

EXAMINER HEARING  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
January 7, 1958

IN THE MATTER OF: Case No. 1358

TRANSCRIPT OF PROCEEDINGS

DEARNLEY - MEIER & ASSOCIATES  
INCORPORATED  
GENERAL LAW REPORTERS  
ALBUQUERQUE, NEW MEXICO  
3-6691 5-9546



Cliffs Gas Pool and certain undesignated Pictured Cliffs and Mesaverde gas pools in Rio Arriba County, New Mexico.

MR. SPERLING: The appearance is J. E. Sperling, Albuquerque, New Mexico, on behalf of the Applicant, and John Sanders. Will you be sworn, Mr. Sanders?

(Witness sworn.)

(Magnolia's Exhibit No. 1 marked for identification.)

JOHN L. SANDERS

a witness, of lawful age, having been first duly sworn on oath, testified as follows:

DIRECT EXAMINATION

By MR. SPERLING:

Q Mr. Sanders, will you state your name, please?

A John L. Sanders.

Q By whom are you employed, and in what capacity?

A Magnolia Petroleum Company, Petroleum Engineer, Hobbs, New Mexico.

Q How long have you been so employed?

A I have been employed for Magnolia for seven years.

Q What are your educational qualifications and your experience background?

A B. S. in Petroleum Engineering from Oklahoma University. Five years active experience with Magnolia as Petroleum Engineer, registered in the State of Texas.

MR. SPERLING: May we consider that the witness is qualified?

MR. NUTTER: The witness is qualified.

Q We will refer to what has been marked by the reporter as Exhibit No. 1 on behalf of the Applicant, and ask you to state what that is.

A This is an area map of the area involved in the request. Magnolia acreage is colored, the area is outlined in red that is covered in this request. The area outlined in green is the area that was previously covered by Order R-984.

MR. SPERLING: By way of a preliminary statement, I might state that the previous order involved the area there that Mr. Sanders has stated is outlined in red --

A (Interrupting) In green.

MR. SPERLING: In green. The present application covers the area outlined in red, and the previous order permitted the commingling of liquid hydrocarbons at particular locations into central tank batteries to those locations. I believe the legend also, by its legend, indicates the tank batteries permitted under the previous order. By reason of the expansion of the field area and the terrain problems which are quite difficult in that area, the present applications has been filed, cancelling the previous order and seeking the authority to commingle the liquids into tank batteries that may be located on the respective leases at most advantageous points.

Q How many wells, as of the present time, are produced by

Magnolia in this area?

A We have one Pictured Cliffs oil well, twenty-one gas wells, seven temporarily abandoned. We have twenty-nine Mesaverde gas wells, three temporarily abandoned; one oil well, fifty gas wells and fifteen temporarily abandoned. Twenty-seven of them are dually completed.

Q That is dually completed in the Mesaverde and Pictured Cliffs?

A Yes.

Q What volumes of liquids are produced, are they substantial amounts of liquid in connection with the production of gas from the gas wells?

A No, they are not. The liquid rates vary essentially from no liquids to ten barrels a day. I think in one case we have thirty barrels a day from one of them.

Q What was the experience of the company with reference to the establishment of the tank batteries at the locations indicated in the previous order?

A We found that in some cases the terrain was such that it would involve moving a hill, and that we would have to run our lines an excessive length, that the pressures wouldn't move the hydrocarbons to the batteries.

Q Would you explain in general what the terrain features are in that area that you have to combat?

A Well, taking the ground elevations, they vary from 6884 to 7538 in this area. There's quite a bit of relief, there is one

stream which is noted on that map that drains the area, and there's a high on either side and it falls off to the north. There's another draw to the north, and the terrain itself is a series of gullies and draws.

Q Now, the application as filed indicates the royalty interest ownership here as being either in the Federal Government or under the jurisdiction of the Bureau of Indian Affairs for the benefit of the Jicarilla Apache tribe, is that correct?

A That's right.

Q Does the season of the year present any difficulties so far as the maintenance of access roads to these batteries is concerned?

A Yes, it does. During the season, the intermittent time between the time of freezing and completely frozen ground, and it thaws during the day, you have a time when your roads periodically freeze and thaw; and also your stream, what will be a dry draw one day, the next day will be full of water to where it would wash out your road and also makes the area inaccessible. The maintenance of roads in the wintertime is quite a problem, and any time it would rain.

Q What does your company propose to do with reference to a control of the liquids produced both from the dually completed wells and the singly completed wells?

A We propose to have adequate tests to tell where the liquids are coming from, to maintain the batteries located at the most

accessible points to where these liquids can be either commingled or maintained in separate batteries, to where they will be under constant supervision of the pumper.

Q Do you propose to make periodic gas ratio liquid tests to determine the allocation of the production to each formation?

A Yes, as set up in the previous order; we plan to use the same procedure of testing the wells that are commingled for each month, once a month each month for the first six months, and then each six months thereafter, to be certain where the liquids are coming from.

Q That has a definite relationship to the amount of gas produced from the wells, is that correct?

A That's right.

Q And the gas will be separately metered from each formation and reported separately?

A The gas will be separated from the liquids at the wells and the liquids moved separate from the gas, and the gas metered separate.

(Magnolia's Exhibits Nos. 2 & 3  
marked for identification.)

Q Exhibit No. 2 appears to be a tabulation of the Mesaverde wells completed?

A No, it is a tabulation of the temporary battery locations at present.

Q I am sorry. We have extra copies, too. That does represent

the location of the temporary batteries into which the liquids are being presently produced?

A Yes, that is the temporary batteries we have established to test the wells until we could get our setup to where we would want to put the permanent battery locations. Most of them are one tank locations. The liquid is being trucked out of the area.

Q Do we understand, then, that you do not propose to make the locations as indicated as the temporary locations on Exhibit 2 the permanent tank battery locations?

A No, we don't.

Q Why not?

A Well, as the development is carried on, we'll find in some cases we will have gas wells that will make liquids that we're unable to predict exactly the volumes, and where the liquids will be coming from. As we complete these wells, we'll know more about exactly where we want to establish our permanent batteries and gathering lines laid to them.

Q You mean from the standpoint of volume, accessibility, and terrain features?

A That's right.

Q All of those factors being taken into consideration?

A Economics.

Q Exhibit 3 appears to be a tabulation of wells completed in the Mesaverde formation, including those that are dually completed, is that correct?

A That's right. It also carries the tabulation of the ground elevations, so you can see where the elevation varies with wells on the same lease, as well as from lease to lease.

(Exhibit No. 4, Magnolia,  
marked for identification.)

Q Exhibit 4 appears to be a similar tabulation of wells completed in the Pictured Cliffs formation?

A That's right.

Q Have the leases which are described in the application approached full development at the present time?

A No, they haven't. We have at the most two wells on any one section. In most cases those are either individual wells to the zones or they are two dually completed wells. Under the present spacing, wells, that will be a completed lease, two wells to a section.

Q Then I take it that you anticipate further liquid disposition problems in connection with the development of the lease?

A That's right.

Q So far as location of tank batteries is concerned?

A That's right, we anticipate the drilling of additional wells to complete this area.

MR. SPERLING: As a matter of information, I might call to the Commission's attention the entry of a similar order, that is, similar with respect to the relief requested, that being R-1022 in Case 1269, application of Northwest Production Corporation, the

operator of leases in the same area.

Q Now the tests, the liquid ratio tests that we mentioned previously, you propose to conduct those with reference to the wells whose products are being commingled, is that right?

A That's right. We would like to have the order read only those that are commingled. As the last order read, it looks to me like we would have to test all the wells in the area, regardless of whether there was any commingling or not.

Q Is it your position that the tests are applicable only to those that are being commingled for the purposes of proper accounting for the liquids?

A That's right.

MR. SPERLING: I think that's all.

MR. NUTTER: Does anyone have a question of Mr. Sanders?  
Mr. Cooley.

CROSS EXAMINATION

By MR. COOLEY:

Q Mr. Sanders, how often could tests be conducted, gas-oil ratio tests be conducted within reason on this large an area?

A In what?

Q For this large an area.

A For commingling purposes, the initial test will establish a definite pattern on the basis of how the liquid hydrocarbons are being produced from any given well. On the basis of that, I think tests each six months would be adequate to determine the liquid

hydrocarbon ratio to the gas.

Q As you know, you referred to the Pacific Northwest application, as a result of which Order No. R-1022 was written. That order required that six monthly tests be taken, in paragraph 2, one test every six months thereafter?

A That is the same thing we propose.

Q That is the same thing you propose?

A That's right.

Q You think it is possible to conduct a test on each one of these wells, one each month?

A Oh, yes. It will be set up to where you can easily test them. If you would have to test every well in the area when you commingled different production, you had to test every well in the area again and not where you were commingling, it would work a hardship to try to test all those.

Q To clarify this, it's your proposal that only those wells from which the liquid hydrocarbons are being commingled should be required to be so tested?

A Right.

Q What determinations will bear upon whether the liquid hydrocarbon from a given well will be commingled with others or not?

A Of course, it will be that we will run them to a common tank battery. In other words, there will be a line from their separator to a common tank battery, and as to where they will be mingled will be a matter of economics as to how long a line we have

to lay, where, and what pressure it would take to move the hydrocarbon.

MR. NUTTER: Well, everything is going to be commingled, though, isn't it?

A That is the proposal. No, sir, I think you have the wrong idea. We won't try to put all the liquids together from that whole area. What we will probably do is put tank batteries where they will be the most accessible and commingle all the liquid hydrocarbon in that area.

MR. NUTTER: The liquids from every well will be commingled with the liquids from some other well. Will any wells on a given lease be producing into the tank battery on the lease only, and receiving liquids from no other wells?

A There is a possibility of that, yes. For instance, if you notice the B and C area is pretty well separated from the other area, and it would be almost impractical to try to move that to the other area.

MR. NUTTER: Over here in the C area?

A C and B would probably be combined.

MR. NUTTER: Those are two separate leases?

A Two separate leases.

MR. NUTTER: They would not be commingled with the production from this other lease. Your production from the H.B. lease wouldn't be commingled with production from another lease?

A There is a possibility we might be in that position. We

have two zones, so we are going to commingle at nearly every battery. We are going to commingle in two zones. We will require that test at that battery originally. The way the order reads, once you commingled and brought in another well, you would have to test for six months over the whole area.

MR. COOLEY: Give us your interpretation of that order again.

A Any time you brought in a new well, that you would have to test every well in the whole area again. This section here.

MR. NUTTER: What part of this Order R-984?

A Number four.

MR. SPERLING: In the order portion?

A Yes, in number four of the order. It doesn't specifically say that it would be tested in the area.

MR. NUTTER: But you have interpreted that to mean that after one more additional well is brought in, then all the wells would have to be retested?

A That is what it appears.

MR. NUTTER: Maybe we can rephrase it.

A If it could be done; that would work a hardship, that would mean we would be testing every well a month until we completed drilling.

By MR. COOLEY:

Q You have no idea where you would propose to place these tank batteries at the present time?

A No, I do not. The thing about it is, you have to get on

the terrain to be able to decide exactly where is best. That's the problem that we run into before, whenever -- that and the fact that our area has extended since this last order. There's two things, the terrain and the amount of liquids that will be produced almost exactly where the batteries would need to be put.

Q Would the section then, of the Chaney Federal lease -- royalty ownership is common throughout the entire area?

A I think the Featherstone and the Rueckhaus are also Federal lands.

Q Oh, yes.

A See the pink there.

Q You do not propose to commingle the Federal lands' production, with the Indian land production, do you? You are proposing to set a single battery for the two Federal leases?

MR. SPERLING: The application doesn't state that. I'm sure it's the position of the applicant that they would like to have the leeway, controlled of course by the tests suggested for such procedure.

MR. COOLEY: Well, sir, in Order R-984 and in the application in that case, it was proposed that a battery be set for the Federal lands. I think at that time it was on the Chaney lease.

A That's right, a separate battery be set for the Chaney Federal.

Q Where you have diversity of royalty ownership, the problem becomes more complex. The only objection where the royalty ownership is common is how much production is attributable to any

particular well, which is of very little consequence as compared to who it belongs to. I think it would be necessary to set a battery for the Federal leases separate and apart from the Indian leases.

MR. SPERLING: As I understand it, the supervision of the wells is under the same agency, is it not?

MR. COOLEY: But the proceeds do not go to the same.

MR. NUTTER: They have different overriding royalties, at least.

MR. SPERLING: That is true.

MR. COOLEY: This would merely give you an estimate of how much production is coming out. I don't think an estimate would be nearly close enough for the determination as to who it belongs to, rather than what well it is attributable to.

MR. SPERLING: Could I inquire as to whether this would be feasible; assuming an affirmative statement as to that procedure from the royalty interest owners, override or otherwise, would there be any objection?

MR. NUTTER: Mr. Sperling, up to this date the Commission has never permitted the commingling of any oil or liquids from any leases prior to being measured in tanks or through meters, regardless of the agreement by the royalty owners. Would it be impossible to install meters to measure the fluids before they are commingled?

A Yes, it would be possible, but from an economic standpoint

it would be impractical, there is such small volumes from some wells, and other wells have enough to record each day. Others are not produced enough, at least now, to warrant economically the justification for this.

MR. NUTTER: Possibly if there is a small amount of fluids, a small separate tank would be cheaper than a meter.

A If you did that, you would have to have the supervision and then you have lost the advantage of commingling.

MR. NUTTER: You might have to go back to meters then.

A It has been my experience that the meters that you are trying to measure small volumes over extended periods aren't very accurate, but we are not discussing that.

MR. SPERLING: We would have no objection to the order providing for the establishment of separate batteries for the Federal leases. They are pretty close together and would not present too much of a hardship. Our primary concern is with leeway as to where to locate them, it being understood that they will be produced into separate batteries.

By MR. NUTTER: Now, Mr. Sanders, as I understand your application, first of all the area outlined in green on your Exhibit No. 1 is the area that is covered by Commission Order R-984?

A That's right.

Q The area outlined in red is the area that you are seeking permission to commingle the various liquids in this application?

A That's right.

Q What does the area colored in pink represent?

A It's also outlined in the red, if you will notice. It is just a different designation of Magnolia operated leases. They are part-interest leases.

Q They are part-interest leases?

A But the whole area that is colored is Magnolia. The red outline covers through --

Q (Interrupting) All the area that is colored in in yellow is Magnolia?

A Outlined in red.

Q If it is colored in yellow, it is Magnolia owned?

A That's right.

Q The area colored in pink is communitized, that belongs to Magnolia and other working interests?

A That's right.

Q And Magnolia is the operator of the communitized lands?

A That's right.

Q Is the royalty ownership common throughout all the lands, except --

A (Interrupting) These Federal lands.

Q -- the Federal lands colored in pink, and the Chaney lease?

A That's right. All of it is Indian land but the Federal land.

Q With all common ownership and no overrides or anything that is separate?

A Not that I know of.

Q Is the working interest common throughout the acreage, except for the pink acreage?

A Right.

Q That is communitized?

A That's right.

Q And Magnolia is the operator?

A Right.

Q Do I understand correctly that your application here is for an expansion of the authority granted under Order R-984 -- well, it's the cancellation, but actually it amounts to the same authority for an expanded area?

A With the exception that we won't be restricted as to where we locate the batteries. We were restricted in the other order. In the other order we were restricted to the location. We have them marked in green. There are three locations.

Q Do you know how many tank batteries--

A (Interrupting) We will eventually have?

Q -- you will eventually require here?

A No, I don't.

Q You don't know the exact locations of any of them?

A No, sir, I don't.

Q Well, now, what about the oil well that you have got on here?

A It will require a separate tank battery.

Q That oil will be measured separately?

A Separate battery.

MR. NUTTER: I think a while ago, Mr. Sperling, you said that Magnolia would have no objection to establishment of a separate tank battery for these Federal leases which are in the southeast quarter or portion of the map. Do you understand that there are several separate leases there?

MR. SPERLING: I understood that there were three separate leases, the one designated the Boring Chaney Federal Unit. I am referring to <sup>the</sup> application referenc~~e~~ now, the Chaney Federal lease and the Featherstone Federal unit and the Rueckhaus unit. There are four.

MR. NUTTER: Mr. Sperling, it would probably be necessary to measure or meter the liquids from each of those leases separately. The royalty ownership is different and while working interest is different, it has been communitized?

MR. SPERLING: That is true.

MR. NUTTER: I don't think that would present a problem. Does anyone else have any questions?

By MR. COOLEY:

Q Mr. Sanders, assuming that the Commission does find it necessary to require the production from each of the four Federal leases just mentioned by Mr. Sperling -- you know the leases to which I refer?

A Yes.

Q Assuming the Commission does find it necessary for the production from each of the leases to be measured separately, in

your opinion would it be more feasible to measure that in tanks or by meter?

A I don't know the volume that is going to be involved, so I would hesitate to answer that question.

Q Do you know of any other means of measuring it?

A That's the two I know of, either meter it or measure it on tanks.

Q Either meter it or measure it on tanks, that would be all-inclusive?

A There is a meter in development, something similar to that being used in custody transfer that could probably be used.

Q We have authorized the use of meters in A.T.C. system.

A They are volume meters that measure that meter until that volume is filled.

Q Dump type meter?

A Dump type meter.

Q We have authorized the use of that by Gulf.

A That could be adapted.

MR. NUTTER: Requiring the liquids to be measured separately would be no departing from the Order R-984, because it authorized it to be measured separately?

A That's right. It authorized it to be measured separately.

MR. NUTTER: Does anyone else have a question? If not, the witness may be excused.

(Witness excused.)

