CASE NO. 36

BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE PETITION OF THE OPERATORS' COMMITTEE UNDER MALJAMAR COOPERATIVE REPRESSURING AGREEMENT, WITH REGARD TO A CERTAIN AREA WITHIN THE MALJAMAR FIELD, LEA COUNTY, FOR AN ORDER APPROVING THE FOLLOWING, AND SUCH OTHER MATTERS AND THINGS INCIDENT THERETO AS MAY BE REQUIRED BY LAW TO BE APPROVED BY THE OIL CONSERVATION COMMISSION: UNITIZATION OF GAS, SELECTION OF KEY OR IN-PUT WELLS, MANNER OF COMPUTATION AND COMPENSATION FOR LOSS TO PRORATION UNITS UPON WHICH ARE LOCATED KEY OR IN-PUT WELLS, AND THE PROHIBITION OF A TOP ALLOWABLE EXCEEDING 44 BARRELS PER PRORATION UNIT PER DAY.

Pursuant to notice by the Commission, duly made and published, setting October 29, 1942, at two o'clock, P. M., for hearing in the above entitled matter, said hearing was convened on said day, at said hour, in the office of the Governor of New Mexico, at Santa Fe, New Mexico, the Commission sitting as follows:

HON. JOHN E. MILES, Governor of New Mexico, Chairman
Hon. JOHN M. KELLY, State Geologist, Secretary
HON. H. R. RODGERS, Commissioner of Public Lands, Member
HON. CARL B. LIVINGSTON, Chief Clerk and Legal Advisor.

APPEARANCES:

Name	Company	Address
Hugh L. Sawyer	New Mexico Oil & Gas Ass'n.	
M. E. Baish	Maljamar O & G.	Artesia, N. M.
Glenn Staley	Proration Office	Hobbs, N. M.
J. O. Seth	Stanolind	Santa Fe, N. M.
R. A. Shugart	Maljamar Cooperative Repressuring Co.	
W. L. Cooper	Plains Prod. Co.	Dallas, Texas
Emery Carper	Maljamar Coop.Repressuring Co.	
Clarence E. Hinkle	do	Atty.
Walter P. Luck	N.M.Asphalt & Rfg.Co.	Artesia, N. M.

The meeting was called to order by the Chairman, who requested the Chief Clerk to read the Call of the meeting, which was read by Mr. Livingston, 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 hearing to be held at Santa Fe, New Mexico:

Case No. 36

In the matter of the petition of the Operators' Committee under Maljamar Cooperative Repressuring Agreement, with regard to a certain area within the Maljamar Field, Lea County, for an order approving the following, and such other matters and things incident thereto as may be required by law to be approved by the Oil Conservation Commission: Unitization of gas, selection of key or in-put wells, manner of computation and compensation for loss to proration units upon which are located key or in-put wells, and the prohibition of a top allowable exceeding 44 barrels per proration unit per day. This case is re-set for 2 o'clock P.M., October 29, 1942.

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

The foregoing Notice of Publication was made pursuant to the direction of the Commission at its Executive Meeting September 26, 1942.

Given under the seal of said Commission at Santa Fe, New Mexico, on September 28, 1942.

OIL CONSERVATION COMMISSION

BY (SGD) JOHN M. KELLY
SECRETARY."

BY MR. LIVINGSTON: The Commission is now ready to proceed upon Case No. 36.

BY MR. CLARENCE HINKLE, Attorney representing Maljamar Cooperative Repressuring Agreement: Before introducing testimony, I would like to make a brief statement, under the assumption that the Commission has not familiarized itself with the details of this petition.

This is a petition by the Operators Committee, elected under the Maljamar Repressuring Agreement to have this Commission approve certain phases of operation,- first, to show its operation is designed to prevent waste, and interested in

the conservation of oil, and designed to produce the greatest ultimate recovery of oil from the Maljamar Field.

In connection with the repressuring agreement, it has been necessary to select certain key or in-put wells for the purpose of putting gas back into the formation, and it is the desire of this Committee that this Commission approve those key wells.

As stated in the notice of hearing, the Operators Committee also desires to compensate the owners of the key wells for the loss of production, and the formula is presented to the Commission as set forth in the petition.

They also propose to have the Commission fix the top allowable for the Maljamar Field at 44 barrels. We would like to have that in case conditions change, if it should ever be greater than 44 barrels.

I would like to introduce in evidence, as Exhibit A, copy of the Maljamar Cooperative Repressuring Agreement, entered into August 5, 1941, between the Maljamar Oil & Gas Corporation, Emery Carper and wife, and the various members of the Carper Drilling Company, a co-partnership; and Barney Cockburn and wife, Johney Cockburn and wife, A. T. Woods, R. W. Fair and wife, and R. W. Fair and Mattie Fair, Trustees of the Fair Foundation.

At that time those parties were the parties who came into the original agreement. Since that time Mr. Cockburn sold a part of his acreage, and the buyers are now committed to the agreement, the same as Barney is, the Kewanee Oil Co.

Pursuant to that agreement, the following were elected to constitute the Operators Committee, which manages the affairs. They are Emery Carper, of Artesia, representing the Carper Drilling Company; M. E. Baish, of Artesia, representing the Maljamar Oil & Gas Company; J. B. Steele, representing the Kewanee Oil Co.; and Barney Cockburn, representing himself, the Fair Oil Company and the Fair Foundation and Johney Cockburn, and J. B. Shaw representing E. G. Woods.

I would also like to introduce in evidence at this time

a map, marked "Exhibit B". This is a map of the Maljamar oil and gas field, and the wells circled in red represent the wells selected by the Operators Committee as key wells, and the selection of those wells is one of the things we are asking the Commission to approve at this hearing.

Now, I would like permission at this time to substitute in the petition, which has been filed, pages 7 and 8. The only change is this: (Reading changed paragraph).

There was a hearing set for this matter last month, and we were up here and discussed this matter informally with Mr. Kelly, and it was decided the Operators Committee might not want to take the excess allowable, and we thought it advisable that a statement of this kind be inserted in the petition, so that if they didn't want to take the excess allowable they could notify the Commission, so at this time I would like to ask permission to substitute in the original petition pages 7 and 8.

RALPH A. SHUGART,

being called as a witness on behalf of the petitioners, and being first duly sworn to tell the truth, the whole truth, and nothing but the truth, was examined by Mr. Hinkle, and testified as follows:

DIRECT EXAMINATION

Q Your name is Ralph A. Shugart?

A Yes, sir.

Q You hold a position with the Maljamar Cooperative Repressuring Committee?

A Yes, sir, I am Secretary.

Q Are you familiar with the beginning of the operation which led to the organisation of this repressuring program?

A I am.

Q What, if any, effort was made to find out the feasibility of this repressuring operation?

A In the beginning there was quite a quantity of gas every operator knew was being wasted. We didn't know just how much. In the first place, we had a distillate of this gas made. That distillate showed it contained about a gallon and a half of products, natural gasoline and butane which could be sold. Then each in the immediate area, the Maljamar, Barney Cockburn, the Carper Drilling Company and Mr. Woods, formed a little pot and hired an engineer.

Q Who was the engineer?

A Mr. Cable. To see whether or not it would be a good proposition he made a survey of the field and took the necessary tests and outlined the general area that should be included. He made that report on March 7, 1941. It was a favorable report, and he estimated the amount of gas that would be available from the wells then drilled and producing, which amounted to 120 wells. Then he also made a statement in his report,- I will read from the report:

"From the result of this survey we are convinced that re-pressuring would increase the ultimate recovery, and **** from the seven to twelve million barrels of oil, there will be produced, in excess of the normal expected recovery from twelve to fourteen million barrels from the producing area. In addition, the flowing life of the wells will be considerably extended by starting repressuring immediately."

Immediately after the survey and the filing of this report, we called in several engineers to see about the cost of construction of a natural gasoline and butane plant.

In the first place, we made the necessary application to the Department of the Interior for permission to unitize the gas in this area, and we filed that petition or agreement.

Q That was not a final agreement?

A No, it was a tentative agreement.

Q With the Secretary of the Interior?

A Yes, that was filed with them, and then we called for bids on construction.

Q Did you go ahead and get the agreement signed?

A Yes, we went ahead after discussions with the Department. That outlined what the area, what the location would be.

Q That is the agreement introduced as Exhibit A?

A That is right. That was approved on the 29th day of September, 1941. It was approved by Harold L. Ickes, Secretary of the Interior.

Q Did you organize your committee pursuant to that agreement?

A We did.

Q What steps did you take after that?

A That led to the contract with the Frick-Reid Supply Corporation for the construction of the plant and necessary lines.

Q And the estimated cost was how much?

A $236,000.00, but the lines were in addition outside the plant.

Q That made a total contemplated cost of how much?

A We thought $400,000.00 would cover it, but it ran to an actual expenditure of $462,000.00.

BY THE GOVERNOR: What pipe lines was that?

A The gathering lines and system.

BY MR. HINKLE:

Q Has the plant been actually constructed?

A Yes, the plant was constructed and started operation the 10th day of April, 1942.

Q Explain briefly to the members of the Commission, first, how the oil properties are operated?

A Each individual operator has his own leases, and they operate the oil just as they always have, individually, and according to the agreement, all the gas produced from all the wells, and it does not make any difference whether they are A or B leases,- the royalty rate is the same, the gas is taken as produced,- the operators, under the agreement, furnishes the gas produced,- the agreement takes the gas at the well, takes it into the plant, pressures it through the plant, takes out the natural gasoline and butane, and forces the residue, or as much of it as he sees fit, back down into the ground, through the pressure

Before we constructed the plant, or while it was being constructed, we had exhaustive engineering reports made so we could intelligently determine where the structure was.

Q In other words, the gas is taken out of the lease, the gasoline extracted, and put back through the key wells into the formation?

A And that maintains the pressure on the sands, and extends, or holds the pressure there, and you can obtain more oil eventually.

Q You mentioned you had a thorough engineering investigation. Was that in connection with the selection of key wells?

A Yes, it was.

Q Were you present at any of the meetings where it was agreed on which should be the key wells?

A I was present at all the meetings.

Q In what manner were they selected?

A From the data and information actually obtained by the engineers on the wells in the area and the general structure. They picked thirteen wells in the area that were drilled to a depth so that all the sands which showed up, by analyzing the cuts on all wells by the [illegible] electric log on sands in the production horizon, to be in that well.

Q What engineer did you use in making that study?

A A United States Geological Survey engineer superintended the work, with men in their office, hired by us to do the detail work. It was from the Engineering data of the United States Geological Survey.

Q What other engineers assisted?

A The engineer from the Kewanee Oil Company.

Q What is his name?

A Baker.

Q Do you have with you a cross section map made b y these engineers?

A I have two cross sections to show,- there are 36 maps altogether.

Q Will you get these maps? (Witness produces maps)

A Here is the index map, right here, to all of it. This is the geologic structure. These are the wells that were tested.

Q What are the circles in red?

A The circles in red are the wells that we have this information on.

Q This is supposed to be a cross section through the field (Indicating one of the maps displayed)

A Each one of the wells -- this is Baish 7A, and it is right there (Indicating on another map). This is a log on that well; that was a shallow well, so it could not be a key well, 2300 feet. Baish 13A, this well right here (indicating); there is a log on that well, it goes down to the depth. In this the geologic survey showed nine different producing horisons. Here is No. 1, No. 2, No. 3, No. 4, No. 5, No. 6, No. 7, No. 8, No. 9. To be a key well it had to take in all of these things. Nother thing on this map, this business right here (Indicating); that is an electrical log; what an electrical log is, the is the cuttings from the samples themselves, then they run the electrical log.

Q That electrical log indicates the porosity in the formation?

BY MR. KELLY: The porosity and permeability.

A This first one is this line of wells here (Indicating). The first one under the P -- I have one that takes in most of the wells. I will pick the key wells. This area here (indicating another map),- here is the same map showing the key wells.

Q Each one of these circles is a key well?

A Each one of the circles is a key well. There is 9000 feet of 2-inch pipe. That takes the gas from the plant and puts it down this well,- the residue gas. We picked all those from the engineering data we had on this. Look down and see the number on the second map.

BY MR. KELLY: It is P.

A Alright, that is this line of wells right there,- 4-B, all Kewanee,- Kewanee 4-B in Section 28,-- Take this one, right across -- that takes in all wells,- right across here. We have all these other maps (indicating a roll of maps). These show you men what the engineering data is which we had, and

Mr. Barney Cockburn and Mr. Baker studied the maps and outlined these wells that we should use, and we adopted those.

Q All key wells were chosen so that you could repressure?

A Yes, sir. In this area, that takes in all different zones in the Maljamar Field, a total of nine zones that produce.

BY MR. KELLY: You are not repressuring the upper zone?

A No, that is cased off.

BY MR. KELLY: Just the eight lower zones?

A No, six. The red sand is cased off.

This preliminary work was all done before the selection of the key wells, and from this engineering data is where we selected the key wells.

(Witness here produces another map) This is the master map, and this map shows the data on all wells -- this is top production -- shows each one of the zones in all wells producing at this time. Since this time we have drilled thirty wells.

BY MR. KELLY: Will you introduce a copy of that?

BY MR. HINKLE: Would you like to have that?

BY MR. KELLY: We would like to have the master map.

BY THE WITNESS: I will get you an original.

BY MR. HINKLE: May we sent it up?

BY MR. KELLY: In order that we may keep track of the input wells.

BY THE WITNESS: I will put the input wells in red on the copy I send up.

BY MR. HINKLE:

Q Mr. Shugart, do you contemplate any additional key wells or in-put wells?

A Well, from time to time, as conditions and as information develops in connection with them, yes.

Q Is there any limitation -- any reason why no additional key wells have been selected?

A Yes, sir, for the reason that we cannot buy additional equipment for the present. It is expected, before the field all develops, we will have to have an 800-horse power compressor, but with war conditions we cannot buy it. We did, at the time

we constructed the plant, put in foundations for three compressors, but we could not buy it.

Q Assuming that at some future time you can buy additional equipment, it will be necessary to select additional key wells?

A That is right.

Q What were these thirteen key wells -- by the way, the thirteen wells are specifically described in the petition, so I take it, it is not necessary to introduce a definite description -- what were the wells capable of producing at the time of selection?

A They were all top allowable wells. That is, we built up a proration allowable sheet on all wells in the field, including the key wells, and at the time we started the plant they were all top allowable wells.

Q At the time of selecting them and putting then in use, they were top allowable wells?

A They were top allowable wells.

In this connection, at the time of selecting the key wells they also stated the allowable produced by any one producing company should not exceed the limit of 44 barrels.

Q At that time the top allowable was 44 barrels?

A Tes, sir.

Q State to the Commission how the Operators Committee proposes to compensate the owners of the key wells for the loss of production as in-put wells,- how they figured?

A I will read just what was adopted at the meeting: (reading)

"Sixty percent of 44 barrels top allowable would equal 26.40 barrels, this being the net loss in production per day for each key well and multiplying this by the average field price for 36 gravity crude of $1.04 -- "

I might explain that taking the royalty into consideration, and other costs, sixty per cent would be all the producer would lose. "And multiplying this by the average field price for 36-gravity crude of $1.04 per barrel would make a net loss in dollars and cents to the producer for each key

well furnished of $27.46. This amount multiplied by 13, the number of key wells, equals $356.99 per day which amount is to be paid to the producers furnishing the key wells and shall be prorated to each producer within the repressuring area on the percentage which his total pipe line oil bears to the total pipe line oil of the entire field. The producers would give their checks to the Maljamar Cooperative Repressuring Agreement for their percentage for the lost production on key wells and the Maljamar Repressuring Agreement would in turn pay to the producers furnishing the key wells their prorata part of said amount."

Q That, in effect, is an example of just how it would work out practically?

A That is right.

Q You do not mean it would be sixty per cent --

A Of whatever the wells were capable of producing.

Q Or by any method you might determine, from time to time, of what they were capable of producing?

A That is right.

Q This sixty per cent is then allocated to the producing wells in the field capable of making top allowable, and the proceeds would be paid to the Operators Committee, and the Operators Committee allocates that to the owners of the key wells on a percentage basis?

A That is right.

BY MR. KELLY: It would be thirteen times sixty per cent of the present allowable of top wells.

BY MR. LIVINGSTON: The current allowable, and would change from month to month?

BY MR. HINKLE: Changes with the top allowable.

Q Do you know, Mr. Shugart, whether it is the intention of the Operators Committee to follow this formula each month and ask for additional allowable based upon the same, or whether they simply desire the option to notify the Commission of their intention to take the top allowable?

A It is my understanding they want to notify the Commission in regard to additional allowable?

BY MR. KELLY: If the Commission grants additional oil, the operators, at their option, may take it, and the operators will notify the Commission by the 25th day of the preceding month?

BY MR. HINKLE: Yes, so that if --

BY MR. RODGERS: What would you do if some owner wanted to take that?

BY MR. HINKLE: All the key wells are on government land.

A That is not material then.

BY MR. KELLY: There are over-rides on them?

BY MR. HINKLE: Yes, that will have to satisfy them.

BY MR. KELLY: At their option, if they don't take this, the operators will have to put the money up, in cash.

BY MR. HINKLE:

Q Mr. Shugart, state whether or not there has been any resolution passed by the Operators Committee with respect to the desirability of fixing a top allowable for the Maljamar Field?

A Yes, that has been discussed.

Q What was the consensus of opinion?

A The Committee thought perhaps an allowable of 35 barrels is about what it should be. They did not go on record as saying that, but they thought if it was thirty-five barrels that would be about right, but they did not ask that.

Q In the petition we have requested the Commission to fix the top allowable at 44 barrels.

A Yes, the 44 barrels --

BY MR. KELLY: Not to exceed 44 barrels?

A That is right.

BY MR. HINKLE: It is stated in the petition that they reserve the right to notify the Commission, before the fix the allowable, if it should ever be greater than 44 barrels,- they would have the privilege of notifying the Commission whether they desired to take that.

Q Mr. Shugart, I believe you stated the plant has been operating since April 1st, this year?

A April 10th.

Q Have you any information to show that any definite results have been obtained?

A Yes, sir, I have. Since operations started we have run through the plant 528,000,000 feet of gas,- an average of 3,000,000 feet a day. We have returned out of that amount to the ground 404,000,000 cubic feet. Then we have a general idea from the bottom hole pressure -- here is a map (producing a map). That is the bottom hole pressure run in January, 1942, showing the low pressure areas. This was run by the Engineering Committee.

Q Explain where the low pressure areas are?

A The ones colored in pink. The pink are up to 500 pounds. This (indicating) is 500 to 1000 pounds; this is 1000 to 1350 pounds.

BY MR. KELLY: The maximum is 1350 pounds?

A Yes, sir. This was January. We did not start until April. We had a test run in September. These areas went down, in some instances,- with the production of 500,000 barrels of oil from April, these pressures had not fallen off the normal amount. This spot (indicating) went down -- we didn't have this well hooked up. It shows definitely we need this well, on this side of the structure. This area in here (indicating),- see how that has come out, and this area in here. Keep in mind from January, 1942, until April, we were just flowing the gas on out in the air; that is over 3,000,000 feet a day.

BY MR. KELLY: Approximately what was the averabe pressure for these two dates?

A The average pressure drop between the surveys, per barrel, was .65 pounds per 1,000. Here is the average,- you read it.

BY MR. KELLY: The average pressure was 1019 on the second survey, a decrease from 1350. But your plant only operated half of that time?

A We produced 547,000 barrels during the time while the plant

operated, but prior to that time we produced more than that, with the gas going up in the air, and we know by experience that was over 3,000,000 feet a day.

BY MR. HINKLE:

Q I take it that shows a definite benefit the short time it has been in operation?

A That is right.

Q This gas is now being put back into the ground?

A Yes, after taking out the natural gasoline and butane.

Q Prior to the operation of the plant was that done?

A No, no, it was all wasted.

BY MR. KELLY: Popped to the air?

A Popped to the air.

BY MR. HINKLE:

Q Do you know of anything else that you think would be interesting?

A We might just say the plant operation is being paid, the total expense, by the sale of natural gasoline and butane taken off the gas before putting it in the ground.

Q That was all lost before that?

A That was all lost before that.

BY MR. KELLY: To apply against the principal?

A That is right.

BY MR. HINKLE: I believe, unless the Commission has some questions they desire to ask, that is all. We have Mr. Baish and Emery Carper here, both members of the Operators Committee, and we will be glad to have them testify, if the Commission desires.

BY MR. KELLY: The actual oil is being produced and sold in the same manner as prior to this Agreement? Every operator exercises his right to produce his oil?

A That is right.

BY MR. KELLY: Within the allowable set?

A That is right.

BY MR. KELLY: Is there any clause in the agreement that would force the operators to unitize the oil?

A No, sir.

BY MR. KELLY: You tried, under the agreement, to keep the operation of the oil the same as before building the plant?

A That is right. They have unitization of oil.

BY MR. KELLY: By "unitization" you mean that all gas goes to the central plant, and from the revenue the individual operator is assigned his share?

A His proportion after the expenses of operation are prorated back to his investment in the plant, on the basis of crude oil.

Witness dismissed.

BY MR. EMERY CARPER: There is one point regarding our request for top allowable,- our present capacity is not sufficient to handle gas if we were running more oil. We would be producing lots of gas which would be wasted.

BY MR. KELLY: This would defeat the purpose of the plant?

BY MR. CARPER: It would defeat the purpose of the plant. I think that is well worth considering until such time as we do get more compressors.

BY MR. BAISH: You asked if we have noticed any benefit around No. 1 well offset. We not only stopped the decline, but increased the pressure about 150 pounds.

BY MR. KELLY: That was a sub-normal pressure area?

BY MR. BAISH: Yes, and now that is stopped and built up about 150 pounds.

BY MR. KELLY: We will notify the Operators Committee that we will act favorably as soon as we can draw up a suitable order.

I believe the Commission will agree with me that the testimony presented was presented in a very workmanlike manner, and about as good as we have had. Thank you for the saving of time.

C E R T I F I C A T E

I hereby certify that the foregoing and attached fifteen pages of typewritten matter are a true, correct and complete transcript of the shorthand notes taken by me on October 29, 1942, in Case No. 36, before the Oil Conservation Commission of New Mexico, and by me extended into typewriting.

Witness my hand this 2nd day of November, 1942.

Esther Barton

Esther Barton