

CASE N o. 23

BEFORE THE OIL CONSERVATION COMMISSION OF THE
STATE OF NEW MEXICO

DECEMBER 11, 1940

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CASE NO. 23

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

THE PETITION OF THE OPERATORS' COMMITTEE FOR THE OPERATORS IN THE LOCO HILLS POOL IN EDDY COUNTY, IN CONNECTION WITH THE PROPOSAL OF A COLLECTIVE PRESSURE MAINTENANCE PROGRAM FOR SAID POOL, FOR AN ORDER FROM THE COMMISSION PERMITTING A TEN PER CENT INCREASE OVER AND ABOVE THE NORMAL ALLOWABLE FOR EACH MONTH UNTIL THE PRINCIPAL INVESTMENT IN SAID PRESSURE MAINTENANCE PROGRAM HAS BEEN AMORTIZED; THE PRODUCTION OF THE MONTHLY ALLOWABLE OF WELLS SELECTED AS INPUT WELLS FROM ANOTHER WELL OR WELLS OWNED BY THE OPERATOR, PREFERABLY ON THE SAME BASIC LEASE, IN ORDER TO PRECLUDE THE PENALIZING OF OPERATORS WHOSE WELLS ARE USED AS INPUT WELLS -- WITH SPECIAL REFERENCE TO THE FOLLOWING WELLS PROPOSED TO BE SO USED: R. W. FAIRBRAIN NO. 6, AND BASSETT & BIRNEY No. 6B-STATE.

TRANSCRIPT OF PROCEEDINGS AT HEARING IN
THE CITY HALL BUILDING
SANTA FE, NEW MEXICO
DECEMBER 11, 1940

Pursuant to order of the Commission, duly made and entered, setting December 11, 1940, at two o'clock P. M., for hearing in the above entitled matter, said hearing was convened at two o'clock P. M. of December 11, 1940, in the City Hall Building, Santa Fe, New Mexico, the Commission sitting as follows:

HON. FRANK WORDEN, Commissioner of Public Lands, Secretary
HON. A. ANDREAS, State Geologist, Member
HON. CARL B. LIVINGSTON, Attorney for the Commission.

APPEARANCES:

<u>NAME</u>	<u>COMPANY</u>	<u>ADDRESS</u>
Chas. A. Aston	Aston & Fair	Smith, N.M.
Wirt Franklin	Anna Franklin	Ardmore, Okla.
C. A. Scheurich	" "	Clovis, N.M.
G. H. Card	Stanolind	Ft. Worth, Texas
Ed. Downing	Magnolia Pet. Co.	Kermit, Texas
Edgar Kraus	Atlantic Rfg. Co.	Carlsbad, N.M.
D. R. McKeithan	Phillips Pet. Co.	Bartlesville, Okla.
C. A. Daniels	" " "	Amarillo, Texas
Glenn Staley	Proration Office	Hobbs, N. M.
A. E. Willig	The Texas Co.	Ft. Worth, Texas
Carl A. Hatch	Attorney	Clovis, N.M.
Bert Aston		Smith, N. M.

The hearing was called to order by Mr. Frank Worden, who thereupon requested Mr. Livingston to read the call of the hearing as follows:

"NOTICE FOR PUBLICATION
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

The Oil Conservation Commission, by law invested with

jurisdiction as the oil and gas regulatory body of the State of New Mexico, hereby gives notice of the following public hearings to be held at the Capitol, Santa Fe, New Mexico:

Case No. 23.

The petition of the Operators' Committee for the operators in the Loco Hills Pool in Eddy County, in connection with the proposal of a collective pressure maintenance program for said Pool, for an order from the Commission permitting a ten percent increase over and above the normal allowable for each month until the principal investment in said pressure maintenance program has been amortized; the production of the monthly allowable of wells selected as input wells from another well or wells owned by the operator, preferably on the same basic lease, in order to preclude the penalizing of operators whose wells are used as input wells -- with special reference to the following wells proposed to be so used; R. W. Fair-Brainard No. 6, and Bassett & Birney No. 6B-State. This case is set for 2:00 P. M., December 11, 1940.

Any person having any interest in the subject of the said hearings shall be entitled to be heard.

Given under the seal of said Commission at Santa Fe, New Mexico, on November 25, 1940.

OIL CONSERVATION COMMISSION

By (Sgd.) FRANK WORDEN
Commissioner of Public Lands

By (Sgd.) A. ANDREAS
State Geologist."

BY MR. WORDEN: The Commission is ready to proceed now with the evidence.

BY COL. J. D. ATWOOD: Mr. Chairman, I desire to be entered as attorney of record of the Loco Hills Operators' Committee. We request permission of the Commission to present witnesses and testimony in support of the request which has been heretofore filed with the Commission. Before proceeding with the hearing, I desire to read into the record a motion adopted by the Operators' Committee at a meeting this forenoon, the effect of which is a withdrawal of the first paragraph of the petition, and to substitute therefor a different request. With the permission of the Commission, I will read this:

"Moved by Hugh L. Johnston, seconded by Sam Sanders, that the Operators of the Loco Hills Field in Eddy County withdraw from the petition heretofore filed request numbered 1, asking for ten per cent increase in allowable from said field to amortize the cost of installation of a pressure

maintenance program in said field, and that there be substituted therefor the following:

1. That all underproduction of marginal wells in the Loco Hills Field of Eddy County, heretofore or hereafter accrued, be reallocated to the top allowable wells in said field, on the basis of an increase of ten per cent to each top allowable well, over and above the normal allowable to said well, said increase in allowable to continue from month to month until all such under-production or 'shortage' of said marginal wells shall have been made up; and that a production test be made monthly of all wells in said field, under the supervision of the Commission to determine which wells in said field are top allowable wells and which wells are marginal wells.

Motion carried by unanimous vote."

I would also request permission to introduce two members of the Bar, one from Oklahoma and one from New Mexico, Senator Carl Hatch, of Clovis, and Wirt Franklin, from Oklahoma City.

BY MR. WORDEN: Did I understand, in your reading, this increase would be added to the top allowable wells and not to the others?

BY COL. ATWOOD: The marginal wells cannot make what is allocated to them, so they can't make it up in the future., Instead of asking for an increase in allowable to, in effect, amortize the investment. While this would not do it, the one hundred to one hundred and fifty thousand barrels, it would not go very far toward financing the investment, it would be that much. This would be a conservation measure.

BY MR. ANDREAS: In other words, it is oil that has been allocated to wells that could not produce it anyway?

BY COL. ATWOOD: In some cases. It arises from different causes. In some cases the well could have made top allowable except for pipe line proration, and so they have declined so that they cannot make it up now. In other cases the wells failed to meet expectations, the producer believing he was going to make it, and did not; and in other cases there were mechanical difficulties and shut-downs. And this applies only to accumulations credited to marginal wells. There will not be very much of that in the future, because when the wells are checked up now, under this suggestion here, that would determine what its actual capacity is, and you would have in the future only mechanical lapses or unexpected decline in marginal wells.

As I understand, take a marginal well, when it acquires the identity as such, and you give what it will actually make, and that is added on the amount for the top allowable well. That is the plan. You would not be taking anything away from the owner of a marginal well. They feel, if they get the re-pressure system in, they will get more benefit from it than the top allowable well; they really have more at stake. They will tax themselves to pay for the improvement. The operators propose to tax themselves so much a barrel. The marginal well will only pay what it actually produces. That will again require an accurate check.

BY MR. WORDEN: Do they have figures segregated for the back allowable, whether it is due to pipe line or mechanical trouble?

BY COL. ATWOOD: I don't think they have. I think the committee has some figures, showing the figures on back allowable and top allowable. In the case of top allowable, the back allowable is not due to the pipe lines -- some of it is due to shut-downs, or something that has prevented that well being on full production part of the time. That has accumulated, and when the pipe line company can take that, that can still be run. I don't think any attempt, - any report has been made by the operators to show it was due to one cause or another.

BY MR. WORDEN: Proceed.

BERT ASTON,

being called as a witness on behalf of the petitioners, and being first duly sworn, was examined by Col. Atwood, and testified as follows:

DIRECT EXAMINATION

Q State your name, please.

A Bert Aston.

Q Where do you reside?

A Smith, New Mexico.

Q Where is that?

A A wide highway out of Artesia, 24 miles.

Q What is your business?

A Oil business, production.

Q In what companies, and so on, are you interested?

A The Franklin Petroleum Corporation and Aston & Fair.

Q Have you any connection with the Loco Hill Operators Committee?

A Chairman of the Executive Committee.

Q State briefly to the Commission what your committee proposes to do with reference to a pressure maintenance system, referred to in their petition on file?

A After an exhaustive study by a committee of engineers, selected by the Executive Committee, consisting of five outstanding engineers of Southeastern New Mexico, we try, on the grounds of their findings, to put back into the formation all of the gas as it was taken from the Loco Hill field, by the method of compressing and forcing it back into the formation. That report revealed to us that the field was probably adapted to that sort of a conservation measure, and we realize, from their report, that our bottom hole pressure is dangerously near the point at which the gas could come out of solution. As it so happens, the gas is almost one hundred per cent in solution, and the results obtained thereby, would, in our opinion, be good. The committee feels it is a true conservation measure.

Q Have your plans reached a point where finances for the system have been arranged?

A We have the program entirely outlined. I understand from the consulting engineer, who is E. A. Bennett, Chief Engineer for the Continental, acting as consulting engineer, and I am advised he has gone so far as to have the plans even to the point of asking for bids on equipment out. As to the finances, we have consummated a tentative plan for the cash to put the plan in immediately.

Q Going back to your reference to the engineering committee who have made the survey of the field, who composes that committee?

A My son, Chuck Aston, Mr. Keeler, Mr. Staley and Mr. Barnett --

BY MR. WORDEN: Of the U. S. Geological Survey?

A Of the U. S. Geological Survey.

BY MR. WORDEN: Mr. Staley is the proration umpire?

A Right -- and Mr. Harvey Gates.

BY COL. ATWOOD:

Q Have they prepared a report?

A They have, a very complete one.

BY COL. ATWOOD: I might state to the Commission, it has not yet reached the point where copies can be furnished. The original is available, and they propose to furnish you copies to retain in your file.

Q In general, what does the plan contemplate?

A The plan contemplates the immediate installation of 1000 to 1200 horse power unit, being a battery of compressors, to be installed centrally in the field. The field is long and narrow. The central location makes it advantageous from the standpoint of a gathering line, and to use wells which have already been drilled, as input wells, and gathering through a gathering system all the gas as it comes from the various traps throughout the field, gathering from atmospheric pressure from ten to twenty-five, depending on the well. In addition we will probably pick up addition gas, a million feet. The 1000 to 1200 horse power unit will handle about four million feet, and the original sources of gas,-- some are in our own field, there will be approximately three million feet, we anticipate, ultimately, and we will pick up an additional million feet through the gas area, and re-inject it, along with our own gas, into the formation.

Q In short, you propose to stop the waste of gas, recapture gas as it escapes with the oil, and return it to the reservoir?

A That is correct.

Q What can you tell the Commission with reference to the attitude of the operators generally in the pool?

A Their indorsement of the plan has been 100%.

Q That is, all operators --

A (Interrupting) We have had a number of meetings. At those meetings every time, the operators have been there or are re-

presented by some representative, and that representation has voted unanimously in every case.

Q How will the investment be amortized?

A The amortization basis of the plan is a five cent tax per barrel on every barrel saved and marketed.

Q That does not contemplate a tax on state royalties and federal royalties?

A That will be on the working interests.

Q Who will own the plant?

A The operators -- it will be a cooperative.

Q As the investment is retired, the plant will still continue to operate, and be owned by the operators in the field?

A Absolutely.

Q Is there anything further you wish to state.

A Nothing further.

Witness dismissed.

BY COL. ATWOOD: Gentlemen of the Commission, any witness we produce, of course you understand that any person present may question them.

BY MR. WORDEN: Anybody present wish to ask this witness any questions?

(No answer).

CHARLES ASTON,

being called as a witness on behalf of the operators' and being first duly sworn, was examined by Col. Atwood, and testified as follows:

DIRECT EXAMINATION

Q State your name.

A Charles Aston.

Q Where do you reside?

A Smith, New Mexico.

Q What business are you engaged in?

A Consulting geologist.

Q What education have you had to fit you for that occupation?

A I attended Oklahoma University.

Q What is your connection with the Loco Hills Operators Committee?

A I was retained by them to make a preliminary survey.

Q You were employed by the engineers committee testified about?

A Yes, sir.

Q What, generally, is the location of the Loco Hills Pool?

A Township 18 S., Ranges 29 and 30 East, Eddy County.

Q About how many wells are there in the field?

A Approximately 160.

Q When was the first well drilled in?

A December, of 1938.

Q Is any considerable portion of this pool privately owned land?

A Not a considerable portion. There is a very small portion of fee land.

Q How much is state land?

A About 25%.

Q And the remainder?

A Federal land.

Q Covered by federal leases?

A That is right.

Q What is the usual depth of wells?

A Ranging from 2500 to 2900 feet.

Q Is there more than one pay strata?

A Not in the Loco Hills proper. However a lower pay zone is found in the north west part of the field.

Q What is the average thickness of the pay?

A Approximately 20 feet.

Q What is the type of oil-gas reservoir?

A It is -- --

Q Perhaps my question is not framed properly.

Is this a gas drive or a water drive field?

A Gas drive.

Q There is some water?

A There is some water present. It has been proven to be pocket water.

Q Is it correct to state that water pressure cannot be depended

upon to maintain reservoir pressure?

A That is true.

Q Pressure now comes from the gas?

A Yes, sir.

Q You have just heard your father state the gas is almost one hundred percent in solution in the oil?

A That is true.

Q However, there are some gas caps in the field that are not in solution?

A There is what is known as the local gas caps, on the lower side of the structure, they have been proven by analysis and correlation to be in the same stratigraphic field, but on the lower side of the stratigraphic tract, and for that reason must be very local in character.

Q But the largest proportion is in solution in the oil?

A Yes, sir.

Q And it is impossible to produce the oil without producing the gas?

A Yes, sir.

Q What becomes of the gas produced in the oil?

A It is wasted in the air.

Q The allowable basis at present is how much?

A Approximately six thousand barrels per day.

Q And how much gas, approximately?

A 350000 cubic feet.

Q That is gone, never to return?

A That is true.

Q Is it the plan here to recapture that gas and return it to the reservoir?

A That is true.

Q That is the idea of the pressure system. Your engineering committee made -- I will ask you this first: What is the gas-oil ratio?

A On an average it is 512 cubic feet per barrel.

Q That is not in any way a high ratio?

A No, but a few wells are high. That is the average.

Q Has your engineering committee ascertained any facts with reference to the bottom hole pressure? What was the bottom hole pressure, on an average, when you first opened the field?

A The original pressure was 950 pounds.

Q What is it now?

A In September, 1940, on a complete survey of the field, it was 737 pounds.

Q It has declined a little over 200 pounds already, the bottom hole pressure? What do you estimate the rate of decline to be?

A I imagine -- all wells where we have complete information, has been at the rate of about five pounds per quarter period; that is, wells we have accurate information on.

Q At that rate, how long would it be before the wells have to go on pumps?

A It would not be very long. By the time it reaches 700 pounds the gas begins to come out of solution rapidly, and when the gas begins to come out of solution rapidly, the wells will have to go on pumps.

Q If that repressure system is not installed, is it your opinion that within the next few months the wells will go on pump at Loco Hills?

A Yes, sir.

Q About what expense would that involve?

A The pump equipment will run approximately \$1500.00 per well.

Q The cost of installing pump equipment alone would pay --

A More than pay for the repressure system.

Q Besides saving the cost of pump equipment, and operation thereafter, what other advantage is there from installing this system?

A In my opinion, the system will increase the total production from 31,000,000 barrels to 60,000,000 barrels.

Q What estimate did your committee make as to the oil in place?

A Approximately 185,000,000 barrels.

Q Of that amount, what percentage would be recovered by the method now in use?

I mean, to let the wells flow until the pumps had to be installed, and thereafter on pump?

A Conservatively, 17%.

Q Not over 17%?

A I certainly think so. That is the experience in the so-called old Artesia Field.

Q Is that field somewhat similar to this field?

A Yes, sir.

Q And was produced by the method just described?

A That is true.

Q If the repressure system is established in the near future, what percentage of oil recovery does the committee estimate?

A It estimates we will have at least 100% additional, or about 37% of the total oil in place, rather than 17%.

Q That figure is what you might call conservative?

A Very conservative.

Q Then is it a fair statement that the State, disregarding its royalty benefits, just in the matter of taxes alone, would probably be able to obtain twice its assessments in the way of tax recovery, under the proposed method of operating the field?

A Yes, sir.

Q I have made reference to the Commission of the report which your committee has prepared, and have stated to them copies of this report will be available for the files of the Commission at a later time.

A Yes, sir.

Q Do you have that report with you so that it can be exhibited to the Commission?

A Yes, sir.

Q I wish you would do that.

A Alright, sir. (Witness gets report.) Gentlemen, this is the report, broken down on a per well basis for each well. We have tried to give all the information available concerning the wells, with the tabulation of the bottom hole pressure survey we made -- the reservoir space, the voidage worked out -- one showed a voidage of 1.49 of space for each barrel

of oil produced. We have a number of analysis taken throughout the field of the porosity, permeability and saturation, and have a general map of the field and a series of cross sections, which show the structure, as well as the relationship of the producing horizons structure markers. Also is included a map, on top of the red sand, the outstanding correlation markers, including the operations in that part of the country; also on the pay sand itself. Then the cross section, which shows the relationship between the northwest part of the field, which seemingly produces in this zone, and we try to show the continuity of those sands across the field. That is all the data on the field gas-oil ratio, as taken and broken down on a feet basis to get the total gas produced per day. That is about the gist of the information in the report.

BY MR. BERT ASTON: Assuming that this plan could be put in operation within a relatively short period of time, and the bottom hole pressure generally in the field declined to 700 ~~xxx~~ hundred pounds at the time the system is installed. Would the decline which has heretofore been shown -- it is the opinion of your committee that the decline would then be arrested?

A Yes, sir.

Q So that there will be very little decline thereafter?

A No decline at all. In fact, with that pressure set up there will probably be some gas put back in solution and maintain what is in solution now and ultimately put some back. Of course, it is very difficult to say what the effect will be.

BY MR. DEXTER: Are we going to ask for the 10% increase in allowable?

BY COL. ATWOOD: I don't think you were in the room, but the request for the ten per cent increase in allowable was withdrawn, and in lieu of that, request that the back allowable that has accumulated be permitted to be re-allocated among the top allowable wells.

BY MR. WORDEN: Does that mean to deduct from some other field in Eddy County?

A No.

BY COL. ATWOOD: I might say to the Commission, a further study of the proposal of the 10% increase brought up this situation: While the Commission could arbitrarily add the ten per cent to the top allowable, it would be difficult to convince some operators in other pools that they were not making up that increase. Rather than have that feeling, the operators here decided that by following this plan it could not have any repercussions at all.

Q What is the present allowable per well?

A 44 barrels.

Witness dismissed.

ERNEST A. HANSON,

being called as a witness on behalf of the petitioners, and being first duly sworn, was examined by Col. Atwood, and testified as follows:

DIRECT EXAMINATION

Q State your name.

A Ernest A. Hanson.

Q Where do you reside?

A Roswell, New Mexico.

Q What is your official position with the United States Geological Survey?

A Supervisor and engineer in charge of oil and gas operations.

Q What territory do you cover?

A New Mexico, Arizona, the southwestern part of Colorado and the southeastern part of Utah.

Q Does that include the Loco Hills pool in Eddy County?

A Yes, sir, about 75% of the lands are government owned.

Q Of that 75% of land belonging to the United States, I believe all is under lease of one form or another?

A Yes, sir.

Q And all operations in connection with the same are governed by federal regulations?

A Yes, sir.

Q Mr. Hanson, have you given any thought to the proposed plan

to repressure Loco Hills?

A Yes, I have met several times with the operators to consider the practical side, also the regulatory side of the proposed plan.

Q Stated generally, do you think a plan of this kind, a general plan of this kind, is a form of conservation which is in line with the policies of the federal government?

A Yes, from my part in the picture I would say they have an excellent plan and an excellent idea, and might have reasonable expectations to improve recovery to such an extent that it might be equivalent to the discovery of a new field, in terms of production.

Q The effect of this system, carried over a period of years, so far as the public is concerned, would be the equivalent of bringing in another Loco Hills pool?

A Yes, sir. I would recommend it for approval by the Department.

Q As to the rate of decline, if the rate of decline is as has been reported by the Engineering Committee of Loco Hills, - if the reservoir energy is declining at that rate, would you say that a system of this kind is essential to prevent undue waste, assuming the rate of decline is four or five pounds quarterly?

A Well, from the engineering point of view I would say that this type of plan is the only clean cut solution that could be worked at this time that I know of.

Q Where is the greatest waste committed in oil fields in New Mexico, in an average pool? What form of waste, in your opinion, is greatest?

A I would speak only on my own concern and the concern of those working directly under me, and that is almost wholly, with few exceptions, in regard to gas waste.

Q The production of gas not utilized in any way is a form of waste?

A Yes, sir.

Q No oil going to waste?

A No, very little.

Q All oil produced, except in case of accident, is consumed?

A Yes, sir.

Q Gas that goes off in the air is not recovered?

A That is right.

Q If a system of this kind is properly installed and operated, is it a fact, even after all of the oil possible of recovery has been recovered, you still have a gas reservoir which has some value?

A That is a very good point, and that expectation, I am sure, can be reasonably anticipated.

Q For example, if by this system, it should produce for fifty years, and at that time all of the oil that could be profitably produced had been recovered, all of the gas heretofore wasted into the air would still be available for piping for industrial purposes?

A Yes, sir.

BY MR. LIVINGSTON: Mr. Hanson, inasmuch as no proposed written plan has been submitted as yet in all details, is not this plan a repressure maintenance plan, and not the typical unitization plan that is sometimes recommended by the Department of the Interior, or to the Department of the Interior?

A A plan of this type, which is essentially a cooperative agreement, might be handled in one of at least three ways. As to the form of that particular agreement, so long as it is in accord with state and federal laws, I don't believe it would make a great deal of difference. There are certain advantages to using one legal form as compared to another, very much as it would be in business: you might have a partnership in one case, a corporation in another, or a trust agreement in another case. I don't believe they contemplate the so-called unit plan, based on a stipulated plan, which we call, in our work, Form A.

BY MR. LIVINGSTON: The purpose of the inquiry just addressed to you is because it has been shown there is about 25% of this land is state land, and there might be some danger of royalty difficulties with the Enabling Act, which is the reason I made the inquiry.

A I am sure, even with the limited knowledge I have of the details of these agreements,- cooperative arrangements, that could be worked out alright.

Witness dismissed.

BY COLONEL ATWOOD: I might say the proposal is that a corporation be formed to own and operate the repressure system, in which the operators would be stockholders. It is contemplated that every operator will sign up because of the fact it will be beneficial to him. The financing of the plan, that, of course, will be handled by all, an order signed by all operators. There may be some difficulties with respect to over-riding royalties. It is not contemplated the original royalty owners, the State and the United States that would be, would be assessed anything on royalty on oil. But some individuals carry over-riding royalties. They would be benefitted, but if they refuse to do it, the alternative would be to come before you and ask you to order in a pressure maintenance system in Loco Hills, which, I think, there is no question you have the power to do as a conservation measure. That would have involved difficulties. In view of the fact that sentiment seems to be overwhelmingly in favor of the plan, the operators thought it would be better to have a voluntary plan; as a preliminary to getting the plan signed up, they ought to be able to show some amount of back allowable given to carry part of the burden of the plant. Any question on that? I want to get the picture before you as closely as possible without taking up a lot of time unduly.

I take it that the files of the Conservation Commission show, as a matter of record, there are back allowables due marginal wells in Loco Hills, the exact amount to be rechecked and investigated. I will let that stand on what the record shows.

On the matter of this request for the back allowable, we would like to have the order of the Commission, if they should grant the request, show it is a reward to the operators

or a premium for the installation of modern conservation methods, and that therefore this back allowable be allocated among the top allowable wells, which are part of the plan. If some operator should say "Why should I go in? They can't repressure the pool without repressuring me", at least he ought not to have any reward. This Commission gives that to those spending the money. The plan contemplates, as the Commission knows, for certain wells to be designated as input wells for that return gas to the reservoir; it is better to use a well already drilled than spend money drilling a new one. The operator who has to give up that well -- he cannot use it for oil -- we ask that that operator be permitted to make that allowable from other wells on his lease. It does not increase the amount of oil. We think that would be a very fair plan. There are two gas wells, referred to in the petition, that produce no oil. Those operators are highly in favor of this plan, and they are willing for those wells to be kept closed in. I think it would be a very fine thing if those wells never be put on a gas pipe line. That gas can be kept in the reservoir, and to compensate them for that, the plan is to give the allowable oil from that gas well that is kept closed in, and certainly the benefit of keeping those wells closed in is worth more than what little little detriment might result from giving them 40 barrels of oil.

In closing the testimony, I want to ask Mr. Wirt Franklin, who is pretty generally known in New Mexico as the discoverer of the Oklahoma City Pool, and let Mr. Franklin tell what he thinks of this plan.

WIRT FRANKLIN,

being called as a witness on behalf of the petitioners, and being first duly sworn, upon request, made the following statement:

My name is Wirt Franklin. I live at Ardmore, Oklahoma. There is one phase of this case I would like to cover. I think it has been generally pretty well covered in every other way, and that is the question raised by different ones in the

meeting of the operators this morning, and raised by Mr. Dexter a while ago, that some operators in other pools might consider they are discriminated against if this back allowable of marginal wells should be assigned to top allowable wells as a measure of compensation to the operators at Loco Hills for installing a pressure maintenance program early in the life of the field at a time when it will accomplish real conservation. The question was raised that this might constitute a precedent for other pools in New Mexico to ask for the same kind of treatment. Now, I think that can be differentiated. In this case this is asked for the reason that this great conservation movement is being undertaken, and it is a precedent which might well be established for all cases of like character. If action of the Commission of this sort results in a promotion of conservation in all fields of this state, whether now existent or hereafter discovered, whereby the ultimate yield of any such field is doubled or trebled, certainly that is a precedent that might well be established with the best of judgment, and would be a wise one, in my opinion, so that if the operators in any other pool should commence a program of this character, the back allowable on marginal wells, on proper request, could be transferred over and given to top allowable wells; and if they had no such plan and should come in and ask that this be done, then the question could come back from the Commission, "What plan of conservation do you propose?" In that case, and if they had no plan of conservation, this precedent would not be one to apply to such field. I want to call that point to the attention of the Commission because it has been raised in the meeting of the operators, and has been raised by other operators in New Mexico and by operators at Loco Hills.

BY MR. ANDREAS: Do you think there should be a time limit on the back allowable of these marginal wells?

BY MR. FRANKLIN: The time limit suggested was at a certain rate from month to month until such time as the under production or shortage of the marginal well should have been made up.

BY MR. ANDREAS: But the proposal is merely that roughly 150

thousand barrels of back allowable, which is to be accredited to the pool as soon as this pressure maintenance program is started. It seems to me there should be a limit in crediting this back allowable. You would not say, if such a program should be started, say in 1949, that they should take that back allowable all the way back to 1935?

BY MR. FRANKLIN: Each individual case would have to stand on its own merits.

BY MR. ANDREAS: But in establishing a precedent there should be some fairly permanent standard.

BY MR. FRANKLIN: I am not familiar with the time in which this back allowable has accumulated in this field.

BY MR. ANDREAS: In Loco Hills it is not very long for the field is comparatively young.

BY MR. FRANKLIN: That was my understanding that it covered a comparatively short period. Of course, as you say, to go back and undertake to build up back allowable over a period of years -- I think that is a question that could well be left to be decided when it is raised.

BY MR. ANDREAS: In this particular case you are establishing a precedent of two years, and the field has been on proration a little over a year.

BY MR. FRANKLIN: Well, if the Commission can hold out to operators in other pools, or pools hereafter discovered that from inception they will be rewarded for conservation from the beginning, it would be the wisest conservation measure that could be made. That is the reason I think the precedent a wise one, and if it is established it ought to be applied to all cases as a reward.

BY MR. ANDREAS: Yes, but within reason there ought to be a time limit.

BY COL. ATWOOD: There is a great difference between a new field where the pressure has not yet gone so low that a pressure maintenance program would be effective, and a field where a repressure plan would have to be undertaken.

BY MR. FRANKLIN: I admit that here is a case where pressure maintenance in a new field is much simpler operation to maintain that.

BY MR. J. B. KENNEDY:

Q The purpose of the 10% back allowable is to amortize the plant?

A Yes.

Q How much will the plant cost?

A The entire installation will run between \$150,000 and \$175,000.

Q Including the gathering lines?

A The whole thing.

Q And you have 150,000 of back allowable?

A The statement Mr. Staley had this morning showed a little over 135,000 barrels.

Q This ten per cent, what additional allowable would that give you?

A We are getting 6,000 barrels a day now.

Q How much a day would that make you?

A Take it at the rate of ten per cent on the top allowable wells will --

Q What does it figure for the field per day?

A 4.4 barrels per well of the top allowable wells.

Q How many top allowable wells have you got?

A This list shows 123.

Q That would be about 500 barrels on the ten per cent increase in allowable for the field? You would get 65,000 instead of 6,000?

A Only for such period of time as the oil already allocated to the field is made up.

Q Your marginal wells will increase under this program -- the marginal wells would tend to increase in ability to produce?

A I am inclined to believe a little.

Q Since this thing is establishing a precedent, I do want to comment on intentions -- I think it is fine, I think it is going to increase the ultimate recovery, it will increase the ability to produce after this thing gets under way. I don't know about granting back allowable -- it might have repercussions.

A It is not granting a new allowable; it is not a special allowable. It is simply transferring from one set of wells to another

set of wells the allowable already accumulated.

BY MR. ANDREAS: Even though marginal wells do increase by this pressure maintenance, the increase in allowable in wells all over the field will never be greater than 150,000 barrels.

BY MR. KENNEDY: I see your point. I don't know, where they have had such things outside of the state we have had enough reward on the success in putting in the pressure maintenance system to well pay for it without going to the expense of getting additional -- perhaps jeopardizing the plan.

BY MR. DEXTER: Have we made any plans to get anybody to take this oil? It seems to me they would have to have a market. Another question I would like to ask: In using the two gas wells, would it be the plan of the engineers that the allowable on those wells would be given over to other wells?

A You had a man on the stand who is a member of the engineering committee. I was not. I will not undertake to answer a question of that character.

Q As they are gas wells, will the gas finally find its way to the oil horizons. If it does, it seems to me you would have to check them --

A (Interrupting) Are you referring to gas wells to be shut in? Those wells that make only gas are shut in.

Q I thought you were to use those for repressuring?

A No, they are to be shut in to maintain that in the reservoir, if they are making only gas.

Q They are shut in?

A Shut in to keep the gas in the field, and in lieu of that, allowing them to produce gas, they are to be given an allowable to be taken out of other wells on the basic lease. That is my understanding of the plan.

BY COLONEL ATWOOD: That is correct. The statement was made to the Commission that those wells are to be kept shut in, and that in lieu of the gas, they be given an allowable from other wells on the lease.

BY MR. WORDEN: Do you want to ask that question of Mr. Dexter?

A I was mistaken. I thought they were going to use these gas wells for repressuring.

CHARLES ASTON,

being recalled as a witness, was examined by Col. Atwood, and testified as follows:

DIRECT EXAMINATION

Q Is it part of your plan that from time to time you will change the input wells so as to make certain the gas will permeate the oil bearing formations throughout the pool?

A They will be varied as the engineering results show they should be varied.

Q Another question, approximately how much acreage is in the Loco Hills pool, as it has now been defined?

A Approximately 7,000 acres.

Witness dismissed.

BY MR. WILLIG: The Texas Company does not own property in Eddy County, in the Loco Hills Field, but in so far as it might effect the picture as a whole in New Mexico, I think from the evidence the Loco Hills operators are to be commended on their plan of conservation in that field; and, as the evidence also shows, the conservation measures they propose to undertake will reward them without any special consideration on allowable. It may not appear that 500 barrels per day is much, but it is a precedent, and although it has been stated, this so-called reward is a legitimate back allowable for certain wells, it is not credited in other areas. I have had considerable experience with Texas proration, and I would suggest caution in a matter of this kind; where something of this sort was done, we have had a hard time distributing that oil, on back allowables, in addition to the regular allowable. It is a fixed market, and while the proposition of 500 barrels a day would not hurt, I would suggest extreme caution.

BY MR. ASHTON: Is it not a fact, in your referring to Texas, there have been very, very many interests and have been precedents set for just this sort of allowable?

BY MR. WILLIG: No, on the contrary. I am not familiar with those -- we have quite a number of repressure projects in Texas, and we

have not received any back allowable.

BY MR. ASHTON: You know for a fact there have been no such cases?

BY MR. WILLIG: No, the State of Texas is big, and I don't know.

BY MR. ASHTON: Isn't it true that some fields were virtually shut in until they did repressure?

B MR. WILLIG: Yes.

BY MR. ASHTON: And then they were allowed allowable as a recompense?

BY MR. WILLIG: Not any special allowable or allowables.

BY MR. ASHTON: They have received allowable for doing what ~~ix~~ we are planning to do?

BY MR. WILLIG: The wells received some allowables, but no special allowables.

BY MR. ASHTON: In Texas they didn't call them special allowables, but they were allowables?

BY COL. ATWOOD: I might state, gentlemen, the reason we must come to you for this order, we assume the ~~pipin~~ pipe line company will be willing to take a reasonable amount of oil over a period of time, because the pipe line company is definitely interested in seeing this proposal go over. We anticipate there will be no difficulty if we do not load them down unduly, but we must show the pipe line company we have permission to run the oil.

BY MR. KRAUS: I don't know whether it was testimony or argument of Mr. Franklin. There has been talk of a reward for conservation. I feel the Loco Hills operators are doing a good job. I feel, if the Commission thinks there is good reason to switch oil from marginal wells to top allowable wells, it is within the province of the Commission to do so by this conception or this precedent of rewarding an operator for conservation. But after all, as I have frequently expressed myself, conservation is its own reward to the state government and the operator, and there is no use fooling ourselves on this score, there would be no repressure plan in New Mexico, or any place else, if the operator didn't think that ultimately he would gain and benefit by it. It has been the practice in New Mexico in the past to try to make sure that the operator who does anything

towards conservation be not penalized by the fact that his well is shut in for any remedial work. This is the first time I can remember of anybody suggesting he be rewarded. Conservation goes back a little further than merely repressure. One of the steps before you begin to repressure is to save the gas you have. We have been setting a lot of packers, and nobody has asked to be amortized for that cost. How far will they carry this matter of reward for conservation? There would be no stop -- every well that is completed properly should have a reward against one that is completed improperly. I don't see where it will end.

BY COL. ATWOOD: I would like to say this in reply. I think the operator who completes a well properly should be rewarded, as against one who completes a well improperly. In the matter of reward to the operators for conservation is the very essence of the Interior Department regulations. From the very beginning they have encouraged conservation and offered special inducements to the operators who would apply special conservation measures by giving them longer leases and extend them indefinitely and getting concessions in royalties, all of which the Secretary of the Interior can do as a reward to you for engaging in proper conservation methods. Certainly there should be a distinction between operators who continue to practice conservation as against those who do not.

That is all we have to offer.

B MR. WORDEN: Any other operators present who have anything further to say or any testimony to offer in this case? (No answer)

Gentlemen, the Commission will take this case under advisement. Col. Atwood has said they will furnish us with those documents so that we can go into them. This closes Case No. 23.

C E R T I F I C A T E

I hereby certify that the foregoing and attached twenty-four pages of typewritten matter are a true, correct and complete transcript of the shorthand notes taken by me in Case No. 23, before the Oil Conservation Commission of New Mexico on the 11th day of December, 1940.

Witness my hand this 23rd day of December, 1940

Esther Barton