

Transcript -
Hearing August 24, 1950

BEFORE THE
OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO

PROCEEDINGS

The following matter came on for consideration before a hearing of the Oil Conservation Commission of the State of New Mexico pursuant to legal notice, at Santa Fe, New Mexico, on August 24, 1950, at 10:00 A. M.

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

The State of New Mexico by its Oil Conservation Commission hereby gives notice pursuant to law and the rules and regulations of said Commission promulgated thereunder, of the following public hearing to be held August 24, 1950, beginning at 10:00 o'clock A.M. on that day in the City of Santa Fe, New Mexico, in the Capitol (Hall of Representatives).

STATE OF NEW MEXICO TO:

All named parties in the following cases and notice to the public:

Case 202 (Readvertisement)

In the matter of further hearing upon the application of Rowan Oil Company for an order reducing the allowable of the Brunson Pool, Lea County, New Mexico, for the purpose of determining if Order R-4, promulgated January 11, 1950, shall be modified, rescinded or further continued in effect.

Case 233

In the matter of the application of the New Mexico Oil Conservation Commission upon its own motion upon the recommendation of the Northwestern New Mexico Nomenclature Committee:

1. To create a new pool to be known as the West Kutz Canyon (Pictured Cliffs) gas pool, the area of which contains all of Sections 7 and 18 in Twp. 27N-R. 11W and all of Sections 12 and 13 in Twp. 27N - R. 12W, in San Juan County, New Mexico.
2. That the boundaries of LaPlata (Mesaverde) gas pool heretofore created and described should be changed so as to include the following:

Township 31 North, Range 12 West

S $\frac{1}{2}$ Section 2
All Section 3
All Section 4
N $\frac{1}{2}$ Section 5
E $\frac{1}{2}$ Section 9
W $\frac{1}{2}$ Section 12
W $\frac{1}{2}$ Section 13
E $\frac{1}{2}$ Section 16

Township 32 North, Range 12 West

E $\frac{1}{2}$ Section 20
All Section 21
W $\frac{1}{2}$ Section 22
W $\frac{1}{2}$ Section 27
All Section 28
All Section 29
All Section 30
N $\frac{1}{2}$ Section 31
All Section 32
All Section 33
W $\frac{1}{2}$ Section 34

3. That the boundaries of the Fulcher Basin-Kutz Canyon (Pictured Cliffs) gas pool heretofore created be and the same hereby is enlarged and its boundaries changed only to include all of Section 6 in Twp. 27N-R.10W, N.M.P.M., in San Juan County, New Mexico.

Case 234

In the matter of the application of American Republics Corporation for an order granting it permission to drill 4 unorthodox 5-spot locations on its F. M. Robinson "B" lease in Sections 27 and 35, Township 7 south, Range 29 east, N.M. P.M., in the Grayburg-Jackson pool of Eddy County, New Mexico.

Given under the seal of the Oil Conservation Commission of New Mexico, at Santa Fe, New Mexico, on August 7, 1950.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

/s/ R. R. Spurrier
/t/ R. R. SPURRIER, SECRETARY

SEAL

BEFORE:

R. R. Spurrier, Commissioner

REGISTER:

Frank R. Lovering
Hobbs, New Mexico
For Shell Oil Company

C. D. Borland
Hobbs, New Mexico
For Gulf Oil Corporation

E. W. Showen
Odessa, Texas
For Gulf Oil Corporation

E. E. Merkle, Jr.
Ft. Worth, Texas
For Gulf Oil Corporation

M. L. Patterson
Odessa, Texas
For Phillips Petroleum Company

H. H. Toone
Kermit, Texas
For Magnolia Petroleum Company

Paul N. Colliston
Houston, Texas
For Continental Oil Company

A. R. Ballou
Dallas, Texas
For Sun Oil Company

Elvis A. Utz
Santa Fe, New Mexico
For the New Mexico Oil Conservation Commission

W. B. Macey
Artesia, New Mexico
For American Republics Corporation

John E. Cochran, Jr.
Artesia, New Mexico
For American Republics Corporation

C. M. Hinton
Houston, Texas
For American Republics Corporation

E. E. Kinney
Artesia, New Mexico
For New Mexico Bureau of Mines

A. H. Rowan
Ft. Worth, Texas
For Rowan Oil Company

R. T. Durst
Ft. Worth, Texas
For Rowan Oil Company

Glenn L. Shoemaker
Midland, Texas
For Stanolind Oil Purchasing Company

Wm. E. Bates
Midland, Texas
For Texas Company

Roy Yarbrough
Hobbs, New Mexico
For the New Mexico Oil Conservation Commission

J. N. Dunlavey
Hobbs, New Mexico
For Skelly Oil Company

Don McCormick
Carlsbad, New Mexico
For the New Mexico Oil Conservation Commission

MR. SPURRIER: Gentlemen, the meeting is open. In the absence of any other member of the Commission, I will sit for the purpose of taking the testimony only today. Now we have a little distraction outside, and I would suggest everybody come forward and get right up on the front row, and everyone make a special effort to speak loudly. I think this will be a short hearing, ~~and~~ if we can all sound off it will be much easier. Mr. McCormick, will you take up the allowable hearing, please.

MR. McCORMICK: Mr. Utz, will you take the stand please.

ELVIS A. UTZ, having been first duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. McCORMICK:

Q. State your name, please.

A. Elvis A. Utz.

Q. And what position do you hold with the Oil Conservation Commission?

A. Engineer.

Q. Is it a part of your duties to make a study of the market demand for oil in the State of New Mexico?

A. Yes, it is.

Q. Please state what sources you use to make such a study?

A. Ordinarily, the United States Bureau of Mines estimate,

which hasn't arrived as of this minute, but which last month was 150,000 barrels a day, The pipeline runs and crude storage and nominations of purchasers.

Q. Have you received nominations from all purchasers in the state for the month of September 1950?

A. Yes, sir, we have.

Q. What is the total of those nominations?

A. 128,104 barrels per day for the state.

Q. How does that compare with the nominations for the preceding month?

A. 1,689 barrels decrease or 1.3 per cent.

Q. And you have also made a study of the actual runs for the current month or preceding month?

A. We haven't made a study of the actual runs for this month.

Q. But for the preceding month?

A. But for the preceding month we have done as well as we can with the figures we have at the present moment. Usually those runs can only be figured two months back.

Q. On the basis of the information you have, do you have an opinion as to what the reasonable market demand for oil for the entire state will be for the month of September 1950?

A. In my opinion, it will be 145,500 barrels for the state. 800 barrels of that would be for the San Juan Basin, and 144,700 barrels for the allocated pools of Southeastern New Mexico. I believe the 49 barrel normal unit allowable will give you that.

Q. On the basis of the 49 barrel normal unit allowable for the month of August, the proration schedule actually figured up about 144,500 barrels, did it not?

A. That is correct. The allowable for this month was 144,566 barrels. We estimated 147,500 barrels, which was 2,934 barrels short of our estimate. This can be explained by the fact that

in the Drinkard Pool new gas-oil ratios were submitted in July. Some of these gas-oil ratios were increased to the extent that there was 2,480 barrel decrease in the allowable for the Drinkard Pool even though we raised two barrels on the normal unit allowable. The remaining 454 barrels was due to decrease in the nominations for marginal wells.

Q. I will ask you if, in your opinion, it is necessary to allocate and distribute and limit the production of oil in the state for the month of September in order to prevent waste?

A. Yes, I believe it is.

Q. And do you have a recommendation as to how this allocation and limitation should be carried out?

A. It should be carried out in accordance with the present rules and regulations of the Oil Conservation Commission.

Q. Do you have any other testimony you would like to offer at this time?

A. I don't believe I do.

MR. McCORMICK: Any questions by anyone? That is all, Mr. Utz.

(Witness dismissed.)

EDWARD E. KINNEY, having been first duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. McCORMICK:

Q. State your name, please.

A. Ed Kinney.

Q. What is your position, Mr. Kinney?

A. Petroleum engineer, New Mexico Bureau of Mines.

Q. As petroleum engineer for the State Bureau of Mines have you for several months been making a study of the market demand for oil in the State of New Mexico?

A. Yes, sir, I have.

Q. Please state briefly the extent of that study and what it

covers?

A. A study of the demand of the purchasers, a study of the storage above ground, both new crude and refined stocks, study of pipeline movements.

Q. On the basis of your study do you have an opinion as to what the reasonable market demand for oil for the month of September would be?

A. The reasonable demand for the month of September from New Mexico would be above 145,000 barrels.

Q. You testified here last month, did you not?

A. Yes, sir.

Q. At that time what was the condition of storage, the withdrawals from storage?

A. The withdrawals from storage from December 4 up to July 16 had been at an average rate of 3,000 barrels per day.

Q. And do you know what the current withdrawals from storage are running?

A. Current withdrawals are approximately 300 barrels a day for the past 30 days.

Q. Are you speaking of New Mexico storage, or New Mexico and West Texas?

A. The New Mexico pro rata share.

Q. Do you have a recommendation as to the total amount of oil to be allocated to the pools of southeastern New Mexico?

A. Approximately 145,000 barrels per day.

MR. McCORMICK: Any questions from anyone?

MR. LOVERING: I have a question. I don't see how you can sit there and make a statement this oil can be produced without waste unless they have considered the operating conditions of every field. To make a flat basic allowable and say all fields

can be produced without waste; I would like to know if they have considered and studied each field, its ability to produce, its gas-oil ratio decrease, and so forth. If they have made those studies before making that statement; do you have anything to say about that?

A. It isn't within my province to make studies of different fields.

MR. LOVERING: Did you make any statement about whether it could be produced without waste?

A. No, sir.

MR. McCORMICK: I didn't ask Mr. Kinney that.

MR. LOVERING: Is it all right to go back to this other gentleman?

MR. McCORMICK: Mr. Utz, come forward, please.

MR. LOVERING: Did you hear my question?

A. Well, I heard some of it, but there was so much noise that I didn't hear all of it.

MR. LOVERING: My question was whether or not the statement there that this oil could be produced without waste if we hadn't considered each field individually. It seems to me strange that you could set a flat basic 49 barrel unit allowable to apply to all fields because there is a big difference in the production ability of those fields. And some of the fields we know have surprisingly high gas-oil ratios now, and some have some surprisingly large drops in bottom hole pressures in the barrel production, and I wonder before making that statement if you considered the ability of each field to produce before making that statement?

A. We have considered each pool as far as our present information will allow us, Mr. Lovering. We have no evidence it is hurting the pools. With the exception of Drinkard, the high gas-oil

ratio showed quite an increase in July. But we can't see with the present information we have available that that is the cause, the increased allowable.

MR. McCORMICK: Do you anticipate, Mr. Utz, that as time goes on that you will make a continuing study of the effect of these high allowables on the different pools?

A. It will be necessary, yes, sir.

Q. And it is possible that special allowables will have to be given to certain pools after an engineering study?

A. Undoubtedly as we have more information on which to base our opinions and decisions, we will have to have proration formulas for separate pools. We do some of them now.

Q. At the present time you have no reason to believe that any pool is being injured by producing at the rate of 49 barrels normal unit allowable?

A. No, I wouldn't say we had any information that would say we were injuring them.

Q. You still think that might develop later on after there is more history on it?

A. Yes, sir, I do.

MR. McCORMICK: Any more questions?

MR. LOVERING: It seems to me before we continue with the increased allowables and increase them arbitrarily we should have those facts.

MR. McCORMICK: Mr. Utz, has recommended that the normal unit allowable of 49 barrels, which is the same as for the current month of August--

MR. LOVERING: I feel it is pretty high for some fields. Drinkard is one.

MR. McCORMICK: Do you have any other pools in mind, Mr. Lovering, that might be injured you think?

MR. LOVERING: We are making a study now. I don't know about that. We are trying to get data ourselves in the Brunson.

MR. McCORMICK: That is a flat 90 barrel allowable?

MR. LOVERING: If we go back to the unit allowable on the duct factor, it will automatically increase our allowable. But in that particular pool we shall have enough information to know whether or not we are going up or down and whether it is adversely affecting the Brunson Pool. But I feel actually we don't have the data to say whether or not we can produce this oil at a 49 barrel rate without any loss from reservoir energy or what not.

MR. McCORMICK: Isn't it one way to leave it there for a while and see what happens?

MR. LOVERING: Providing we take steps to obtain data from given wells on some basis that will give you that information.

MR. McCORMICK: Anyone else have any comments or questions? The Commission welcomes any comments from anyone regarding this allowable. It is a very vital matter. If anyone here feels it is too high, we should hear from them. And if they feel it is too low, we should hear from them.

MR. LOVERING: I just had the feeling we were operating a little bit blind.

MR. McCORMICK: That is all, Mr. Utz.

MR. SPURRIER: I want to talk to Mr. Lovering a minute. Are you suggesting, Frank, that we get into the maximum, efficient rate which was recently abandoned by the State of Texas?

MR. LOVERING: The maximum, efficient rate in Texas has been a variable and used as a tool. To raise and lower allowables, to curtail oil production, and depended on market demand. It has never been a true and tried figure. They have raised and

lowered it at will for the last five years. A true NER cannot be raised or lowered.

MR. SPURRIER: You mean it can't be raised or lowered if not within a certain period of time?

MR. LOVERING: You see they raised and lowered it in Texas. If they made an error why they raised it, if they didn't need it, they had people come out and show cause why it should be lowered.

MR. SPURRIER: That would be your suggestion in New Mexico if we had a 25 per cent increase in demand?

MR. LOVERING: We couldn't produce it.

MR. SPURRIER: You know that now?

MR. LOVERING: That's right.

MR. SPURRIER: How do you know it?

MR. LOVERING: I have enough knowledge of enough fields to know most of our wells are operating at or near capacity. We don't have the type of reservoir and the oil capacity they have in West Texas.

MR. SPURRIER: You mean to say that the wells in the Permian Basin on the New Mexico side are different from those on the Texas side?

MR. LOVERING: Yes, sir.

MR. SPURRIER: Absolutely.

MR. LOVERING: Quite a few.

MR. SPURRIER: Well, Frank, I am a little puzzled. You seem convinced we are producing about all we can, and yet you talk about going into detailed studies of each pool to determine what the real--let's not say any are--but the best producing rates should be.

MR. LOVERING: Well, I don't feel you can arbitrarily set and

decrease allowables to affect our fields in a sound proportion because certainly we have some fields where increased allowables are liable to hurt. It wouldn't be true economy in the operation of those fields. If you have an increased market demand, you should see where it can best be obtainable without undue loss of reservoir energy or what not.

MR. SPURRIER: Do you feel if the allowable is set at 49 barrels for top unit allowable wells that you are forced to produce at least that much every day from each of your wells?

MR. LOVERING: I am as a matter of protection if the man next to me produces his. It is a matter of self-defense.

MR. SPURRIER: That brings up a good point. If you made a survey of these pools and found one pool capable of producing 75 and another 50, what about the legal aspect of that?

MR. LOVERING: You are talking about two separate fields?

MR. SPURRIER: Yes, sir, two separate pools.

MR. LOVERING: Well, I think if you have a unit allowable in one field that should be less than another one, I would say order it and make it stick.

MR. SPURRIER: Does anyone have anything further on the matter of allowables?

MR. UTZ: I would like to ask Mr. Lovering if he would have any recommendations for the Drinkard?

MR. LOVERING: Well, I seem to be alone in commenting here. I would rather refer those to the Drinkard Pool Committee who probably have sufficient data on hand to answer the questions. As a matter of fact, I think before making a blind increase in allowables throughout the state that the various committees from those pools might be asked what they thought about the effect of increasing or decreasing allowables.

MR. UTZ: Do you feel we should run bottom hole pressure tests of the Drinkard Pool in order to determine its ability to produce?

MR. LOVERING: I think enough runs--I think enough runs already have been made and enough data should be available and in the hands of the Drinkard Pool Committee that they could make a fair statement as to the probability of damage to reservoirs upon excessive withdrawals. Also a study has been made of the gas-oil ratio in that pool.

MR. UTZ: We would welcome any information we could get.

MR. LOVERING: You will have to go out and ask for it. Nobody seems to be willing to come in here and volunteer.

MR. SPURRIER: Well, I might say that it is unfortunate when the attitude this Commission has always taken has been to ask the operators for their information, from the engineering committees. If such a situation as that exists, if that information isn't brought into this Commission.

MR. LOVERING: Well, there has been a certain reluctance from anybody to volunteer the information. I don't know why.

MR. SPURRIER: Any more questions or comments? If not, we will take up Case No. 202. Mr. McCormick, will you read the advertisement, please?

(Mr. McCormick reads the notice of publication.)

MR. McCORMICK: I am sure that most of you are familiar with the order R-4. It was entered here on the recommendation of the Brunson Pool Operating Committee, and under that a flat, top allowable of 90 barrels was invoked for a period ending today, starting in January, a six-months' period. Does the Rowan Oil Company have a representative here?

MR. ROWAN: Yes, sir.

MR. McCORMICK: Will you proceed, please?

MR. ROWAN: If the Commission please, we would like to petition the Commission to continue this order R-4 in effect for another six-months' period, at the end of which the bottom hole pressure surveys will be made and the gas-oil ratio tests taken and the data available, and an engineering study made of the reservoir to be presented to this Commission so as to correctly determine what the allowable for the Brunson Pool should be. We feel the continuation of this order for another six months' period would not hurt the pool or any other operator in the pool. We are also of the opinion that the operators are either favorable to this or acquiesce in it. The Pool Committee has developed certain statistics and engineering data, and if the Commission would like a copy of our information, what information has been obtained in this test period for the past six months, we would be glad to file a copy of it with the Commission.

MR. McCORMICK: Do you have an engineer here who can testify as to that information?

MR. ROWAN: Yes, sir.

MR. McCORMICK: I think you had better put him on. What is his name?

MR. ROWAN: Ray Durst.

(Mr. Durst sworn.)

MR. McCORMICK: You wish to question Mr. Durst?

MR. ROWAN: No, I don't want to cross examine him, but, if it please the Commission, Mr. Durst can give you a resume of the engineering data that has been compiled and can explain the attitude of the engineering committee of that pool that the six months' tests run is not considered conclusive, and the information is not such that they can base any recommendation on

at this particular moment.

MR. SPURRIER: That will be fine, Mr. Rowan.

MR. DURST: I would like to submit as Exhibits 1, 2, and 3 data that has been accumulated thus far by the Brunson Pool Engineering Sub-committee.

MR. MCCORMICK: Is this No. 1 here?

MR. DURST: That would be No. 1. Exhibit 1 is a tabulation of the bottom hole pressures and production data reflecting the bottom hole pressure drops by periods from September 14, 1945, to August 1, 1950. This tabulation also reflects the net recovery of oil from the Brunson Reservoir. Attached to Exhibit 1 is a tabulation showing the bottom hole pressures of all wells in the Brunson Pool, both before and after the six months' test period, and in addition bottom hole pressures during the six months' period are reflected for fifteen key wells. Exhibit 2 is a graph reflecting the information contained on the Exhibit 1 in tabular form, and moreover shows the cumulative production of oil from the reservoir, monthly water production from the reservoir, rate of oil production, total number of wells, gas-oil ratio, and bottom hole pressure information. Exhibit 3 is a graph that reflects the cumulative recovery of oil from the Brunson Pool Reservoir per pound drop in bottom hole pressure. I would like to point out that during this six months' test period the total recovery of oil only, with no figures available for gas or water, indicates that a total of 14,187 barrels of oil were recovered per pound drop in bottom hole pressure during the six months' test period. For the two months immediately prior to the six months' test period the rate of withdrawal of oil was 19,749 barrels per

pound drop. For the six months immediately prior to that the recovery at the normal allowable was 13,336 barrels per pound drop in bottom hole pressure. As you can see there is some confusion under reduced rates of withdrawal of oil; that is, under the 90 barrels per day top allowable, there was a decrease in the recovery of oil per pound drop in bottom hole pressure. This drop--this information is not readily explainable to the majority of the operators in the Brunson Pool, and by virtue of that it was the opinion of the majority of the operators that this test period should continue for an additional six months' period of time. At the end of that time it was their recommendation a further bottom hole pressure survey be taken and a general gas-oil ratio survey be taken and also that an additional hearing be scheduled before the Oil Conservation Commission not earlier than sixty days after the termination of the six months' test period in order that sufficient time will allowed for the operators to accumulate and analyze the data in order that the recommendation to the Oil Conservation Commission may be made.

MR. McCORMICK: Have you testified before the Commission before, Mr. Durst?

MR. DURST: Yes, sir, I have.

MR. McCORMICK: You are a petroleum engineer?

MR. DURST: That's right.

Q. You are employed by the Rowan Oil Company?

A. That's right.

Q. You are producing less oil per pound drop in bottom hole pressure now than you did before this program was invoked?

A. The rate of production at the present time, we assume at the

present time, to be definite about it, during the six months' test period the rate of production per pound drop in bottom hole pressure was less than the two months' period immediately prior to the beginning of the test period.

Q. How do you explain that?

A. I would yield your question to another engineer who might be present. Possibly the Shell Oil Company has made some study of this reservoir condition and maybe Mr. Lovering could enlighten us a little bit this morning.

Q. Well, what evidence do you have that this 90 barrel top allowable has helped the reservoir?

A. We have this evidence only, and that is from December 1, 1946, until June 1, 1948, the recovery rate per pound drop in bottom hole pressure varied from approximately 2800 barrels to approximately 5,275 barrels which is substantially less than the rate of withdrawal during the test period. However, during the six months' test period--I mean six months' production period--and June 1, 1948, the recovery was in excess of 16,000 barrels per pound drop in bottom hole pressure. For the ensuing six months' period the recovery decreased to slightly in excess of 7300 barrels per pound drop, and the next six months ending June 1, 1949, the recovery was approximately 5700 barrels per pound drop. This information is somewhat erratic. There are certain reservoir conditions that obviously affect it. One is the bubble point of oil in the reservoir, the effect of which can be guessed at by any number of people. There may be bottom hole sample information available to some of the companies, there may be core analysis information that is available to some of the companies, the combination of all this data may explain the variations in the recovery per pound

drop in bottom hole pressure throughout the life of the Brunson Reservoir.

Q. Hasn't that information been correlated yet by the Operators' Committee?

A. I am not in a position to answer the question. I am here as representative of the Rowan Oil Company which isn't representing the majority of the operators, and I am not prepared to testify as to those particular details. I don't have that information that is possibly on hand by some of the major companies.

Q. How has the water production been during this last six months' period?

A. The curve in Exhibit 2 reflects the trend and monthly water production from the reservoir. As you can see, it is also somewhat erratic, but still comparatively low. From this curve it appears at the present time the monthly water production is approximately 37,000 barrels.

Q. Well, you are producing more water now than you did when this program went into effect, isn't that true?

A. That is correct.

Q. How do you explain that?

A. Well, I am not in a position to explain that.

Q. What type of reservoir is this? Is it strictly a water drive?

A. To the best of my knowledge, and from information I have obtained the consensus of opinion is that it is a closed reservoir and isn't subject to an active water drive. If a water drive is present, it is probable it is very minor compared with the withdrawals rates that we have experienced in the past in the Brunson Reservoir.

Q. Then your water production figure wouldn't be especially material?

A. It is my opinion that the water production would not be of material value in analyzing the recovery from the Brunson Pool.

Q. Is it possible that there are two or more reservoirs actually within the area now designated as the Brunson Pool?

A. It is my personal opinion that decreased permeabilities in local areas throughout the Brunson Reservoir tend to make the Brunson Field approach separate reservoirs. Why the permeability is zero or a relatively small number I am not prepared to say, but the bottom hole pressure maps that have been produced and prepared by the Lea County Operators and distributed in the past have reflected anything but a uniform bottom hole pressure condition. That is further pointed out by the data attached to Exhibit 1.

Q. There is quite a difference between the bottom hole pressure history of the northern field and in the southern part, isn't there?

A. Yes, there is. That may be possibly due to the fact that the southern part of the field has experienced a little bit longer life in certain areas, new wells are being drilled in the north end of the field at this time, and it is possible that the boundary of the reservoir has not been defined as yet.

Q. But the key wells you have testified throughout the pool have been rather erratic as between the north and south, have they not?

A. That is correct. They are also erratic as between wells which could be accounted for by strictly individual well conditions, completion techniques and foreign matter in the pay zone and other numerous problems, and numerous things that could affect the productivity of any particular well.

Q. Do you know of any way the continuation of the 90 barrel top allowable could injure the pool?

A. I do not.

Q. You think it is possible it might help it?

A. It is possible it may be of great help. It is also probable that additional information will be obtained which will prove to be a base for definite recommendations to the Oil Conservation Commission.

Q. It is your own recommendation that the order be continued in effect for another six months' period?

A. Yes.

MR. McCORMICK: Anyone else like to question Mr. Durst?

MR. SPURRIER: Does anyone have a comment?

MR. LOVERING: He says it is his personal recommendation. Is it also a recommendation of the Engineering Committee of the Pool?

A. That is in the record previously, I think.

MR. LOVERING: One thing I feel--I assume your per pound drop curve doesn't include water. To be a true curve shouldn't it include the water?

A. To go a little further a true curve should include water as well as gas, depending upon the type of information you want.

MR. LOVERING: You have enough data to enable us to compute the volume of that gas originally in the reservoir?

A. I would think the Shell might be more in a position to answer that question. As far as the Rowan Oil Company is concerned, we would look to the Lea County Operators Committee for any available data in the way of history of the reservoir, and I am not prepared--

MR. LOVERING: Was it ever suggested in the Operating Committee that they considered the volume water and gas?

A. From my own recollection I do not recall any recommendation that was made which will reflect on a curve the original and present volume of the reservoir considering gas, oil, and water.

MR. LOVERING: Do you anticipate another meeting of the operators prior to the conclusion of this test?

A. No, however, if any of the operators feel that a meeting is in order, they have the privilege of so requesting one.

MR. LOVERING: Don't you feel that after this hearing today there should be a little get together about what was discussed here as far as water and gas is concerned, and it is about time to get all our neighbors together to know exactly what we are going to do when the test is over. We will have only sixty days to put this thing in order.

A. If it is your desire that be done, I am sure that the operators in the Brunson Pool will be extremely cooperative.

MR. LOVERING: I am merely suggesting it as one representative in that committee.

A. We will have as far as the time element goes six months while the second test is being conducted, during which time the data accumulated both prior to the beginning of the second test period and during the second test period can be digested and put in any form that may be thought to be of advantage.

MR. SPURRIER: Is it possible that we have a misunderstanding here? You are talking about sixty days, Frank, and you are talking about six months, Ray. Now what is the recommendation for the continuance of this case?

MR. LOVERING: I think before the--I think it wise that the

results of this test would brought to the Commission sixty days after the six months' period was up.

A. That's right.

MR. LOVERING: Six months to wind up the test, and sixty days to formulate opinions and make any recommendations to the Commission.

MR. McCORMICK: Mr. Durst, what allowable will you have then at the end of the six months' period and before the matter is reported back to the Commission, what do you recommend?

A. It was the desire of the Oil Conservation Commission at the termination of the first six months' test period that the 90 barrel per day allowable be continued as it is today, and it is my recommendation that the 90 barrel per day allowable be continued from the end of the six months' test period until the ensuing hearing, that that 90 barrel per day allowable be continued for the two months' period.

MR. McCORMICK: Wouldn't it be better to continue it until a further order of the Commission and set a hearing six months hence to receive additional testimony?

A. Yes, I believe it would.

MR. McCORMICK: Do you have any data about the per acre recovery down there?

A. I do not.

MR. McCORMICK: According to the proration schedule there are fifty-nine wells that are now making the 90 barrel top allowable. If we did not have that limitation, the allowable would be 147 barrels per day. Do you have any opinion as to how many of those wells could make 147 barrels?

A. No, sir, I don't. Possibly some of the other companies represented could give you some information on that.

MR. ROWAN: May I ask a question?

MR. SPURRIER: Certainly.

MR. ROWAN: It is certainly contemplated if the Commission grants the request for the six months' extension of this order that this bottom hole pressure data and gas-oil ratio data and accumulated production and what other data will be available will be assembled and studied and a report made so that it should be presented to the Commission after the six months' period had expired.

MR. SPURRIER: Yes, sir.

MR. ROWAN: That answers your question, Frank? The Rowan Oil Company will assume the responsibility of calling such a meeting of the operators in Hobbs or anywhere else it meets their pleasure.

MR. SPURRIER: Now, the actual period here that is recommended to the Commission that this case be continued is actually eight months?

MR. ROWAN: That is correct.

MR. SPURRIER: Does anyone have any comment on that period? Does anyone have any other comment on any question of the witness?

MR. TOONE: My name is H. H. Toone, Magnolia Petroleum Company. I would like to make a statement.

MR. SPURRIER: Come forward, please. You may make a statement without being sworn.

MR. TOONE: I wanted to state as the representative of the Magnolia that we concur in the recommendation of the Rowan Oil Company in this matter.

MR. SPURRIER: Thank you.

MR. COLLISTON: Paul Colliston of the Continental Oil Company. I would like to state Continental's position in this matter. Our study has not convinced us that curtailment is necessary or desirable, and a continuance of this order is desirable; however, we are willing to go along with the majority of the operators.

MR. BORLAND: C. D. Borland with the Gulf Oil Corporation. Our analysis of the data accumulated during the six months' test period indicates we cannot make any definite conclusion as to whether or not we are preserving the reservoir under reduced allowable. On that basis we are very much in favor of continuing the 90 barrel allowable for the additional period.

MR. SPURRIER: Eight months?

MR. BORLAND: Six months' test period and sixty days.

MR. SPURRIER: All right.

MR. LOVERING: Ditto for Shell.

MR. SPURRIER: Does anyone have any further comment? I have two telegrams both from the same company, Sinclair.

(Mr. Spurrier then reads the following telegrams.)

"1950 Aug 23. R. R. Spurrier, Secretary, State of New Mexico Oil Conservation Commission, Santa Fe, New Mexico.

"Re Case 202 Brunson Pool Lea County New Mexico Hearing August 24, 1950 Stop due to absences on vacation of some of our personnel who are more conversant with this situation unable to have anyone present at hearing to present our views. We feel that the test period should be continued for an additional six months and during such period production permitted at the rate of ninety barrels per well per day. Any reduction in allowables is not justified under the present situation and will result in final analysis in transferring markets from New Mexico during this peak period of demand. Sinclair Oil & Gas Co. by T. H. Hammett."

"1950 Aug 23. R. R. Spurrier, Oil Conservation Comm., Santa Fe, New Mexico. Reference Case 202 Brunson Pool, Lea County, New Mexico, to be heard August 24, 1950, Sinclair Oil & Gas Company recommends continuance of Test Period of

90 barrels oil per well per day for additional 6 months interval. Sinclair Oil & Gas Co., G. H. Gray."

MR. SPURRIER: Does anyone have any further comment in this case? Well, in view of the testimony presented here, gentlemen, I will recommend to the Commission, and a subsequent order will be issued, I will recommend to the Commission that the case be continued until April, the April allowable hearing which will be some time between the 20th and 25th of April approximately eight months hence. If there are no further comments, we will take up the next case, Case No. 233. Will you read the advertisement of that, please.

(Mr. McCormick reads the notice of publication.)

MR. McCORMICK: Mr. Utz, will you come forward please?

ELVIS A. UTZ, having been first duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. McCORMICK:

MR. McCORMICK: Let the record show Mr. Utz has been sworn.

Q. Your name is Elvis Utz?

A. That is correct.

Q. You are an engineer of the Oil Conservation Commission?

A. Yes, sir.

Q. You have before you the notice in Case No. 233?

A. Yes, sir, I do.

Q. The Northwestern New Mexico Nomenclature Committee has recommended the creation of a new pool to be known as the West Kutz Canyon (Pictured Cliffs) gas pool, the description being set forth in the notice. On the basis of the information available in your office, do you join in this recommendation?

A. Yes, sir, I do.

Q. And it is on the basis of such information that it would be

reasonable to designate the pool as recommended?

A. On the basis of the information at the time this recommendation was made, I would recommend it be extended as stated.

Q. Now, as to the LaPlata (Mesaverde) gas pool, recommendations have been made to reestablish the boundaries. On the basis of the information which is available in your office, do you recommend to the Commission that the boundaries be reestablished as shown in the notice?

A. I would concur in the recommendation and recommend the same.

Q. And such reestablished boundaries would be reasonable in your opinion?

A. Yes, sir.

Q. Item 3 in the notice relates to the boundaries of the Fulcher Basin-Kutz Canyon (Pictured Cliffs) gas pool. It is recommended the pool be changed to include all of Section 6 and Township 27N- R.10W, in San Juan County, New Mexico. On the basis of information available in your office, do you join in recommendation for the reestablishment of such boundaries?

A. Yes, sir, I do.

Q. And the same would be reasonable in your opinion?

A. In my opinion it would be, yes, sir.

MR. McCORMICK: Does anyone have any questions or comments regarding these pools in the San Juan? That is all Mr. Utz.

MR. SPURRIER: Does anyone have any objection to the extension as proposed? Does anyone have any further comment in this case? Mr. Lovering?

MR. LOVERING: No, sir.

MR. SPURRIER: If not, we will take up Case No. 234.

(Mr. McCormick reads the notice of publication in Case No. 234.)

W. B. MACEY, having been first duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. COCHRAN:

MR. COCHRAN: If the Commission please, some sixteen months ago American Republics Corporation was granted permission to drill eight unorthodox five-spot locations on what is designated as its Robinson B Lease in the Grayburg-Jackson pool of Eddy County, New Mexico. In this present application they ask that they be permitted to drill four additional five-spot locations on the Robinson B Lease.

Q. Will you state your name, please, sir.

A. William B. Macey.

Q. Where do you live, Mr. Macey?

A. In Artesia, New Mexico.

Q. By whom are you employed?

A. I am employed by the American Republics Corporation.

Q. In what capacity?

A. I am District Superintendent.

Q. Are you in charge of American Republics' New Mexico production?

A. Yes, sir.

Q. Are you familiar with the Robinson B Lease?

A. Yes, sir.

Q. That is described in the application on file?

A. Yes, sir.

Q. Have you previously testified before the Commission?

A. Yes, sir, I have.

Q. Are you a graduate petroleum engineer?

A. Yes, sir.

MR. COCHRAN: Does the Commission accept Mr. Macey's qualifications?

MR. SPURRIER: Yes, sir.

Q. Mr. Macey, how many wells have been drilled on the Robinson B lease?

A. We have drilled to date a total of 24 wells on the B Lease.

Q. How many of those wells are producing or have been plugged and abandoned?

A. Two of the wells have been drilled as dry holes, Nos. 3 B and 18B, and were plugged at the time they were drilled.

Q. From what horizon is the remaining well producing?

A. There are twenty-two producing wells, and of the twenty-two wells twenty are producing from the upper San Andres pay in the Grayburg-Jackson pool. The other two wells are producing from the Grayburg-Keeley zone. The Grayburg-Keeley zone being encountered at approximately 3,275 feet. The Grayburg-Jackson pool producing at approximately 2800 feet.

Q. Now, with reference to the wells that are producing from the Grayburg-Jackson pay, what was the original spacing pattern?

A. All of the original wells drilled were drilled on one well to the 40 acre spacing with each well being centered in each 40-acre unit.

Q. Of the number of producing wells on this lease have you completed any five-spot locations to the Grayburg-Jackson pay?

A. Yes, we have completed three five-spot wells on this lease, Nos. 23, 24, 25.

Q. Now, Mr. Macey, I believe that at a previous hearing before the Commission you testified that in your opinion one well to forty acres wasn't sufficient to adequately drain the forty acres, is that correct?

A. Yes, sir.

Q. Now, that you have completed a number of five-spot wells on this lease, would you tell the Commission the results that you have obtained and whether you have had any reason to change your opinion?

A. We have completed the three five-spot wells on the B Lease, and since completing the wells we have run bottom hole pressure tests. We are still of the same opinion that one well isn't draining forty acres. Our bottom hole pressure tests have indicated that the new wells, five-spot wells, are producing oil which normally would never have been recovered had we continued our normal, forty acre spacing pattern.

Q. Do you have any reason to believe since the completion of these five-spot wells that they have had any effect at all on the capacity of the adjoining wells to produce?

A. We have had no decline whatsoever in the productivity of offset wells other than a normal curve.

Q. Mr. Macey, are you of the opinion in this particular area that the drilling of such five-spot wells is in the interest of conservation?

A. Very definitely.

Q. Mr. Macey, would you indicate on the map--on your map and on the map the Commission has before it--the four proposed locations?

A. This is the B Lease here. We are preparing to drill Nos. 28, 29, 30, and 31. All wells would be on the B Lease.

Q. Now, Mr. Macey, the exact location of those wells on the lease, from the lease lines, are as shown in the application on file?

A. From the section lines, yes, sir.

Q. From the section lines. Those proposed locations appear to be very near the lease lines. How near are they to the lease line?

A. They are 25 feet from the lease boundary line.

Q. And across the line is in each instance a different lease?

A. That's right.

Q. Now, Mr. Macey, who owns the adjoining leases?

A. American Republics Corporation.

Q. What lease do you call that?

A. That is our Robinson A Lease.

Q. Now on the Robinson B Lease are there any overriding royalty interests or oral payment obligations?

A. No, sir.

Q. And are there any overriding royalty interests or oral payment obligations on the adjoining Robinson A lease?

A. There is a 7½ per cent overriding royalty in addition to the government royalty on the Robinson A lease.

Q. Then the drilling of these wells so near the Robinson A lease line would be of concern to the Robinson A overriding interest owners, would it not?

A. Yes, sir.

Q. Now, would you tell the Commission what steps you have taken or what arrangements you have made, if any, to work out a satisfactory arrangement with the overriding royalty interest?

A. We have prepared an agreement between the corporation and the overriding royalty holders whereby they will agree to permit us to drill these wells within 25 feet of the lease line, which they hold the overriding royalty on. The royalty agreement provides that the overriding royalty holders shall participate in the income from the sale of oil and gas produced by these wells in the proportion they bear to 7½ per cent, their interest being in one-half of the oil and gas produced by wells 28, 29, and 30, and their interest being one-fourth of the oil and gas produced from well No. 31.

Q. That is to say that insofar as three wells are concerned those royalty owners would be paid one-half of 7½ per cent

of all deliveries?

A. That is quite right.

Q. And in the case of the corner well--

A. That will pay at one fourth of $7\frac{1}{2}$ -- $7\frac{1}{2}$ per cent of one-fourth of the oil and gas produced.

Q. One-fourth of $7\frac{1}{2}$ per cent?

A. Yes.

Q. Now, do you have a copy of the proposed form of agreement that you are now testifying about?

A. Yes, sir, I have a blank copy here.

Q. Mr. Macey, the overriding royalty owners as a part of this agreement make certain promises in which they agree never to demand that an offset well be drilled to any of these four wells, is that correct?

A. That is correct.

MR. COCHRAN: Will you mark that as Applicant's Exhibit 2. We offer in evidence a copy of the Agreement with Robinson A royalty owners, to which signatures are now being obtained. That is simply the form of the agreement.

MR. McCORMICK: What assurance do you have that this agreement will be signed by all the royalty owners?

A. We have contacted all the royalty owners and have the signatures of all but one of the royalty owners, and the last signature, the man representing this lady has approved our form of agreement, and we have sent it to her for signature.

Q. He has recommended--

A. He has recommended that she execute it.

MR. SPURRIER: Is it possible that she could change her mind?

A. It is possible.

Q. The agreement provides that it will only become effective when all overriding royalty interests owners have executed it.

It will only become effective also when the United States Geological Survey has approved it and the Oil Conservation Commission has approved it. In other words, if this lady for-- which I have reason to believe won't change her mind--but if she should, then the wells could not be drilled.

MR. McCORMICK: Who is that, Mrs. Higgins?

MR. COCHRAN: (Shaking head indicating assent) Ralph Shugart has represented that family and done their accounting work for a number of years, and the usual practice is that anything Mr. Shugart sends her and recommends ~~she~~ sign, she does so promptly.

MR. McCORMICK: You would anticipate that the Commission if it entered an order approving this application would make it contingent upon the complete execution of the royalty agreement?

MR. COCHRAN: That's right. However, we feel before the Commission signs the order we can furnish you a photostatic copy of the executed instrument.

Q. Mr. Macey, you are familiar with the Robinson A and Robinson B lease divisions to the extent of the royalty provided to be paid to the government?

A. Yes, sir. The royalty under the Robinson A lease payable to the government is now 12½ per cent, but it varies. It ranges from 12½ to 25 per cent, and the royalty is 12½ when the production is over 110 barrels per well per day. This lease is an exchange lease. It was originally carried as 5 per cent royalty to the government. The royalty payable to the government under the B lease varies from 12½ to 32 per cent, and if the production exceeds 50 barrels per well per day the higher scale royalty shall prevail. But if the production is less than 50 barrels per well per day, the royalty at 12½ per cent shall prevail.

Q. In other words, the wells being located on the Robinson B lease if there came a time when they produced more than 50 barrels per well per day the government would benefit by the higher royalty?

A. That is correct.

MR. McCORMICK: That is the average well on the lease?

MR. COCHRAN: Yes, sir.

MR. McCORMICK: The average over a one month period, I believe, is the way you figure, but it is an average of all wells on the lease not in any particular one well?

A. Yes, sir.

MR. McCORMICK: It isn't likely those wells will produce more than 50 barrels a day?

A. Your allowable would have to be--it isn't likely. That is correct.

MR. McCORMICK: They wouldn't produce it, would they?

A. No, sir, they wouldn't make it.

Q. How do you propose to separate the oil produced from these four wells and account to the royalty interest owners for their part?

A. We are going to set separate tank batteries to measure the production from wells 28 and 29, separate tank batteries for well 30, and a separate tank battery for well No. 31. We will have separate division yields drawn for each battery.

Q. Now, Mr. Macey, in your application you ask that you be granted permission to drill these wells. You do not ask you be given any increase in allowable. Now, what is the proposed arrangement with reference to the allowable for these four wells?

A. In April 1949 in Case 180 the Commission entered an order No. 819 whereby certain specific tracts were set out and unitized

for proration and allowable purposes only. This order further authorized us to produce the allowable as fixed by the Commission for the total number of developed 40 acre tracts--40 acre units--on any one tract. It further authorized us to produce the oil from all of the producing wells which had been completed or which might hereinafter be drilled. We are simply asking that this order be continued, that the allowable from these wells be assigned in accordance with this order.

Q. In other words, these wells being located on tracts unitized for proration purposes the proration order applicable to that tract would govern?

A. That is correct.

Q. Mr. Macey, permission and approval have been obtained from the United States Geological Survey?

A. Yes, sir.

Q. For these proposed locations?

A. Yes, sir.

MR. COCHRAN: I have a letter written by Foster Morrell, Oil and Gas Supervisor, addressed to John E. Cochran, Jr., Artesia, dated August 7, 1950, which reads in part as follows:

MR. McCORMICK: Do you have a copy you could introduce in evidence?

MR. COCHRAN: I will give you the copy, but I just wanted to give you the part in which they state they have no objection. "No objection is offered by this office to the well spacing plan providing for drilling of four wells at locations specified in the application to test the producing reservoir of Grayburg-Jackson pool. Drilling of these wells may afford opportunity for additional recovery of oil and gas from the producing reservoir. Approval to drill the wells will be contingent upon approval of the unorthodox locations for proration

purposes by the Oil Conservation Commission of the State of New Mexico."

That is all I have.

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

MR. McCORMICK: Mr. Macey, are you now producing any one well in excess of the normal unit allowable?

A. No, I should have pointed that out. Order 819 provided that no well located upon any unitized tract should be permitted to produce at a rate in excess of the top allowable as fixed by the Commission.

MR. McCORMICK: But there are specific 40-acre tracts that would have two wells in them and would produce more than the normal unit allowable?

A. Yes.

MR. SPURRIER: Would that same thing apply to a 160 acre tract, Bill?

A. I don't follow you.

MR. SPURRIER: He said there are 40-acre tracts on which there are two wells, and that 40-acre tract actually produces more than the 40-acre unit allowable?

A. I see what you mean. You mean are there any 160-acre tracts that would produce more than say four allowables?

MR. SPURRIER: Right.

A. No.

MR. McCORMICK: You mentioned earlier that two of those wells in this pool were producing from a lower horizon than the other wells?

A. Separate pools

MR. McCORMICK: Which are those two wells?

A. Wells Nos. 21 and 27. We spaced those on ten acre spacing.

MR. McCORMICK: What horizon do you contemplate producing the fourwells from you are applying for.

A. The Grayburg-Jackson pay, the normal field pay, the upper sands.

MR. SPURRIER: Does anyone have any further questions? Any further comment. If there are no further questions of the witness, he may be excused. If there are no further comments, the cases are all completed, and the hearing is over, except that I wish to say that all these cases must be taken under advisement for lack of a quorum. I wish further to say that in all cases, all numbered cases, with the exception of Case 202, which I have already commented on, that I will recommend to the Commission approval as requested, as the cases are presented. In the case of the allowable hearing I cannot say at this time what the recommendation will be. Does anyone have anything further to bring before the Commission? If not, the meeting is adjourned.

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STATE OF NEW MEXICO)
) SS
COUNTY OF BERNALILLO)

I HEREBY CERTIFY that the foregoing transcript of hearing before the Oil Conservation Commission is a true record of the same to the best of my knowledge, skill and ability.

DATED at Albuquerque, New Mexico, this 12 day of September 1950.



NOTARY PUBLIC

My Commission Expires
August 4, 1952