SPURRIER: Is there objections?

MR. CAMPBELL: If the Commission's position is that Case 582 is under the advisement of the Commission and fully closed, there is no necessity that I can see of maintaining it on the docket.


Subject to our right to seek from the Commission an order in that particular case.

MR. SPURRIER: The next case on the docket is Case 616, 617 and 618.

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 25th day of May, 1954.

  
Notary Public and Court Reporter

My Commission expires:  
June 19, 1955.