CASE 3705: Application of MIDWEST OIL CORP. for salt water disposal, Lea County, New Mexico.

Case No.

3705

Application, Transcript,

Small Exhibits, Etc.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
December 20, 1967
EXAMINER HEARING

IN THE MATTER OF:

Application of Midwest Oil Corporation for salt water disposal, Lea County, New Mexico.

Case No. 3705

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We'll call Case No. 3705, next.

MR. HATCH: Case No. 3705, Application of Midwest Oil Corporation for salt water disposal, Lea County, New Mexico.

MR. MORRIS: Mr. Examiner, I'm Dick Morris of Montgomery, Federici and Andrews, Santa Fe, New Mexico, appearing on behalf of the Applicant Midwest Oil Corporation. We will have three witnesses. We have a number of exhibits and need a little time to mark them.

MR. NUTTER: Okay. At this time, we might ask for further appearances in the case.

MR. KELLAHIN: If the Examiner please, Jason Kellahin of Kellahin and Fox of Santa Fe appearing on behalf of B. T. A. Oil Producers and Minerals, Incorporated. We will have one witness.

(Whereupon, Applicant's Exhibits numbered 1 through 17, inclusive, were marked for identification.)

MR. MORRIS: I think we are ready. Could I ask to call my witness to stand and be sworn?

MR. NUTTER: We might as well get Jason's, too.

MR. MORRIS: Mr. Rowan, Mr. Pulte, and Mr. Matson, would you stand and be sworn, please?

MR. NUTTER: Jason, do you have a witness, also?

MR. KELLAHIN: Yes, sir. Mr. Halvorsen.

(Witnesses sworn.)

J. R. ROWAN

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Rowan, please state your name, where you reside, by whom you are employed and in what capacity.

A J. R. Rowan, Midland, Texas, District Landman, Midwest Oil Corporation.

Q Have you previously testified before the New Mexico Oil Conservation Commission or one of it's Examiners?

A No, sir, I have not.

Q Would you very briefly outline your education and your experience in the petroleum industry up to the present time.

A I have a Bachelor of Business Administration Degree from the University of Texas at Austin. I worked for Sinclair Oil and Gas Company from 1951 till 1955. Since '55, I have been employed by Midwest Oil Corporation in the capacity of a Landman in all cases.

Q Are you familiar with the application of Midwest Oil Corporation in Case 3705?

A Yes, sir.

Q And, are you familiar with some of the background

of the land and right of way acquisition, lease acquisition, in connection with this project?

A Yes, sir, I've been associated with the entire project from inception.

MR. MORRIS: Are the witness's qualifications acceptable?

MR. NUTTER: Yes, sir.

Q Mr. Rowan, if you would refer, first, to what has been marked at the Applicant's Exhibit Number 6, which carries the designation "Proposed Salt Water Disposal System," would you point out on that exhibit the location of the well that is the subject of this application.

A The well is in Section 36 of Nine, thirty-three, and is called the I No. 1. It's located in nineteen, eighty, from the west and six, sixty from the south of that section.

Q All right, sir. Now, I realize that this is the only well that is the subject of this particular application, but is there another well in this immediate vicinity that is part of the Midwest's Salt Water Disposal System in this area?

A Yes, sir, very much so. To regress just somewhat, in 1965, we purchased several hundred acres of oil and gas leases in the northwest portion of nine South, 34 East, which we call our Pruitt leases. We drilled a discovery well in Section 20. We subsequently have drilled four additional

wells in the area and have immediate plans for more wells than this.

These wells do produce quite a bit of water, and in working with the Production Department, they have tried to look ahead and locate someplace where it would be possible to dispose of a large volume of water. They informed me in July of '67 that Sunray intended to abandon their I No. 1 well located in Section 36. And, as a result, abandoning that well, they were going to dispose of the old Skelly-Hobbs 1-G Well, which is located in the Southeast, Northwest of the same section.

In this discussion, the Production Department advised me that they wanted to purchase these two wells for salvage, that they wanted to make a sealed bid, which is the Sunray common form of disposing of properties that they no longer can produce, that they wanted to make a bid where we would be sure and get this because if they wanted to put in a salt water disposal system to take care of the large amount of water, that we anticipated from ours and other wells in the Vada Pool and so conform with the State's qualifications, as far as future disposition of water.

Q All right. Now, would you identify where the other well was that is part of the system along with the subject well.

A Yes, sir. It's in the Southeast of the Northwest

quarter of Section 36, of nine, 33.

Q So, it is immediately north of the subject well and it is marked by the designation "1" with a circle around it on this exhibit?

A That is right.

Q Mr. Rowan, you mentioned that you were instructed to attempt to acquire Sunray's interest in these two wells for salt water disposal purposes. Were you successful in that respect?

A Yes, sir. We submitted a bid on August 9th of '67. We were advised the latter part of August that we were the high bidder, and, subsequently, Sunray did execute and deliver to us a bill of sale covering the property itself, the tangible equipment, and they also did assign to Midwest Oil Corporation the State of New Mexico Business Lease covering essentially 2.06 acres surrounding the Skelly-Hobbs 1-G Well.

Q All right, Mr. Rowan. I refer you to Exhibits 1, 2, and 3 in this case and ask you if Exhibit 1 is the assignment of the business lease that you have just referred to, and if Exhibit 2 is a copy of the business lease from the State of New Mexico to Sunray, and if Exhibit 3 is the bill of sale from Sunray to Midwest.

A These are the instruments that I was referring to.

Q All right. Now, that business lease, Exhibit Number

2, what area does that cover?

A That actually covers a 2.06 acre tract in the form of a square located around the Skelly-Hobbs 1-G.

G All right. That's the well to the north of the subject well?

A Yes, sir.

Q And, this was the business lease that was assigned to Midwest by Exhibit Number 1?

A That is correct.

Q Has Midwest acquired any business lease with respect to the acreage around the subject well?

A Let me explain it this way. After Sunray notified us that we had purchased and had been the high bidder for these two wells, we called the State Land Office and inquired about the possibility of purchasing a business lease covering this well. They informed us that the surface of the land had been sold and patented to a private individual. This individual was Mr. A. C. Ainsworth.

We contacted Mr. Ainsworth on August 31st right after we talked to the State, and as a result of our negotiations, we purchased a salt water disposal lease from him covering a 2.06 acre tract in the form of a square around the I No. 1 Well. This is for a five-year term and as long thereafter as we are injecting salt water into this well.

Q I hand you what's been marked as Exhibit 4 in this case and ask you if that is a copy of the Salt Water Disposal Lease that Midwest has acquired from Mr. Ainsworth that you were just referring to?

A That is a copy of that lease. Also, in our negotiations for this lease, we purchased right-of-way for the building of future line on across the Ainsworth properties which covered part or all of Sections 19 and 30 of nine South, thirty-four East, and all or a part of Sections 25 and 36, nine South, thirty-three East.

Q Now, was this right-of-way that you have just referred to incorporated in the form of an easement?

A Yes, sir.

Q I hand you what's been marked as Exhibit Number 5 in this case and ask you if that is a copy of the easement that you just referred to.

A That is a copy of the easement dated September 11th, '67, which is the identical date of the Salt Water Disposal Lease we purchased from Mr. Ainsworth.

Q Now, Mr. Rowan, what was the date of the Salt Water Disposal Business Lease that you took from Mr. Ainsworth?

A It was dated September 11, 1967. We subsequently recorded that lease on September 25th of 1967 in Lea County, New Mexico.

Q Do you remember the recording information on that?

A Yes, sir, I do. It is recorded in Book 265 on page 967.

Q Is there anything further that you would like to add to your testimony, Mr. Rowan, concerning the acquisition of the rights-of-way and business leases with respect to these properties for salt water disposal purposes?

A None other than the fact that we have firm or tentative arrangements with all parties that we would need to acquire easements or right-of-way from to lay a pipeline suitable for carrying salt water from the Vada field to this proposed salt water disposal system.

Q Now, will there be further testimony with respect to this Exhibit 6, to go further into the actual project, and how it is proposed to be operated?

A Yes, sir. Mr. John Pulte will present further testimony in connection with this map and the salt water disposal system.

MR. MORRIS: At this time, Mr. Examiner, we would offer into evidence Applicant's Exhibits 1 through 6.

MR. NUTTER: Applicant's Exhibits 1 through 6 will be admitted into evidence.

(Whereupon, Applicant's Exhibits Numbered 1 through 6, inclusive, were admitted into evidence.)

MR. MORRIS: That's all I have for Mr. Rowan.

MR. NUTTER: We'll recess the hearing until 1:30. The witness will be recalled for cross examination.

(Whereupon, at 12:00 o'clock noon, December 20th, 1967, the noon recess was taken and at 1:30 o'clock P. M., the hearing was reconvened with the same representatives of the parties being present and the following proceedings were had:)

MR. NUTTER: I guess everybody is here. The hearing will come to order. We will resume with Case 3705. I believe Mr. Rowan had just finished his direct testimony. Does anyone have any questions of Mr. Rowan? Mr. Kellahin?

CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. Rowan, as I understand, you handled all the land matters pertaining to this particular operation, is that correct?

A Yes, that is correct.

Q You negotiated the lease for salt water disposal with Mr. Ainsworth?

A Yes, sir.

Q Did you offer to buy this existing well from Mr. Ainsworth?

A In explaining to Mr. Ainsworth what we wanted, we

told him that we had reached an agreement and made a bid with Sunray to buy all the equipment that they had on the hole, and we also informed him that the State had told us that they would not issue a business lease on this land because they had sold the surface. It had been patented. Therefore, we were contacting Mr. Ainsworth as a surface owner. We wanted to use this well as a part of a salt water disposal system.

Q But, you did not buy the well from Ainsworth, as such? I'm not talking about the lease for use of the surface. I'm talking about holding ground.

A We attempted to buy any and all rights that he had.

Q You feel your lease covered that?

A Yes.

Q Now, did you offer to buy the well from the State of New Mexico? Again, I'm not talking about a right-of-way or an easement. I'm talking about the existing well with the casing and equipment in it.

A Not the well, as such. We felt the State of New Mexico didn't own the equipment and that Sunray was maintaining they owned it, and had put out an offer to bid. We had made a bid based on that.

Q Now, you purchased this from Sunray under date of October 25th, 1967?

A I believe that was the date that they finally got around to executing the instrument and that was the date of the acknowledgment on the instrument. The instrument, itself, it recites the effective date will be October 1st.

Q But, as the date of the instrument, October 25th, there was an existing oil and gas lease on this land not held by Sunray, was there not?

A At the date that Sunray finally got around to the physical act of executing and delivering this instrument to us, there was an existing oil and gas lease on this property by virtue of a State sale that was held on October 17th and of which Tract No. 23 was purchased by B. T. A.

Q So, as of October 1st, the effective date of this sale, Sunray did not own the mineral lease on the land, is that correct?

A This is probably true. I think the State records would reflect that Sunray quit producing the well sometime in June or July, and for a better record, I would have to say, we'll go to the State and see the date that their Sunray lease was actually cancelled. I don't know the exact date.

Q You would assume, though, normallyif they advertised the sale, why, it would not be effective -- if the sale was held on October 17th, it wouldn't have been effective till October 1st?

A This is true. We had information prior to the sale. In fact, as a part of our condition, we told Sunray that we would like to keep this well in the position that it -- physical shape that it was in then. They thought their lease was still current at the time they offered it.

In checking through their Roswell office, who checked with the State, Mr. Billbury, I believe, informed them that there had not been any royalties paid to the State for a period of time and that they had cancelled the oil and gas lease. This is true.

Q Now, the lease sale you mentioned was held on October 17th in 1967, and pursuant to that sale, a lease was issued. Do you know the acreage that was covered by that lease?

A Yes, sir. It was 560 acres, being all of Section 36, nine, thirty-three, with the exception of the east half of the Northwest quarter, which the State purposely omitted because they had previously sold a business lease to Sunray, et al.

Q And what purpose is that business lease being used for?

A The business lease. Presently, we have tested the rate of injectivity and we are currently making our plans to start using this as an injection well. However, these plans

which Mr. Pulte will testify to later, are contingent somewhat upon the size line that we run down to this property. That would depend upon what wells we are able to inject water in and whether or not we try to take care of the Vada field, as such, and the salt water problems there or whether or not it's mandatory that we try to meet the Midwest needs.

Q Do you know, or will some other witness testify, as to what horizon you will inject into the Skelly Well?

A Another witness will testify to that.

Q Getting back to this lease, sale, did Midwest request that the land be put up for sale by the State?

A No, sir, we did not.

Q Midwest did bid at that sale?

A Midwest did bid at that sale.

Q Did you handle the bidding?

A Yes, sir, I did.

Q Are you familiar with the processes through which your company goes to determine whether they will or will not bid on a tract?

A Yes, sir.

Q In that connection, Mr. Rowan, what zones was your company interested in in submitting their bid in the State of New Mexico for a mineral lease?

MR. MORRIS: Excuse me. I have refrained from

objecting to this point, but it seems like we're going very far afield from this issue.

A We can get a more competent witness and --

MR. MORRIS: The reasons why Midwest might have wanted to bid on this particular acreage is quite far afield and irrelevant to the things involved in this hearing. If the Examiner thinks it is somehow relevant, we certainly have no objection to Mr. Rowan going ahead and answering the question, but I feel advised to put in an objection because we are going very far afield.

MR. KELLAHIN: If the Examiner please, I do not feel we're going far afield for the position of B. T. A. and Minerals, Inc., that the zone, which is proposed to be used for salt water disposal, is productive of oil and gas. We submit that the Applicant, itself, bid in a lease sale with the State of New Mexico for the minerals underlying this tract and was the unsuccessful bidder.

Now at this time, they have no interest in the minerals they are seeking to inject salt water into what we feel is a productive zone and a zone which we will show later is held as to the minerals by B. T. A. We don't feel it is too far afield to inquire as to what their estimate was at that time of the zone we're talking about here.

MR. NUTTER: Mr. Rowan, was this tract -- I

think you described it as all of Section 36 except that eighty acres being the east half of the northwest of the Section.

A Yes.

Q All of that tract was put up at a normal oil and gas lease sale?

A Yes, sir.

Q Now, and anybody that was bidding on that was bidding on that as far as all horizons from top to bottom for production of oil and gas or disposal of salt water into some zone.

A Well, really, I mean, we were, even at that stage, looking at it as being potentially productive.

MR. NUTTER: But, there was no limitation on any vertical limits or anything else, it was a normal oil and gas lease sale.

A No. It was a normal oil and gas lease sale, yes, sir.

MR. NUTTER: Do you have to be more specific with what the --

MR. KELLAHIN: No, to the question, he said at that time he thought it was productive.

A Potentially productive.

MR. KELLAHIN: Potentially productive, and that satisfies my question.

MR. NUTTER: Do you have anything further?

MR. KELLAHIN: No, I believe that's all.

MR. MORRIS: I have a few questions on redirect.

REDIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Rowan, in bidding on the lease at the State sale, was any consideration of value given to the productivity of the Bough F Zone on this lease?

A Not to my knowledge. Generally, we've been real active in this country. We have not established any Bough F production, even though we own several thousand acres in this general area, and then, mainly, particularly in the Vada field, for example, it's Bough C.

Q Assume with me that it's the Bough F zone that Mid-west is seeking to inject water into, in this application, of course, as you've pointed out, other witnesses will cover this in more detail, but would injection into the Bough F zone interfere with production from the Bough C zone?

A No, sir. We don't feel so.

Q Did you come to the State Land Office and inquire about getting a business lease from the State of New Mexico covering the land surrounding the subject well?

A At the time that Sunray notified us that we were the high bidder on these two wells in Section 36, we called

the State Land Office. I believe we talked to Mr. Floersheim and we inquired about purchasing a business lease.

Q You were thinking of a business lease similar to the business lease that had been granted by the State with respect to the well to the north, is that correct?

A Yes, sir, that is correct.

Q And do you remember approximately when that was?

A It was on August 31st.

Q Now, that would have been before the sale of the oil and gas lease to B. T. A.?

A Yes, sir, it was.

Q And what were you informed by the State?

A We were informed at that time that the surface of Section 36, with the exception of the 80 acre tract, had been patented and sold to Mr. A. C. Ainsworth and, therefore, the State would not sell a business lease on that, what we were requesting.

Q So it was after that that you went to Mr. Ainsworth and negotiated the business lease?

A Yes, sir. The same day then, we contacted Mr. Ainsworth by telephone.

MR. MORRIS: I think that's all.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Rowan, what happens on a State lease when a well is drilled and then it's plugged and abandoned and the lease is cancelled and there is a fee surface owner, who does the well belong to then? Does the old plugged and abandoned well revert back to the State with the lease or does it go to the surface owner?

A I probably can't answer that question.

MR. MORRIS: Let me interject here, Mr. Examiner. I knew we were bound to get to this question sooner or later in this case, and I think probably, the sooner, the better.

The question of ownership is somewhat perplexing and complex. Certainly, it is our position in this case that Midwest owns this well and owns -- has the right to inject water into this well.

MR. NUTTER: By virtue of the contract with Mr. Ainsworth.

MR. MORRIS: Yes, sir, and it is further our position that the oil and gas lease does not even proport to give the right to inject water. It is a lease for drilling and developing for oil and gas and other hydrocarbons and gives no right in and of itself to the injection of salt water.

Now, you might have to analogize a little bit, but it's like the owner of the surface going out and digging a pit or drilling a well for some other total purpose, totally

unrelated to the oil and gas business. And, even though he goes below the surface of the ground, in so doing, it's still an attribute of the surface interest to do that. By way of analogy, let's say, the surface owner wanted to go out and enter into a contract with someone to dispose of radioactive waste or something unrelated to oil and gas business. It would be an attribute of the surface ownership to do that; the oil and gas interest being limited to drilling for, exploring for, developing, producing oil and gas.

So, it is our position here that we own the well itself, the casing that is in the well. We do not have the right to produce oil and gas out of that well, but we do have the exclusive right to use that well for purposes other than producing oil and gas, and, namely, just the disposal of salt water. And, I take it from what Mr. Kellahin said, he and his client may feel otherwise, but I think that we have already shown by the documents that we've placed into evidence that we have the right by virtue of the surface lease and the purchase that was made from Sunray to make use of this property and this hole in the ground for salt water disposal purposes.

MR. NUTTER: Well, now, Midwest was a bidder on the lease when it was put up for sale.

A Yes, sir.

MR. NUTTER: Who was the successful bidder, B. T. A.?

MR. KELLAHIN: B. T. A. was, yes, sir.

A B. T. A.

MR. NUTTER: So, B. T. A. has a right to go in there and drill a well to produce oil and gas.

MR. KELLAHIN: Well, we submit that we have a bigger right than that.

MR. NUTTER: Well, now, let me ask you this, Mr. Kellahin. If you've got the right to drill a well and produce oil and gas, if you drill two holes, and one is a dry hole and one is a producer, and the producer makes a lot of water, can you use the other well for salt water disposal without having to obtain a business lease or anything like that?

MR. KELLAHIN: It would be my view, of course, this is a hypothetical situation here, that you could use that well under the terms of the lease on the same lease, for disposal of water from that lease.

MR. NUTTER: From that lease.

MR. KELLAHIN: But, to bring it in from someplace, it would be a different situation.

MR. NUTTER: It would probably require a business lease, then.

MR. KELLAHIN: But, I would like to reply at least to some extent to a statement that's been made by Mr. Morris

where I feel he has oversimplified the situation and perhaps misled the Examiner somewhat on the title situation here on which this Commission can't pass anything. He says that it is their position and supported by the documents here that they do own the hole in the ground and the well and the casing.

On the face of it, these documents purport to transfer title to the well and to the casing and other equipment there, but there is a line of authority, and a pretty strong line of authority, that you cannot plug or abandon a producing well. And, we submit that this is a producing well, and under those circumstances, the hole, the well, the casing could be appropriated by the State of New Mexico or it's lessee.

This is a question that has never been resolved in the State of New Mexico. As Mr. Morris said, it's a confused situation and I think that is perhaps something of an understatement, but he overlooks one thing in discussing this situation, in saying that the only right conferred by the mineral lease is to produce oil and gas. Conferred with this right is the right to use whatever portion of the surface as reasonably necessary for that purpose, and it's on the basis of this that a line of Texas case, for example, has held that one abandoning a producing lease has no right to plug the well. There's a difference in the law recognizing the mineral right as being the dominant tenement or the dominant estate and the surface is

the servient estate so long as they are producing oil and gas and doing it reasonably, why, you can use whatever you need to on the surface, and this includes the hole in the ground or any formation of the line.

In addition to that, he says they have the exclusive right in the instruments as shown here to dispose of this salt water in this formation. We submit that if there is oil in this formation, and we intend to show that every reasonable inference would indicate that there is still oil produceable in there in commercial quantities, it gives them no right to interfere with our production with that oil, and certainly, they have no right under any surface grant to drive the oil off of our lease, and this is the reason we're here objecting.

MR. NUTTER: Well, if a man buys surface from the State of New Mexico, how deep does the surface go?

MR. KELLAHIN: The surface, you're getting into various situations there, but as a general proposition, he has the right to use of the surface if they reserve the minerals, if this is all that is reserved.

MR. NUTTER: He can dig a post hole and put a post out there?

MR. KELLAHIN: Yes, sir. As a general proposition, he can drill a water well, too, if the State Engineer will

grant him a permit, but he can't produce minerals. But, once the State grants this right to produce minerals, then he can't keep the mineral lessee from coming on his property and producing those minerals.

MR. NUTTER: Right.

MR. KELLAHIN: This has been through the Courts many, many times.

MR. MORRIS: The question basically comes down to this: I think Mr. Kellahin was quite correct and may be of some relief to the Examiner, too, that probably this Commission does not have the authority and duty to decide the question of ownership here as between the two litigants. But, in that respect, I'd like to call the Examiner's attention to a Texas case, Magnolia Petroleum Company versus Railroad Commission, 170 Southwest 2nd, 189. I'll furnish a copy of this decision to the Examiner.

MR. KELLAHIN: Have you got the citation again, please, sir?

MR. MORRIS: 170 Southwest 2nd, 189.

This involves the duty of the Commission when it is faced with a title dispute. I'd like to just read a portion pertinent, a portion of that opinion:

The affect of a bona fide title dispute on the power of the Railroad Commission to grant a permit as an

exception to Rule 37 is the question never before decided by this Court. The function of the Railroad Commission in this connection is to administer the conservation laws.

When it grants a permit to drill a well, it does not undertake to adjudicate questions of title or rights of possession. These questions must be settled in the Courts. When the permit is granted, the permittee may still have no such title as will authorize him to drill on the land. If other parties are in possession of the property, as in the present case, they may defend their possession by self-help or by injunction proceedings.

Before the permittee can drill, he must first go to Court and establish his title. In that suit, upon proper showing, he may have a receivor appointed to drill the well and hold the proceeds to await the final judgment on the title issue.

On the other hand, if he has possession or can obtain possession peaceably, his adversary may resort to the Courts for a determination of the title dispute and therein ask for an injunction or for a receivorship.

In short, the order granting the permit is purely a negative pronouncement. It grants no affirmative rights to the permittee to occupy the property and, therefore, would not cloud his adversary's title. It merely removes the

conservation laws and regulations as a bar to drilling the well and leaves the permittee to his rights at common law.

Where there is a dispute as to those rights, it must be settled in Court. The permit may thus be perfectly valid, so far as the conservation laws are concerned and, yet, the permittee's right to drill under it may depend upon his establishing title in a suit of law.

In such a suit, the fact that a permit to drill had been granted would not be admissible in support of the permittee's title. Of course, the Railroad Commission should not do the useless thing of granting a permit to one who does not claim the property in good faith. The Commission should not deny the permit if it does not reasonably appear to it that the Applicant has a good faith claim in the property. If the Applicant makes a reasonably satisfactory showing of a good faith claim of ownership in the property, the mere fact that another in good faith disputes his title is not alone sufficient to defeat his right to the permit. Neither is it grounds for suspending the permit or abating the statutory appeal pending settlement of the title controversy.

Now it is that last paragraph that I'd particularly like to call to the Examiner's attention here, that once we have come in and shown that we are making a good faith claim in the property and that is a sufficient basis for invoking the

Commission's jurisdiction to go ahead and decide the question under the conservation laws, and if B. T. A. disputes our ownership, they have their remedy in Court. I think for purposes of going ahead with this case, the Examiner should do so in the view that we have established our ownership and realizing that B. T. A. has its remedy in another form.

MR. KELLAHIN: If the Examiner please, I made my statement here for the record in the face of the assertion of the drilling of the well. We don't want the record to show that that is not undisputed. I agree with the decision that Mr. Morris has just read. The jurisdiction of this Commission is limited to the question of conservation and whether they should permit the injection of salt water in an oil-producing horizon or whether this is, in fact, an oil-producing horizon.

MR. NUTTER: Does anyone have any further questions of Mr. Rowan? He may be excused.

(Witness excused).

MR. NUTTER: Call your next witness, please.

MR. MORRIS: Mr. Pulte, please.

JOHN PULTE

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Pulte, will you please state your name, where you reside, by whom you are employed and in what capacity.

A John Pulte, Midland, Texas. I am employed as a Production Engineer by Midwest Oil in Midland.

Q Mr. Pulte, have you previously testified before the Commission or one of it's examiners.

A Yes, I have.

Q And, have you had your qualifications as an engineer established as a matter of record?

A Yes.

Q And, are you familiar with the application of Midwest Oil Corporation in this case?

A Yes.

MR. MORRIS: Are the witness's qualifications acceptable?

MR. NUTTER: They are. How do you spell your last name?

A P-u-l-t-e.

Q Mr. Pulte, if you will refer back to Exhibit Number 6, that originally was referred to by Mr. Rowan, would you go into a little more detail with respect to Midwest Oil Corporation's proposal for salt water disposal in this area and through the subject well?

A The map shows our proposed gathering system to bring water from the Vada-Penn field to the well in question on the map shown as a Sunray State I No. 1 into the Skelly-Hobbs 1-G. We need some sort of disposal for water from this area.

At the present time, there is nothing in the area. The nearest thing is Rice's system in the south and the middle Lane area and it comes to about where our injection wells would be, just south of that, about one mile, a mile and a half. Our plans are tentative at this stage as to what wells might be included in the system, but we do hope to include the whole area if we can get the other operators to come into the system on some basis.

Q All right. Mr. Pulte, how many Midwest wells would the system serve?

A At the present time, we have five wells and it is hard to say how many we might have in the future, but possibly as many as twenty throughout the entire area.

Q Now, when you say twenty, you're talking about serving wells other than Midwest wells?

A No, just Midwest wells.

Q Just Midwest wells. All right. Is there a possibility that you might extend this system to serve other operators in the Vada-Penn?

A Yes, that's hopefully what we would be able to do, and we have no way of telling at this time how many wells there might be, but we would probably plan on something like forty.

Q At the present time, there are five Midwest wells and you envision that that figure might be expanded to as many as twenty over the next few years?

A Possibly.

Q We will go into that in a little more detail later, but what is the present volume of water production from these five wells? Just in round figures.

A I'd say at the present time, approximately six hundred barrels a day.

MR. NUTTER: From all five put together or six hundred, each?

A All five. Let's see. All the wells we have listed in the area to date are actually producing in September, eight hundred and seven barrels per day, and that included seven wells, four of which are ours.

Q All right. Refer next, Mr. Pulte, if you will, to what's been marked Exhibit Number 7, the well history on the well 1-G. First of all, the 1-G well is the well in the north part of Section 36, not the subject well, is that correct?

A That's correct. Shown on the map is the Skelly-Hobbs

1-G.

Q All right.

A This well was drilled by Skelly Oil Company in May, 1967. Surface casing, thirteen and three-eighths was set at three hundred fifty-two feet and cemented with three hundred sixty sacks. Intermediate casing, eight and five-eighths was set at four thousand and twenty-nine feet and cemented with nineteen hundred sacks. It was drilled to a total depth of ninety-eight, sixty-five. Test was dry and was abandoned. MORRIS ANTWEIL More ~~sample~~ re-entered the well, ran five and a half inch casing to ninety-eight fifty-seven. Completed the well in the Wolfcamp, the Bough C, from ninety-six eighty-one to eighty-four and produced it for a short period of time.

Production was reported at one hundred percent water. Sunray purchased the well from Antweil in 1958. The wolfcamp-Bough C perforations, ninety-six eighty-one to eighty-four, were squeezed with fifty sacks of cement to seven thousand P. S. I. It was then drilled out below the casing shoe from ninety-eight fifty-seven to ninety-eight sixty-seven. Casing perforated at ninety-eight thirty-four to fifty and began water injection into the Cisco Penn, the Bough C Interval, ninety-eight thirty-four to sixty-seven in February of 1959.

Disposed of water from Sunray State I and F Leases until May, 1966. Cumulative injection is 1,089,500 barrels of water. The last day average daily rate was 400 barrels of

water a day on vacuum. A Baker Model R packer is set at ninety-seven seventy-six on two and three-eighths inch plastic coated tubing, and the annulus is loaded with treated water to prevent corrosion. The Oil Conservation Commission granted permission for water disposal of November 5th, 1958 by Order R-1278.

Q All right. Now, Mr. Pulte, this is the well with respect to which Midwest has obtained an assignment from Sunray of it's business lease from the State of New Mexico --

A Yes.

Q -- is that correct?

A Right.

MR. MORRIS: At this time, just for information, I'd like to place with the Examiner a copy of Commission Order R-1278, authorizing water disposal for this well.

Q Mr. Pulte, if you will refer now to Exhibit 8, the well history on the subject well, will you point out the features of that exhibit as to the well history.

A This shows the initial completion is duly completed in July, 1956, and the Wolfcamp, which is the Bough C from ninety-six forty-seven to sixty potential flowing three hundred barrels of oil, twenty-four hours, on a sixteen-sixty forced choke, tubing pressure is six hundred P. S. I., G. O. R., five hundred.

And in the Cisco-Penn, which is the Bough F, ninety-seven eighty-four to ninety-eight ten. Initial potential flowing two hundred eighty barrels of oil in twenty-four hours; sixteen sixty forced choke, tubing pressure, five hundred and eighty P. S. I., G. O. R,, four eighty-five. It was worked over in April, 1963.

The Wolfcamp-Bough C perforations were squeezed, ninety-six forty-seven to sixty with fifty sacks to nine thousand P. S. I. The round tubing pump and rods to sixty-one fifty-eight. Continued pumping the Cisco-Penn, the Bough F Zone until June, 1967.

Q Now, Mr. Pulte, I know on your well history, you don't have any information with respect to the cumulative production from the Bough F Zone. Do you intend to cover that or will that be covered by another witness?

A It will be covered by another witness.

Q All right, sir. Refer next to your Exhibit Number 9 showing the mechanical installation of the subject well. Just point out the features of that exhibit, please.

A This is a diagrammatic sketch of the well showing surface casing, thirteen and three-eighths set at three hundred forty-five feet, cemented with three hundred twenty-five sacks and cement circulated. Intermediate casing, nine

and five-eighths set at thirty-nine ninety-two, cemented with fifteen hundred sacks. Top of the cement was twenty-one twenty by temperature survey. The seven inch casing was set at ninety-eight forty-nine, cemented with five hundred sacks, and the top of the cement by temperature survey, seventy-six fifty.

The sketch also shows the perforations in the Wolfcamp, the Bough C Zone, ninety-six forty-seven to ninety-six sixty, squeezed with sixty sacks of cement. It shows a Driverson Packer set at ninety-seven fifty on two and three-eighths inch plastic coated tubing, and the proposed injection interval, the Bough F Zone, below the packer, for ninety-eight -- seven eighty-four to ninety-eight ten.

Q Now, with respect to this well, the subject well, at what weights would you propose to inject water into this well, and in this regard, please refer to the information shown on Exhibit 9 -- excuse me, referring to Exhibit 10, please.

A This Exhibit shows our expected injection rates into this well and it refers to other injection wells that are exposed to wells in other areas.

The first one is Rice's disposal system in the south and Middle Lane area. Rice is currently injecting about three thousand barrels of water per day into a Devonian Well

on vacuum. The well is capable of injecting in excess of seven thousand barrels of water per day on vacuum. Cumulative injection to 10167 is 2,079,413 barrels of water.

Midwest disposal well in the Nonombre Field. Midwest is currently injecting about six hundred fifty barrels of water per day into a Penn-Bough B Well on vacuum. The well is capable of injecting about one thousand barrels of water per day on vacuum.

Cumulative injection to the 10167 is 234,749 barrels of water.

Sunray's Lane S. W. D. 1, this is actually shown on the map as a Skelly-Hobbs 1-G and is now our well, the one we purchased. It's carried as a Lane S. W. D. No. 1. Sunray disposed of 1,089,500 barrels of water into the Bough F Zone in the Lane S. W. D. No. 1. The last average injection rate was 400 barrels of water per day on vacuum. A recent injection test indicates that the well will take water at satisfactory rates. A plot of injection rate versus pressure is attached.

Q When you say, "that's attached," what exhibit are you referring to?

A And, that is marked Exhibit 11. Midwest Ainsworth State S. W. D. No. 1 in the Lane Field is the well in question, and is the way that we carry the well and is how it was shown

in the application. It's shown on the map as the Sunray State I No. 1. Based on the above data, Midwest expects to be able to dispose of about one thousand barrels of water per day on vacuum, and possibly three thousand barrels per day at two thousand P. S. I. in the Ainsworth State S. W. D. No. 1 for a limited period of time.

The Lane S. W. D. No. 1, formerly Sunray's well, is expected to inject a similar amount. Because of the unknowns involved, particularly the number of wells in the system and the volume of water for disposal, Midwest plans for injections are indefinite. Initially, we will dispose of water into one well on vacuum, and as volumes increase, both wells will be used on vacuum in the Bough F Zone. Pumps may be installed and injection continued into the Bough F, if there are not many wells in the system and the volume of the water is small.

If we are successful in getting a large number of wells committed to the system, we intend to request permission to dispose of water into the Devonian and will deepen the Ainsworth State S. W. D. No. 1 to the Devonian.

Q Now, Mr. Pulte, in this regard, is there any particular importance to you to have the subject well approved as a salt water disposal well so that it can be used in conjunction with the Sunray well to the north?

A Yes, this is our plan, to use both of these wells. If, for instance, we don't have very many wells in the system, we feel that we can handle a small volume of water for a number of years disposing of water into these two wells in the Bough F Zone, but we also recognize that if we have a large volume and if, for instance, we had all the wells, future wells in this system that we would probably need additional disposal capacity and to do this, we would have to go to the Devonian.

Q But, as you see it now, using the Bough F formation in these two wells here in Section 36, you should be able to handle the present volume of water?

A Yes.

Q Would you handle the present volume of water only with the Sunray well to the north?

A The present volume, we probably could. Well, it's doubtful if we could with the future volume before we finish our development work.

Q Is the water in the Vada-Penn increasing or decreasing, volume of water, produced water?

A I think it's much too early to try to predict whether it is or isn't. It doesn't appear to be changing a whole lot. There's some wells that are decreasing, but it's just simply too early to tell yet whether there is -- whether it will in the future.

Q Then, if I understand you, Mr. Pulte, you're saying that you need both of these wells to work together as a salt water disposal system to handle the present volume and the reasonably anticipated future balance of water to be produced from the Vada-Penn, is that correct?

A That's correct.

Q Have you made an analysis of the cost of the subject well as a disposal well as against the cost of drilling a new well, either to the Bough F or to the Devonian?

A Yes.

Q And, are the results of that analysis shown on Exhibit 12?

A Yes.

Q Are there other savings to Midwest that have dictated the submission of this application to the Commission?

A Yes. Exhibit 12 shows the value of the wells we purchased as disposal wells, as compared to the cost of drilling new wells for disposal. And, the purchase of two wells cost nineteen thousand, eight hundred dollars. Salvage value is estimated at eleven thousand, eight hundred. The cost, then, of the Bough F disposal wells is eight thousand dollars. The cost to deepen the Ainsworth State S. W. D. No. 1 to the Devonian is estimated at ninety thousand dollars. The cost of the Devonian disposal well, then, would be

ninety-eight thousand dollars. The cost to drill a well to the Bough F at ninety-eight hundred is estimated at a hundred and twenty thousand; and the cost to drill a disposal well to the Devonian, that would be 12,700 feet, is estimated at a hundred and ninety-five thousand dollars.

Q So, the savings to Midwest are apparent from the comparison of these figures?

A Yes.

Q Refer now, Mr. Pulte, to your Exhibit 13 which is entitled, "Production History in the Vada-Penn Pool." First, I would ask you: why are we submitting a history production in the Vada Pool in connection with this application?

A This pool, of course, is where the produced water is coming from to be disposed of into the wells that we are considering to the south, and the history, production history shown is through September.

At that time, there were seven wells producing. The average production in September was eleven hundred fifty-two barrels of oil and eight hundred and seven barrels of water per day.

Q Now, Mr. Pulte, in looking at the cumulative here, there's been a cumulative production of some hundred and seventy-three barrels of oil and a hundred and seventy-six thousand plus barrels of water, correct?

A Correct.

Q Is there anything else you want to point out particularly with respect to this exhibit?

A Nothing else.

Q Do you have an analysis of the water from the Vada-Pennsylvanian Pool that would be injected into the subject well?

A Yes, I do. It's marked Exhibit 14.

Q All right, sir. Has this proposal been submitted to the State Engineer's Office and have you received any reply from that office?

A Yes, it was submitted and we did receive a letter from the State Engineer's Office that is marked Exhibit 15. Would you like that read?

Q No, it will stand. Mr. Pulte, going back to your Exhibit 13 for just a moment, that is the production history on the Vada-Penn, since June of this year, there has been a consistent increase in water production, has there not?

A Because of the wells added to the area?

Q Yes. I don't mean on a per well basis, but I mean the total water production from the field has been increasing.

A Yes.

Q All right, sir.

A We should bring this up, too. I think there are now some twenty-five wells, I believe, drilling and completing

in this field in this general area.

MR. MORRIS: At this time, Mr. Examiner, we would offer Applicant's Exhibits 7 through 15 into evidence.

MR. NUTTER: Applicant's Exhibits 7 through 15 will be admitted into evidence.

(Whereupon, Applicant's Exhibits Numbered 7 through 15, inclusive, were admitted into evidence.)

MR. MORRIS: That's all the direct examination, Mr. Examiner.

MR. NUTTER: Are there any questions of Mr. Pulte?

MR. MORRIS: I might say, by way of clarification here, that Mr. Matson will testify with respect to geological matters.

MR. KELLAHIN: Geological.

MR. MORRIS: Yes.

CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. Pulte, in connection with your testimony, you said your present production of water was six hundred barrels per day and I believe you said at tho conclusion of your testimony that there are twenty-five wells drilling at the present time. How many of those twenty-five wells are being drilled by Midwest?

A At the present time, we have one well completing,

C No. 1, at the time this -- I have a list of wells showing drilling or completing as of December 9th and Midwest C No. 1 was completed --

Q You have one additional well, then, to anticipate water production from and, hopefully, oil?

A In the area, we have another one, also, to L No. 1, yes.

Q That would be two wells. That would give you a total of seven wells and, at the present time, the total water production from the seven wells in eight hundred seven barrels of water a day, is that correct?

A That's correct, through September.

Q Now, referring to your Exhibit Number 11, which shows the injection pressure and injection rate on your Skelly well, that shows that well will take approximately three thousand barrels of water per day on vacuum, doesn't it?

A This was a test using a truckload of water and pumped into the well at these various rates, at ten, fifteen minute intervals on each rate. And, while this curve does show those figures, we wouldn't expect the well to be able to take these kind of rates continuously.

Q What is the purpose of the exhibit then?

A Just to show that the well is capable of taking water at a reasonable rate.

Q Well, what do you call a reasonable rate? You say three thousand barrels a day is not the rate it will take. What do you think it will take?

A At the moment, it will take that.

Q Then, are we to understand then that if you put it under pressure, say, seventeen hundred pounds, for example, you'd take approximately six thousand barrels per day?

A At the moment, yes. This --

Q That would be ample to take care of your present forseeable needs, wouldn't it? I'm talking about Midwest. I'm not talking about the rest of the pools. Midwest forseeable requirements.

A I thinks that's probably so, but like I say, I don't think this would represent future injection rates and pressures that, through experience, we know we can do this at the moment, but without fail, we've always had pressure increase.

Q Forseeable future, would the well take eight hundred seven barrels of water per day?

A It would for a reasonable period of time; I would think a year.

Q Perhaps a good deal longer than a year?

A Well, I don't think there's any way to --

Q You just don't know?

A I just don't know.

Q Now, the Skelly well you are injecting the water into, what you define the Bough F Zone, and I believe you referred to that as the Cisco-Penn. Could you give me the interval on that, again, please, sir. I believe you gave it, but I didn't get it.

A That would be from ninety-eight thirty-four to sixty-seven.

Q Is that the area that is perforated and opened for injection, or is that just the Cisco-Penn Zone, or what is the situation?

A That is the -- is partly perforations in the casing and partly open hole below the casing, all of which are in the Bough F Zone or which was originally for the two in Cisco --

Q And, you would assume that water is going into all or part of that zone?

A Yes.

Q Now, could you give me the same interval, please, on the Ainsworth State No. 1 as to the Bough F Zone?

A This is shown on the diagrammatic sketch as ninety-seven eighty-four to ninety-eight ten.

Q It is somewhat higher on the structure than the Skelly well, is that correct?

A That is correct.

Q The Exhibit Number 9, this is your proposed completion for injection purposes, as I understand you.

A That is correct.

Q And, you show a packer set at ninety-seven hundred and fifty feet.

A Yes, sir.

Q Are you familiar, Mr. Pulte, with the present condition of that well?

A Yes, I believe I am.

Q Do you plan to rework the well or reenter it or what do you propose to do in order to make this completion, set up a packer at ninety-eight hundred feet?

A Well, we plan to -- there's some junk in the hole that needs to be cleaned out that we would go in there and remove that.

Q Well, Sunray made a pretty valiant effort to get that junk out of the hole, didn't they?

A We questioned Sunray pretty closely about this and they -- and according to the man that one of our people talked to, they did not make too strong an effort to get it. They realized they could produce past it and went ahead and done that.

Q They realized they could get past it, so they went ahead and did it. In order to make this completion, you will

have to get this junk out of the hole.

A In order to make this particular completion, we would. However, it's possible to pump past it.

Q Pump past it through plastic coated tubing?

A Pump past the junk in hole.

Q I say, through a plastic coated tubing?

A Yes, sir.

Q And, set up a packer?

A Yes, sir.

MR. NUTTER: For clarification, what is in the hole, please?

A As near as we can tell, it was a D. R. plug, and we don't know from -- why that caused so much trouble, and they don't, either. That something else might have dropped in the hole, but they wore out several mills and did spend sometime trying to get it out and decided not to fool with it since they were able to produce past it. So, it isn't plugging the casing.

MR. NUTTER: For further clarification, what is a "D. R. plug"?

A That is a Baker Model D Packer. A D. R. plug is a plug for that.

MR. NUTTER: It's a plug for that packer?

A Right.

MR. NUTTER: Well, it's not a great big object, then? It's down at the bottom of the hole, presumably. Is your packer still in there?

A I've forgotten just exactly where that's at.

MR. NUTTER: Well, the well was originally a dual completion well?

A That's right.

MR. NUTTER: So, presumably, there was a packer between the bottom of the upper perforations at ninety-seven sixty and the top of the lower perforations at ninety-six sixty and the top of the lower perforations at ninety-seven eighty-four?

A Yes, sir. That's right.

MR. NUTTER: They were drilled by the packer out --

A Yes. This packer is set at ninety-seven, fifty-eight.

MR. NUTTER: And, it's still in the hole?

A Yes.

MR. NUTTER: Ninety-seven fifty-eight?

A Yes, sir.

MR. NUTTER: Is that a drillable packer or retrievable packer?

A That's a permanent type packer that will have to

be drilled.

MR. NUTTER: And, that plug is on top of that? Or did it go through the packer?

A No, sir, it's up the hole somewhere at about ninety-seven hundred feet. I'm unable to find it here. Ninety-seven point --

MR. NUTTER: Okay, Mr. Kellahin.

Q (By Mr. Kellahin) On your Exhibit Number 12, in giving the cost of the well, does that represent the purchase price of the two wells, Mr. Pulte, that you paid Sunray?

A That's correct.

Q And then your estimate on your drilling a Devonian disposal well or a Bough F disposal well are just based on your experience, is this true?

A That is correct.

Q And, that is for a single completion, a single well, each one of those?

A That is correct.

Q In connection with the purchase of leases, Mr. Pulte, do you have anything to do with the evaluation of properties that your company proposes to purchase?

A To a point.

Q Did you have anything to do with the decision of your company in bidding on this particular lease when it was

offered for sale by the State of New Mexico?

A No, I did not.

Q You didn't.

MR. KELLAHIN: I believe that's all. Thank you, Mr. Pulte.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Pulte, when you mentioned that there were twenty wells drilling in the area, did you mean right in the Vada-Pennsylvanian area here or in this overall area, including the Lane, South Lane, Inbe and all that?

A This is the general area, and I think most of these are generally up in this area, through here (Indicating).

Q Well, now, you got the drilling wells listed there on that sheet, I presume.

A Yes, sir. This is the Bough C trend.

Q Well, now, we're in the Township 9, 34, in the Vada-Penn. How many wells are drilling in that Township?

A There's ten wells in 9, 34.

MR. MORRIS: I might be able to clarify this. It's my understanding that this lease does go on down into the Lane area.

A Apparently it does.

Q But, you have about ten wells right here in this

Township?

A In that Township, 9, 34. I show seven in ten, thirty-three, but it does go through the entire area.

Q Well, now, Mr. Pulte, the Ainsworth Well was originally completed as a dual completion producing from the Bough C and the Bough F. You didn't have your cumulative productions awhile ago when you were looking at it awhile ago, did you?

A No, we do have those and this will be presented by the next witness.

Q I see. Now, going down here in Section 1, directly south, the Sunray State 2-F and 1-F, what formation did they produce from?

A Those were the only two other wells that were completed in the Lane field, and those three wells, the Sunray State I No. 1, 2-F and the 1-F were the only ones that produced any oil from the Lane field and this, again, will be presented by the next witness.

Q Well, he's evidently going to go into this productivity?

A Yes.

Q Now, with respect to some questions that Mr. Kellahin asked you regarding your injection pressure, your acceptability curve here, what would you consider to be a reasonable pressure? This would be surface pressure, right?

A Yes, sir.

Q What would you consider to be a reasonable surface pressure to go up to for disposal purposes?

A We have limited ourselves to two thousand pounds and, of course, it's whatever -- it's an increase in cost, whatever pressure you have to go to. We think we will have pressure that in checking some of the other disposal wells in the Penn in New Mexico, most of them do have in the range of a thousand and twenty-five hundred pounds pressure.

Q So, you wouldn't --

A So we do expect pressure in this zone, in the Bough F Zone.

Q And, prior to spending the money to deepen this well to the Devonian, you probably would inject those pressures up and try to put water in under a rather high pressure?

A Depending on how much volume of water we have there, if it's a minimum amount, if we feel like we can handle it in this zone, then we'll do that.

Q Now, this is a curve for the old Skelly-Hobbs Well, right?

A Yes, sir.

Q And, do you expect that this Ainsworth Well would take water at approximately the same rate?

A That's what we are assuming.

Q Because they are completed in the same zone, so it would be completed in the same --

A Correct.

Q Now, your Ainsworth has seven inch casing, so it could be deepened to the Devonian, I presume it would be rather difficult to deepen the Skelly-Hobbs since it has only five and a half.

A That is right. In fact, there are very, very few wells that we are aware of in the entire area that can be used for disposal purposes. The location of this well is also important in that we have a situation that the Vada-Penn area is higher. The ground surface is -- ground surface is higher and we can take gravity to this ground down here and, of course, it is centrally located in the trend or what we think is the trend.

Q Mr. Pulte, I noticed most of the dry holes on this exhibit appear to have been Pennsylvanian tests. However, down in Section 3 of the Township -- I guess it would be 10, 34, there's an Ohio State L. A. No. 1 which has a total depth of twelve thousand three hundred eighty-five feet. Is that well by any possibility available for salt water disposal, do you know?

A Over --

Q Over to your right there in Section 3.

Q Because they are completed in the same zone, so it would be completed in the same --

A Correct.

Q Now, your Ainsworth has seven inch casing, so it could be deepened to the Devonian, I presume it would be rather difficult to deepen the Skelly-Hobbs since it has only five and a half.

A That is right. In fact, there are very, very few wells that we are aware of in the entire area that can be used for disposal purposes. The location of this well is also important in that we have a situation that the Vada-Penn area is higher. The ground surface is -- ground surface is higher and we can take gravity to this ground down here and, of course, it is centrally located in the trend or what we think is the trend.

Q Mr. Pulte, I noticed most of the dry holes on this exhibit appear to have been Pennsylvanian tests. However, down in Section 3 of the Township -- I guess it would be 10, 34, there's an Ohio State L. A. No. 1 which has a total depth of twelve thousand three hundred eighty-five feet. Is that well by any possibility available for salt water disposal, do you know?

A Over --

Q Over to your right there in Section 3.

A I don't know. I don't know whether that one is or not. We have checked out quite a number of wells in the area, and most cases, intermediate casing had been pulled out of -- this wasn't intended as an exhibit, but in the immediate area, most of the wells have had the intermediate casing pulled, and we didn't feel like any of them were worthwhile trying to go back into. On that particular well, I just simply don't have any information on it.

Q I would imagine -- would you agree that it probably is a Devonian test?

A Yes.

Q Do you know of any other Devonian wells around here on this exhibit?

A Yes, there is one in Section 12 and Section 11 in nine, thirty-three.

Q Which ones would those be? That older well, is that a Devonian test?

A Yes.

Q What is it's T. D.?

A Twelve thousand five hundred and twenty-eight.

Q And, the other would be this Coastal States Well. What was it's T. D. ?

A Twelve thousand four hundred eighty.

Q Do you know the status of those wells?

A The Coastal States well has had intermediate pull. The Polter Well does have intermediate still in the well, and the long string was cut and pulled up at about seventy-nine hundred feet.

Q So, it does have approximately --

A It actually has two strings. And, it was cut to three and a half and four and a half.

Q Then, it was cut at seventy-nine hundred?

A Yes, sir.

Q Mr. Pulte, could you -- well, the other witness is going to testify to that. That's right.

MR. NUTTER: I believe that's all. Thank you. Any further question?

MR. KELLAHIN: May I ask one further, please?

MR. MORRIS: Yes, sir.

RECROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. Pulte, would the Ainsworth Well No. 1 in Section 19, nine, thirty-four, be available to you, assuming that the application in Case No. 3704 were carried out?

A I beg your pardon?

Q That's C. B. Reed Ainsworth No. 1, 19, up in the Vada Pool.

MR. MORRIS: Excuse me. Are you referring, Mr.

Kellahin, to the application by Salt Water Disposal Company in the preceding case which hasn't been heard yet?

MR. KELLAHIN: Yes, that is correct.

MR. MORRIS: I see.

Q (By Mr. Kellahin) Would that be available to use if it were approached to you?

A I might point out in that connection that there are three companies considering disposal systems in the area. Rice is studying the area for disposal system. Of course, as you pointed out there that New Mexico Salt Water Disposal Company is also considering a system and using that well in question you just brought up, and Midwest is considering a system here. Of course, we feel that we can do this as economical or more so than anyone else in the area using these wells in particular here.

MR. NUTTER: Do you know what well Rice is looking at?

A They are just making a study of the area, and I really don't think that they have any particular well in mind. They were asked to make a study of the area by the operator.

MR. NUTTER: I see. Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: Nothing.

MR. MORRIS: I just have one or two more questions.

REDIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Pulte, along these same lines, now, as I understand you, Midwest has designed this system not only for it's own wells, but as shown on the Exhibit 6, to serve the wells of other persons in this area, is that correct?

A This is correct.

Q Now, have you had contact with any of these people? For instance, have you been in contact with Cabot, Cabeen people?

A I have not been involved in this.

Q Has your company, to your knowledge?

A And, whatever contact has been made, I don't know about it.

Q I see. Have you had anything to do with contacts made by Ralph Lowe?

A No.

Q All right.

MR. MORRIS: I think that's all I have.

MR. NUTTER: If there is no further questions, the witness may be excused.

(Witness excused.)

MR. MORRIS: Mr. Matson.

DON MATSON

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Matson, will you state your name, where you reside, by whom you are employed, and in what capacity.

A My name is Don Matson. I reside in Midland, Texas. I am employed by Midwest Oil Corporation as District Geologist and District Exploration Manager.

Q Do your duties as District Geologist and District Exploration Manager cover the data in the Lane areas of New Mexico?

A Yes.

Q Have you previously testified before the Commission or one of it's Examiners and had your qualifications established and accepted?

A Yes, I have.

Q Would you refer, first, Mr. Matson, to what is marked as Exhibit 16 and point out the many features of this exhibit, please.

A Exhibit 16 was prepared to -- well, it serves a three-fold purpose. We have an insert showing my interpretation of the structural configuration of the Bough C formation, which covers the Lane and Vada and Mid-Lane and South Lane

areas, prepared simply just to show what wells are producing from what formations and the current activity and also shows a Midwest leasehold and, as well as the lease ownership, within a two-mile radius of the subject well.

Now, the color coding on the structure map, the blue represents the Bough C, which is known or called the Wolfcamp factor in the Lane Field. The red is the F Zone, which is known as the Pennsylvanian factor in the Lane Field. The green is the Strawn. The brown, Abo; the yellow is the San Andres.

Now, the log insert is a copy of the wide scale log on the subject well showing the perforated interval and the completion, initial completion on this well. The other insert is a one to one thousand scale structural interpretation of the F Zone and here, again, also, the wells are color coded as to their completions, being the same as the Bough structural map.

Now, on this structural interpretation of the F Zone, I show a closed anticline which, of course, as I say, is an interpretation made by me. The separation or the sineclinal feature there to the west side of the anticline is supported by a seismic information.

Now, in preparing this structural map of the F Zone, it was determined that only three wells ever did produce from the F Zone, and only two wells ever have produced sufficient quantities of oil, so it was reasonable to assume that there

is or was an ore-water contact established by Drillstem test and production test somewhere around fifty-five, minus 800 fifty-five, twenty-five, and this is the reason for the indicated ore-water contact on this plat.

Q Mr. Matson, will you now refer to Exhibit Number 17, the cross-section exhibit, and point out the features of that exhibit.

MR. KELLAHIN: Off the record.

(Whereupon, off-the-record discussion was had.)

A Exhibit 17 was prepared to show a log section through the Lane, original Lane Field, both north and south and east and west with a common intersection point being at the subject well. The main purpose of a cross-section is simply to show continuity of reservoir in the F Zone. In other words, we feel like there is continuity between the Skelly-Hobbs -- Skelly No. 1-G Hobbs and the Sunray State No. 1-I and as well as with the other wells in the field. The insert is identical to the other insert on the other exhibit, with the exception of the line of section being drawn on.

Now, also on this exhibit, we have an insert of the cumulative production figures for the Lane Pool from discovery to depletion.

Q Will you point out the features of that approximate data there with respect to the Section 36 well?

A All right. In Section 36, there were two wells completed as producers. The Sunray No. 1 State I and the No. 2 State I. The No. 1 State I, which is the subject well, produced a total of three hundred and thirty-four thousand, eight hundred and six barrels of oil from the F Zone, and one hundred and one thousand eight hundred twenty barrels of oil from the C Zone only. The No. 2 State I produced a total of 79,362 barrels of oil from the C Zone only.

Q Now, is there any production at the present time, Mr. Matson, from the F Zone in this pool?

A No.

Q Based upon your oil, the line of your oil-water contact, have you determined the amount of productive acreage within the pool in Sections 36 and Section 1 to the South?

A Well, an assumption can be made and, of course, everyone knows in interpreting structural configurations that whether that will control, we have here -- It is my assumption, at least, that there were originally probably somewhere near two hundred fifty acres of reservoir above an oil-water contact.

Q Now using that assumption, have you come to any conclusions with respect to the status of depletion of the F Zone in this pool and in the subject well?

A Yes, I think certain assumptions can be made.

The field itself, speaking of the F Zone only, produced a total of 487,450 barrels of oil, 351,514 barrels of water, for a total production of 838,964 barrels of fluid.

Now, I am trying to put these figures to work in trying to determine if there might be recoverable reserves left in this reservoir. We calculated some -- or did some work on reservoir calculations and have come up with a -- using a porosity of eight percent, a water saturation of twenty-seven percent, net pay of sixteen feet, the reservoir acres of two hundred fifty feet for that face value factor of 1.5, we have determined that the recovery of the original oil in place is forty percent. Now, in our opinion, this is a reasonable recovery factor to expect from the Bough formation.

MR. NUTTER: What did you say your estimated porosity in water saturation was?

A The porosity of eight percent -- now, these are our well calculations: eight percent on the porosity, twenty-seven percent on the water saturation, sixteen feet in net pay.

Q How does this forty percent compare with your experience and your observations in other similar areas?

A This appears to be well in line.

Q Based on that, then, what conclusions do you draw with respect to depletion of the reservoir available in this area, completion of the Bough F reservoir?

A Well, from the production history of the subject well, the decline curve strongly indicates that the well had reached depletion at the time it was abandoned by the operator. At that point, the last monthly gauge that we have, the well produced slightly over one hundred barrels during the month of June of oil and around twelve hundred and fifty barrels of water at the same time, which would average out something less than, oh, maybe slightly more than three barrels of oil per day and something like fifteen barrels of water per day.

Q Mr. Matson, in your opinion, would the injection of water into the Bough F zone through the subject well prevent the recovery of oil otherwise recoverable?

A In my opinion, I believe that the F Zone has been completed in this reservoir.

Q How much separation is there between the C Zone and the F Zone?

A How many separations?

Q Yes.

A Approximately one hundred and thirty feet from the top of the C Zone to the top of the F Zone.

Q Would injection of water into the F Zone have any affect on the C Zone?

A I don't believe that there is vertical communication between the two reservoirs.

Q Mr. Matson, again, in your opinion, would the injection of water into this zone, in this well, in connection with your proposal or your intention to also inject water into the F Zone into the well to the north up here, would this injection cause damage to any other wells in the area?

A I believe not since there are no other wells in that area producing from the F Zone or no production has been established from the F Zone, to my knowledge, or within an area of several miles.

Q I asked you earlier if there was any production from the F Zone in this pool. I believe you said there was not. Have there been any attempts to establish production in the F Zone in this area?

A Oh, yes, quite a few.

Q Has there been any recent attempts to establish production in the F Zone?

A Well, now, I might -- I want to rephrase your question. There is a difference between attempts to establish production from production testing as from Drillstem testing. There's been any number of Drillstem testing run through the F Zone. I would think we have run several ourselves in our well. We have not attempted any production tests because the Drillstem test information indicated that there was no recover-

able oil present. So, insofar as any actual production test in the very near past, I know of none in the F Zone.

Q Are you familiar, Mr. Matson, with the efforts that have been made by Midwest to interest other operators in the Vada-Pennsylvanian to disposing of their produced water through your proposed injection system?

A Yes, I am.

Q And, what operators have been contacted?

A Cabot, Cabeen and Ralph Lowe are operators in the Vada Field or Pool have been contacted and they have expressed an interest in this disposal system.

Q And, is it their wells as shown on Exhibit Number 6 that are connected, shown as being connected into this system?

A Yes, I believe that is correct.

Q All right. Were Exhibits 16 and 17 prepared by you or under your direction?

A They were prepared by myself, yes, sir.

MR. MORRIS: We offer Exhibit 16 and 17 into evidence.

MR. NUTTER: Midland's Exhibit 16 and 17 will be admitted into evidence.

(Whereupon, Applicant's Exhibits 16 and 17 were admitted into evidence.)

MR. MORRIS: That's all on direct, Mr. Matson.

MR. NUTTER: Let's take a fifteen minute recess.

(Whereupon, recess was had.)

MR. NUTTER: The hearing will come to order, please. Are there any questions of this witness? Mr. Kellahin?

CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. Matson, as I understand, you said there were three wells that had encountered or produced oil from the Bough F Zone in this particular area. What other zones are productive in the immediate vicinity of that same lease?

A Are currently producing?

Q Well, have ever produced.

A Have ever produced.

Q I mean in the immediate vicinity.

A Well, it will take an area of --

Q I say the lease on the offsetting.

A All right. The only other zones which have produced are the Bough C Zone and the Strawn which was a gas and distillate zone.

Q Is it still producing?

A No.

Q Did it produce very much?

A Yes, I have those figures. It produced sixty

million, five hundred eight thousand cubic feet of gas, plus two thousand three hundred forty-five barrels of distillate.

Q Over what period of time, approximately?

A I can't answer that because the book in which I secured this information did not give a completion or plug-in date.

Q Is that a well in the immediate south offset to this lease?

A Yes.

Q What is the designation of the well, please?

A The 1-F Sunray.

Q Y-F?

A No, the Sunray No. 1, State F.

Q It's not presently producing?

A No.

Q A number of the wells are still producing from the Bough C in this area, are they not?

A To my knowledge, there's only one in the field, the old Lane Pool itself is the recompletion by B. T. A., and the Cities Service No. 1-A-Y located in the northwest of the southeast of Section 1 of ten, thirty-three. We have re-entered and completed a well in the Bough C in the northeast, northeast of Section 11 of ten, thirty-three and have since offset it to the northwest of the Bough C comple-

tion.

These are the nearest producting wells to my knowledge of the original Lane Pools.

Q Now, on the Strawn, do you know whether that zone was tested in the Ainsworth State No. 1?

A Are you referring to the Reed-Ainsworth?

Q No, I'm talking about the subject well.

A The subject well? The well was not drilled deep enough.

Q The well was not drilled deep enough?

A No.

Q So, you don't know whether that was productive in the Strawn or not and there is no way of knowing, is there?

A No, there is just no way of knowing.

Q Now, on your Exhibit 17, that is designed, I take it, to show the continuity of the formation across the area as to the oil of these Bough zones, is that correct?

A That's correct.

Q You consider that the Bough F Zone is continuous across this area?

A It appears to be, yes.

Q What's the permeability of that formation?

A I'm afraid I don't have that figure.

Q Well, you made a reserve calculation, did you not? What do you use in connection with that?

A Well, of course, the permeability is not a factor of reservoir data.

Q That's true. That's your porosity, but you have to take into consideration the ability to produce, too, do you not, when you -- to arrive at your forty percent production? You have no figure on permeability at all?

A I have none, myself, no, sir. I might add that the calculations, reservoir calculations, which I seem to have misplaced, were not made by myself, were made by Midwest Production Department in Midland. Now, whether or not they have permeability information, I'm not certain.

Q Now, on your last production, I believe you said was in June and the well produced one hundred barrels of oil, approximately. Was that an approximate figure or an exact figure?

A That was an exact -- well, let's see.

MR. MORRIS: What do you need?

A The exact figure for the month of June was a hundred seventeen barrels of oil, twelve hundred and fifty barrels of water and a hundred and sixty-nine thousand cubic feet of gas.

Q Is that gas not marked? Is it in that area?

A I'm afraid I couldn't answer that one.

Q Do you know how long the well was produced during

the month of June?

A This, I don't know. We're not able to secure daily gauges on this one.

MR. KELLAHIN: That's all I have. Thank you.

CROSS EXAMINATION

BY MR. NUTTER:

Q How about May's production, do you by any chance have that?

A Yes, I have May's production, which was two hundred fifty-three barrels of oil, nineteen hundred barrels of water and three hundred sixty-four thousand cubic feet of gas.

Q So that might indicate that that June figure was just for a portion of the month, possibly?

A It's a little difficult to say, because in January, they only produced thirty-nine barrels of oil, six hundred barrels of water and eighty-four thousand cubic feet of gas, so monthly production figures can reflect a lot -- or may hide a lot of things. The well may have been shut-in, oh, halfway through the month or perhaps produced every day. This, I don't know.

Q Your figure under Exhibit Number 17, though, indicates that in 1967, it produced fifteen hundred thirty-two barrels of oil, right? Which would have been up through June.

A Fifteen hundred, that's correct.

Q Forty-one hundred barrels of oil in all of 1966?

A This is correct.

Q That would be something over ten barrels a day average?

A Right.

Q Now, let's see, Mr. Matson. You mentioned that the F Zone had produced a total of 838,964 barrels of fluid. Would you give me that breakdown of oil and water again, please?

A Yes, if I can find it. My sheets seem to have been misplaced.

Q Find that sheet that has those reservoir calculations on it.

MR. MORRIS: Is this what you're looking for?

A Well, no it isn't.

Q You have a piece of paper sticking out of that top folder.

A Now, you wanted --

Q The breakdown of oil and water.

A Of oil and water in the F Zone? That's cumulative that you wanted?

Q Yes.

A The total cumulative production in the subject

well was 334,806 barrels of oil, 312,434 barrels of water, and a total of 647,240 barrels of fluid.

Q Well, now, that's from the Ainsworth No. 1 Well, for the I No. 1?

A Right.

Q Now, your total for the reservoir was 838,964?

A Yes.

Q What was the breakdown on that figure?

A Okay. For the F Zone?

Q Yes.

A The total cumulative production from the F Zone was 487,450 barrels of oil, 351,514 barrels of water, a total of 838,964 barrels of fluid.

Q Fine. Let's see if I have your reservoir factors down right. You had a 1.5 reservoir volume factor?

A Correct.

Q You figured two hundred fifty acres of pay at sixteen feet?

A Correct.

Q Of pay. You had eight percent porosity?

A Yes.

Q And, twenty percent water saturation?

A Twenty-seven percent.

Q Twenty-seven percent. I had twenty-seven and I

erased it. I might have misunderstood you. So, this whole figures out to a forty percent recovery?

A Yes, sir.

Q Now, what do you think was the recovery mechanism in this pool?

A I'm afraid I'm not qualified to answer that. I would think an engineer probably should answer that question.

MR. NUTTER: Mr. Pulte, have you made enough of a study of this reservoir to have an idea of what the drive mechanism was here?

MR. PULTE: I think it's probably fluid expansion. I don't think there's a direct water drive.

MR. NUTTER: Although it did have a water-oil contact, you don't think there was any active water drive?

MR. PULTE: I don't think so.

MR. NUTTER: So, if there was solution, gas or for a fluid expansion mechanism, is a forty percent recovery factor a reasonable figure? Is that a low figure or high figure for that type?

MR. PULTE: It's high, but in the Bough, you do have high recovery factors. In fact, it's pretty hard to -- the original calculations, as I remember, when we had first started in here trying to use something on the order of twenty percent below recovery factor, it just didn't simply

work out. It was necessary to go on something of the order of thirty-five percent for oil production.

MR. NUTTER: But, assuming that forty percent works out, as the recovery has turned out to be for this amount of acreage, you would have a rather good recovery then at forty percent?

MR. PULTE: Yes, sir.

Q (By Mr. Nutter) Mr. Matson, I think Mr. Kellahin asked Mr. Rowan and he also asked Mr. Pulte if either of them had had anything to do with the calculated value of the lease when you made your decision to bid on the lease. Did you have anything to do with that?

A Yes. I probably am directly responsible for us bidding on the lease itself. I recommended to management that we do bid on the lease. The figure or the price that we bid was determined by my company's management, rather than by myself. But, in determining a price, we selected a per acre price to bid, based on what we felt like was a value strictly from the C Zone of the Bough.

We were not that certain that there was not perhaps some recoverable oil left in this area from the C Zone. No consideration was given whatsoever to the F Zone.

Q What was your company's bid for the --

A Our bid was roughly twenty thousand dollars or

thirty-seven dollars an acre, approximate figure. We were third in the actual bidding. There was a bid at forty thousand dollars which was the second highest, and B.T. A. won at fifty thousand dollars.

Q So, your bid -- they paid fifty-thousand dollars for the lease?

A Approximately that.

Q And, you bid approximately twenty thousand?

A Approximately twenty thousand, yes, sir.

MR. NUTTER: I believe that's all. Does anyone have any further questions?

RECROSS EXAMINATION

BY MR. KELLAHIN:

Q In response to Mr. Nutter's question, did you give any consideration to the Strawn or any other zone?

A No.

Q Nothing but the C Zone?

A Strictly the C Zone. If I might add, in working with the C Zone, this trend that runs through this part of the country, we have learned that the C Zone is a very erratic reservoir, hard to predict, and we've seen several occasions where dry holes or what was thought to be dry holes were drilled and later completed as producing wells. We felt like there was perhaps some value there. We didn't know how much.

We picked a figure that was in line with the general trend, purchase price of what we know it was, thirty to forty dollars.

MR. NUTTER: Are there any other questions of the witness? You may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further to offer, Mr. Morris?

MR. MORRIS: No, I'll have a statement at the end of the case, no other evidence.

MR. NUTTER: Mr. Kellahin, would you call your witness, please.

MR. KELLAHIN: Yes, sir.

(Whereupon, Protestant's Exhibits A, B, C, and D were marked for identification.)

R. L. HALVORSEN

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please.

A R. L. Halvorsen.

Q By whom are you employed and what position?

A B. T. A. Oil Producers, Chief Engineer.

Q Have you testified before the Oil Conservation

Commission and made your qualifications as a Petroleum Engineer of record?

A Yes, I have.

MR. KELLAHIN: Are the witness's qualifications acceptable?

MR. NUTTER: Yes, they are.

Q Mr. Halvorsen, have you made a study of the application in Case No. 3705 presently before the Commission?

A Yes, sir, I have.

Q In connection with that, have you made a study -- did you have anything to do with the purchase of the lease underlying this particular area by B. T. A. Oil Producers?

A Yes, sir, I was instrumental in it's purchase.

Q Referring to what has been marked as Exhibit Number A, would you identify that exhibit, please?

A Exhibit A is a portion of the well log for Sunray State I Well No. 1 situated on the south half of Section 36, 9 South, 33 East.

Q What information has been marked on that log?

A The Lane Wolfcamp perforations have been shown, ninety-six forty-seven to ninety-six sixty.

Q Are those perforations what have been referred to here and designated as the Bough C Zone in this area?

A That is commonly known as the Bough C Horizon in

this area.

Q We are talking about the same identical area?

A Yes, sir.

Q What else is shown on here?

A Also shown is the Lane-Pennsylvanian perforations from 9802 to 9810. The Lane-Wolfcamp pay has been squeezed off and the Penn pay was last produced in June.

Q Now, this Lane-Penn pay, is that the same zone that has been referred to in this hearing as the Bough F Zone?

A Yes, it is.

Q Have you examined the Applicant's Exhibit Number 17, cross-section showing the logs of this particular well?

A Yes, I have.

Q Are you in agreement with their pick on that exhibit as compared to the area you've shown on Exhibit Number A?

A Yes, I am.

Q And, you are in agreement as to the zones involved in this case?

A Yes, sir.

Q Now, referring to what has been marked as Exhibit B, would you please identify that exhibit?

A In going back to Exhibit A, I also show on there, the proposed perforations for water disposal in accordance with Midwest's application.

Q That's as shown by the advertising in this case?

A That's correct.

Q Now, referring to what has been marked as Exhibit B, would you identify that exhibit, please?

A Exhibit B is a monthly -- tabulation of the monthly oil and water production from the subject well from inception in October, 1956 through June of 1967 showing that the well has produced an accumulated oil volume of 352,434 barrels.

Q Now, what zone was this oil produced from?

A This oil was produced from the Lane-Pennsylvanian pay, the Bough F Zone.

Q And, this doesn't give any consideration to any production considered to come from the Bough C Zone?

A No, sir, it does not.

Q Are you familiar with the condition of this well, the condition it was in at the time production ceased?

A I have examined Sunray's records as to the condition of the well at the time they ceased to produce it.

Q Do you agree that there was junk in the hole at the time as was testified to by a previous witness?

A Yes, sir, I do.

Q In your opinion, would that have anything to do with the productive history of this well?

A It could.

Q In what way?

A It could have restricted production from the Bough F Zone by accumulation of scale or debris over a period of years. This could account for the declining production.

Q How was the well being produced, Mr. Halvorsen?

A Well, it was being produced, utilizing a conventional Beam pumping unit, a sucker rod operated downhole pump capable of producing between a hundred fifteen to two hundred barrels a day of fluid.

Q That would be total fluid, including water and oil?

A That is correct.

Q Is that a satisfactory means of producing a well that makes as much water as the record indicates that this well makes?

A Well, the records, I might say, are rather skimpy as to what this well can make at this time. The production shown here, the monthly production for the past three years is far below the capacity of that pumping equipment. However, this is not, in my opinion, characteristic of a Bough-type reservoir.

Q Let's assume for a moment, Mr. Halvorsen, that the well is capable of making, say, two hundred fifty-three barrels of oil as it did in the month of May with nineteen hundred barrels of water. Have you had experience with the production

of other wells in this area?

A Other wells in the area completed in other Bough zones, not in the Bough F.

Q On the basisof your experience, is a well capable of producing two hundred fifty-three barrels a month under these circumstances, capable of producing in commercial quantities?

A I would say that a commercial well should produce about three hundred barrels a day at this depth. This well did average in excess of three hundred barrels a day in 1966. During 1967, certain months, it did produce in excess of three hundred barrels a day. In other months, it produced considerably less than that, and it's questionable whether the reason for the short production is mechanical or reservoir.

Q Do you know of any reason that it was abandoned by Sunray?

A I do not know the reason.

Q You do not know the reason.

A Other than they get tired of operating it.

Q Well, looking at Exhibit Number A, as a whole, does this indicate that this well -- or do you have any opinion as to whether this well is capable of commercial production at the present time?

A Exhibit A?

Q B.

A Exhibit B?

Q Yes, sir, Exhibit B.

A Well, it's our opinion that this zone could produce in commercial quantities from it's existing perforations provided appropriate equipment is installed in the well. Possibly some minor remedial operations to remove the junk and clean up the hole.

Q Now, what would you propose as a way of recompleting this well to get it under production?

A Well, B. T. A. would remove the existing artificial lift equipment and remove the junk from the hole which we understand to consist of a portion of tubing and a portion of a Model D Packer, to remove this from the hole and determine what type of fluid entry we have, possibly stimulate the well if fluid entry rate is inadequate.

When we are satisfied with the rate of fluid entry, then we would install appropriate equipment. Generally, in this area, from the Bough formations, we are capable of producing large volumes of fluid. To do this, we normally use Kobe hydraulic pumping equipment.

Q Are there other zones in this area that you feel are productive?

A We feel that the Bough C Horizon would be productive

here, also.

Q Do you agree with the witness that the injection of water into the Bough F Zone would have no adverse affect on the Bough C?

A I don't believe it would have any adverse affect on the Bough C.

Q In connection with the purchase of this lease, as I understand your testimony, it was your recommendation that your company buy this lease. Did you give consideration to the Bough F Zone in reaching that conclusion?

A We gave some consideration to the Bough F. Actually, we consider all Pennsylvanian Horizons as potential pay zones until we prove otherwise.

Q Now, in your opinion, would the injection of water into the Bough F Zone adversely affect the minerals in place in that zone, or do you feel that there are minerals in place in that zone?

A Yes, we feel that there are recoverable -- areas of recoverable oil and gas in commercial quantities remaining in the Bough F Zone. If water were injected into the subject well, it would be necessary for us to drill a well in the immediate area to determine the value of the Bough F.

In that instance, why, water injected into this well bore would certainly channel to an injection well and

eliminate our possibility of evaluating the Bough F zone.

Q Would that result in recoverable oil remaining in the reservoir that could have otherwise been recovered?

A We think so.

Q Now, referring to what has been marked as Exhibit Number C, would you identify that exhibit, please?

A Exhibit C is a tabulation of monthly production, oil and water, from the Humble State A and Well No. 1 situated in Section 11, Township 10, 33.

Q What's the purpose of this exhibit, Mr. Halvorsen?

A This exhibit shows what can be done to an abandoned -- presumably a dry hole or an abandoned producer. This well was produced and put to depletion by Humble Oil and Refining Company, and the last month's production was two hundred forty-seven barrels a day -- I mean, two hundred forty-seven barrels of oil. And then this was abandoned in 1960. In 1967, Midwest reentered this well. They had to sidetrack the hole, but they completed in, essentially, the same interval and are now producing the well in excess of two hundred barrels of oil a day.

Q This is not the same zone we're talking about in the Ainsworth State No. 1, is it?

A No, it is not. We consider it the same zone as the Bough C.

Q Are those two zones comparable from a geological engineering point of view?

A We think so. We think all the Bough zones are similar in productivity.

Q In Exhibit D, would you identify that exhibit, please?

A Exhibit D is a tabulation, a graph of the presentation of the production history showing the period that Humble produced the well and the resultant production from Midwest reentry.

Q Now, as I understand, B. T. A. is the owner of the minerals in an area consisting of the south half, the northeast quarter, the west half of the northwest quarter of Section 36 in Township 9 South, Range 33 East, is that correct?

A That is correct.

Q Five hundred and sixty acres?

A Five hundred and sixty acres.

Q When did you purchase that lease?

A October 17th, 1967.

Q What is the interest of Minerals Incorporated in this area?

A Minerals Incorporated owns the oil and gas rights to the north half of Section 1, immediately south, offsetting Section 36. This is a Section 1 in Township 10, 33.

Q Now, has Minerals, Incorporated given you a Farmout?

A Yes, they have.

Q Have they given you any indication that if you don't perform, what the results will be?

A If we don't comply with the terms of the Farmout Agreement within a certain specified time, why, the lease reverts to Minerals, Inc.

Q What does that Farmout Agreement include as to the Bough F Zone?

A We have rights to all of the Pennsylvanian Horizons to produce.

Q Does the Farmout Agreement require you to make any effort to produce the Bough F Zone?

A Yes, we must either drill or re-enter a well in the northwest quarter of Section 1.

Q To test the Bough F, is this to test --

A Whatever we think will produce.

Q Whatever you think will produce. Now, in connection with the direct testimony of the Applicant, there was evidence given that water has been injected and will be injected in a well to the north designated as the Skelly Well. You heard that testimony, did you not?

A That is correct.

Q What affect will that have on the Bough F Zone on your lease?

A Well, this is difficult to say. Mr. Matson established or attempted to establish a continuity of the zone from the Hobbs well, the Skelly-Hobbs, through the subject well, south through the Minerals, Inc. lease. If this continuity exists, injection of water into the Skelly-Hobbs Well will essentially establish a water flood, driving all of them waters to the highest portion of the field, which is the old Sunray State I No. 1.

Q In other words, the injection of water in the old Skelly Well would be beneficial to your operation in the event you were able to re-enter that well and start producing?

A It would be ideal.

Q In your opinion.

A Yes, sir.

Q Do you have anything further to add, Mr. Halvorsen?

A I don't believe so.

Q In the event you are able to re-enter this well and start producing it, you would anticipate encountering large volumes of water, would you not?

A In all likelihood, we would.

Q What would you do in connection with the disposal of that water?

A Well, this is a problem facing every one of us there. At the present time, we are evaluating the potential for dis-

posing of water into the barren Pennsylvanian Horizons in Section 33, 9, 34. We drilled a test to the Bough C and the Bough C was shaled out, non-productive, and we have casing set in the well and we are in the process of testing other horizons for oil and gas production.

If we fail to establish oil and gas production, we will then attempt to inject water into it or create a disposal well of this well.

Q Are there any other alternatives?

A There are several. There are commercial water disposal companies in the area. There's a dry hole in the southwest quarter of Section 31, 9, 34, and is called the Simmons Federal. It was drilled to a total depth of ninety-seven, seventy-five. This well, according to our information, still has the intermediate string intact and was plugged and abandoned without any junk in the hole. It could easily be deepened or possibly could easily be deepened to a water disposal horizon, possibly the Devonian. I don't want to infer that we intend to do that with that well. We have acquired the lease on that 80 acres, by the way, and it's a question as to whether or not we would prefer to establish oil production from the Bough C or to contribute it to a water disposal system.

This, we'll have to determine in the immediate future, but there are other options in the area other

than the use of our Sunray State I No. 1.

Q To sum up your testimony, Mr. Halvorsen, why do you object to the use of the Sunray State No. 1 for salt water disposal at this time?

A Disposal of water into the interval proposed by the Applicant would preclude recovery of additional oil and gas from this horizon in this area, in our opinion. And, we feel that some effort should be made to determine whether or not this is a completely depleted reservoir or if it is commercially productive before any water is permitted to be disposed into the oil well zone.

Q And, you are willing to spend your company's money to find that out, are you?

A We intended to when we bought the lease.

Q Were Exhibits A, B, C, and D prepared by you or under your supervision?

A Yes, they were.

MR. KELLAHIN: At this time, I would like to offer into evidence, Exhibits A, B, C, and D.

MR. NUTTER: B. T. A.'s Exhibits A, B, C, and D will be admitted into evidence.

(Whereupon, Protestant's Exhibits marked A, B, C, and D were admitted into evidence.)

MR. KELLAHIN: That's all I have on direct examina-

tion.

MR. NUTTER: Any questions of this witness, Mr. Morris?

MR. MORRIS: Yes.

CROSS EXAMINATION

BY MR. MORRIS:

Q Mr. Halvorsen, I think your testimony on direct examination was, in your opinion, it was questionable whether there was still commercial production in the Bough F, in the subject well, or whether the production there was depleted, is that correct?

A That's correct.

Q I believe you said further that, in your opinion, there might be commercial production there, is that correct?

A That's correct.

Q Can you say, Mr. Halvorsen, that it is your opinion that there is commercial production still available in the Bough F Zone in this well?

A Yes, I do.

Q You consider that as your flat opinion?

A That's right.

Q Well, now, Mr. Halvorsen, in order to state that as a flat opinion, that there is commercial production available in this well, you are assuming, are you not, that B. T. A.

would have the right to go back into this well and recomplete it? That's an assumption you are making, isn't it?

A No, I would say that to establish commercial production, a hole adjacent to this hole could establish commercial production. I use the term "commercial production" as being the amount of production necessary to meet all operating expenses and show a profit.

Certainly, a well that's immediately adjacent to this well would produce just as much as a well -- as this hole itself, or should. Let's put it that way.

Q All right. Let's talk about a well immediately adjacent to the subject well. Mr. Pulte, I believe, showed through his Exhibit Number 12 that the cost of drilling a separate well to the Bough F Zone would cost approximately a hundred and twenty thousand dollars. Do you have any dispute with that figure?

A No, I imagine it would cost a little more than that. He's speaking of a disposal well.

Q Yes. Could B. T. A. afford to drill a well to the Bough F Zone in view of the extent of the production that has been experienced already from that zone?

A Well, we'd prefer not to. When we purchased the lease, we purchased with the assumption that we would be permitted to test these various zones in the well bore itself.

Now, you're getting back to the point, you've questioned whether it's commercially possible for us to drill another well to the F Zone.

Q Well, what I'm saying, Mr. Halvorsen, economics is a factor in determining whether there is recoverable oil still in place in the reservoir, am I correct?

A True.

MR. KELLAHIN: If the Examiner, please, I think we're getting right back to this question about who owns the well bore here, and the witness has defined commercial production with the proper definition that is sustained by the law, production which will sustain the operating cost of recoverable oil. Now, if you're going to get into the question of talking about a payout on the new well, it has no bearing on the question here unless this Commission is prepared to resolve the question as to who owns the well. I don't think it is.

MR. MORRIS: In response, I have no objection to Mr. Halvorsen's definition of commercial production, but this does come back, as Mr. Kellahin says, to the basic issue in this case of ownership and under the authority that we previously have cited here, we believe that we have made a good faith showing of ownership of this well. And what I'm

trying to demonstrate by this line of cross examination is that Mr. Halvorsen's opinions are based on a contrary assumption; to wit: that B. T. A. has the right to this well and the ownership of this well. And this is, in our view, an unwarranted assumption that he is making in this case.

MR. KELLAHIN: I think Mr. Morris is making an erroneous application of the case he cited. The purpose of showing prima facie or good faith ownership is merely to give you standing to appear before this Commission to seek the prevention of waste and the protection of correlative rights, which is the only jurisdiction this Commission can exercise under our Supreme Court decision and certainly, it has no bearing on whether you are going to drill or not drill a well.

A If I may, B. T. A. actually considers that this lease is drillable, primarily for the Bough C Reserves. It has been established by a previous witness that this field has recovered something like forty percent of oil in place or calculated oil in place.

Well, assuming that we do drill to the Bough C, there's very little additional cost to go the Bough F. If, in truth, this is a continuous reservoir and water being injected to the north is sweeping all down to this location, we will stand to gain another four hundred thousand barrels from this particular location through secondary recovery

which we would be denied if water is injected into this location. I agree this is a possibility, a potential, but this oil business is based on potential, in our opinion.

Q You can't say that that is a probability, can you Mr. Halvorsen?

A I say it's a good possibility.

Q I believe you said in evaluating this lease, when you decided to bid on it, that you were looking primarily at the Bough C production, is that correct?

A That's correct.

Q And you agree that injection of water into the Bough F should have no adverse affect upon the Bough C Zone, is that correct?

A At the Hobbs location?

Q Yes, sir.

A Oh, excuse me. Injection into the Bough F would have no affect on the Bough C.

Q Yes, sir.

A I agree with that.

Q Under your Farmout from Minerals, Inc., are you required to test the Bough F Zone?

A We're not required to, no.

Q At the time that you purchased your present oil

and gas lease, were you aware of the previous Commission Order that had been entered into with respect to the 1-G Well to the north?

A This is the Skelly-Hobbs Well, right?

Q Yes.

A We were aware that it was being used as a water injection well.

Q Were you also aware, Mr. Halvorsen, that that well and the business lease that had been issued -- previously been issued by the State of New Mexico for salt water disposal purposes with respect to that well?

A No, I was not. I didn't have no knowledge of the negotiations to establish a water injection well, under oath.

Q I'm still talking about the 1-G Well.

A That's right.

Q Now, I believe the previous testimony in this case was that the salt water disposal lease between Midwest and Mr. Ainsworth was negotiated in, or was dated September 11, 1967 and was recorded September 25th, 1967. You had actual knowledge, did you not, of that salt water disposal lease prior to the time that you purchased your oil and gas lease?

A I had no knowledge that the deal had been consummated and I knew that negotiations were in process for establishing this well as a salt water disposal well. In what horizons, we

had no idea.

Q Now, Mr. Halvorsen, didn't you have a conversation with Mr. Bill Baker of Midwest Oil the date prior to the oil and gas lease sale?

A I did.

Q And, weren't you made aware through your conversation that Midwest had acquired a salt water disposal lease and Mr. Ainsworth intended to use this well for salt water disposal purposes?

A No, I'm not aware that that came up in the conversation. I recall that the conversation dwelt on unnamed water disposal wells that they had purchased, that Midwest had purchased. He did not specify this well as being purchased.

In fact, he had acquired the other well up north there. This was the well I had assumed they had acquired.

Q Did you make any check of the records or did your company make any check of the records of Lea County to determine the existence of outstanding interests with respect to Section 36 on which you intended to bid for this lease?

A Not until we had made our bid and were clearing title.

Q And, at that time, you discovered this salt water disposal lease?

A At this time, it was brought to our attention.

Q All right. I have just one more question, Mr.

Halvorsen. Do you have any idea at all where the water has gone that has been injected into the Skelly State G No. 1?

A Certainly do not.

Q Well, now, you ventured in at least a suggestion here that that might have some beneficial affect on this well, have you not?

A That's quite true, and this is based on Mr. Matson's interpretation of the field and that this water has in truth been injected below the oil-water contact. I don't know whether or not enough water has been injected to replace withdrawals, enough to give any response at this time or even if it will in the immediate future. This is a possibility, that's all.

Q It's also possible, Mr. Halvorsen, that the water -- I forget, something over a million barrels of water, that was injected into the 1-G may already have channeled through to the subject well in the Bough F Zone, isn't that also a possibility?

A It's a possibility, but not likely, due to the volumes that are being handled. The volume of the water being handled are relatively constant and have been throughout the life of this lease.

Q Are you aware whether there's been any recent injec-

tion into the State 1-G?

A Only conversations with Midwest personnel, who said they had tested the well.

Q Actually, are you aware that no water has been injected into this well for the last year or eighteen months?

A No, I'm not aware when it was discontinued.

MR. MORRIS: That's all I have.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Halvorsen, when you were making your statement there as to what you considered as commercial production, you stated three hundred barrels a day. You mean three hundred barrels per month?

A Yes. Excuse me. I meant three hundred barrels per month, would be ten to twelve barrels a day, would be commercial.

Q If you had the well already drilled and on production, you could keep it up to that?

A That is correct.

Q But, you couldn't drill a well and keep it up to that?

A No, you certainly couldn't.

Q Hasn't B. T. A. been engaged in a program of reentering some of these older wells and recompleting them?

A Yes, we have. We re-entered the Cities Service No. 1-A-Y situated in the southeast quarter of Section 1. That well currently produces about forty barrels a day of oil.

Q Had it been abandoned by Cities Service?

A Yes, it had. Here, again, this is in the Bough C Formation, similar to the Midwest re-entry.

Q Have you made any other recompletions, yet?

A In this area, no. We made a similar recompletion in the Flying M Field where we established top allowable production by re-entering.

Q Now, where is this Minerals, Inc., lease that you got the Farmout on?

A It's the north half of Section 1.

Q In other words, that old Sunray 1-F and 2-F would be your wells?

A That's correct.

Q And you propose to re-enter them and try to complete them?

A Yes. Number 2-F is re-enterable and No. 1F is a pretty skinny deal. There's a lot of junk in that hole. It's questionable whether or not we would attempt to re-enter that well. That well, by the way, did penetrate the Devonian.

Q And 2-B there in Section 1, is that a drilling well?

A That's a dry hole. We drilled that and the Bough C

and the Pennsylvanian Zones.

Q We may be looking at -- We're looking at two different maps.

A This is in Section 1. That's correct.

Q Let's look at their map. This is the Midwest map. This well is indicated here as being in Section 2.

A That is correct. That's a dry hole.

Q That has been completed as a dry hole?

A That's right. The Bough C and the underlying Pennsylvanian Zones were dense. They yielded nothing.

Q How about on Section 6 there where they have shown four locations?

A This is a completion. We're in the process of completing this well. These two are drilling.

Q But the 1-A and 1-C have been completed as producing wells?

A This one is in the process of being completed. Drillstem test indicates it will be a --

MR. KELLAHIN: For the record, which one are you pointing to, Mr. Halvorsen?

A 1-C. Actually, that should be 4-C.

Q And what about up here in Section 30, Mr. Halvorsen?

A This well has been completed and is in the process of being potential.

MR. KELLAHIN: Would you give the number, the desig-

nation of the well.

A This is the B. T. A. They call it Max here. It's our 677 Limited Max.

Q That's in Unit P of Section 30?

A Right, and the Number 2 Well is in the process of drilling.

Q And that's in Unit M of Section 30. But, so far, the only well that you have re-entered in this area and successfully recompleted was the Cities Service 1-A-Y?

A That is correct.

Q And you made about forty barrels a day out of it?

A That is correct.

Q Now, Mr. Halvorsen, I notice here on your Exhibit Number B, when we look at this water production for this I Well No. 1 in 1965, it appeared to have made from two thousand, three barrels of water per month with the exception of November, and it shows thirty thousand barrels for that month and, also, in March of 1966, we had that same anomaly. Could you explain that, please?

A The only explanation I would offer would be a clerical error.

Q I see.

A Using a factor and applying a decimal place in the wrong place.

Q These were figures that you copied from statistical

reports?

A These are out of the New Mexico Statistical Reports, yes.

Q And during 1967 and a few months prior to abandonment of the well, it was making approximately fifty to sixty barrels of water and maybe eight to ten barrels of oil per day as evidenced from these production reports.

A What period was that?

Q In the early months of 1967, prior to its abandonment.

A That's correct. However, this has had one very bad month in it and so that the average is closer to three hundred barrels a month.

Q I don't think you could include January in the average there. There's obviously something wrong there. Do you concur, Mr. Halvorsen, with the interpretation of the water-oil contact that was shown on the Midwest plat?

A I have not made a detailed study of it, but based on my limited knowledge, I would say it was essentially correct.

Q And do you think that the Skelly State Well or Skelly-Hobbs Well, the Order which Midwest introduced here, which is one of the Commission's previous Orders, requires that the injection be below the oil-water contact? Do you believe the injection into that well has been and was below?

A I believe it has, yes. Actually, I know of no test, adequate tests, to prove that it was, but it would appear that it is below, rather than the reports of Mr. Pulte. I'm not aware of that information.

Q Thank you.

MR. NUTTER: Are there any other questions of the witness?

MR. KELLAHIN: Yes.

REDIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Halvorsen, in connection with the question of channeling, does Exhibit B in production history of the subject well show any evidence of channeling of water on account of the injection of water into the Skelly Well?

MR. NUTTER: I believe injection was started in 1958, wasn't it? One of your exhibits shows that, Dick.

MR. MORRIS: Yes, and our information shows it was terminated in May of '66.

MR. NUTTER: So, we had water disposal from '58 to '66?

MR. MORRIS: Yes, February of '59, I'm informed it would be, more accurate as to the start of it.

MR. NUTTER: Well, this other well started making water in May of '59.

A According to these reports, it's difficult to say, but the relatively constant volume of water produced would indicate that it was not a severe channeling job.

Q (By Mr. Kellahin) You would normally expect to produce water in that zone, would you not?

A Generally, the Bough Formation produce some water.

MR. NUTTER: Well, don't they generally produce water from the initial production month?

A Many of them do.

MR. NUTTER: Then this apparently produced water-free all through '56, '57 and '58?

A We have this situation here where you do have some structural relief. It's quite often that the high wells produce waterfree until the bottom hole pressure is gone down, allowing the transition zone to move into the vicinity of the well bore. This has occurred, is now occurring over in the Jenkins-Cisco Field, several miles east of this. That has been producing relatively waterfree and now, the edge wells have started producing water and some of the higher wells are now producing water. So it's not uncommon for a Bough field that has some relief to it to produce waterfree initially and then eventually go to higher water cuts.

This is the reason that the Lane Field itself was abandoned, we think, prematurely. Because, at the time of

abandonment, the water cuts were increasing and the operators were unable to cope with the water and so they abandoned production and until the time it started producing this water, why, the production was relatively waterfree. We feel it is just a stage of depletion when this water comes in.

MR. NUTTER: Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: That's all I have.

MR. NUTTER: Are there any other questions of Mr. Halvorsen? You may be excused.

(Witness excused).

MR. NUTTER: Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: That's all I have, except the statement.

MR. NUTTER: Would you proceed with your statement, please?

MR. KELLAHIN: Yes, sir. If the Examiner please, we do have a difficult situation presented to the Commission at this time in that we have a company holding assignments and rights-of-way from the surface owner for the purpose of disposing salt walter and an application by them for this disposal of salt water, faced with two companies who are mineral owners in the specific zone in which the Applicant proposes to inject

his water. I think it is highly significant that in the presentation of the Applicant's case, they skirted around the productive history of this well and gave the Commission only the scantiest kind of information as to the history of the well in that they showed the cumulative production. They did not offer any well test. They gave no pressure history. They offered no decline curve. They gave no consideration of any secondary recovery possibilities. They gave no information upon which the Commission could base a finding that there was still oil in place under this lease.

Obviously, this would have been detrimental to their case, and we have offered that type of evidence to show that it is reasonable to presume there is still unrecovered oil in place under the specific area involved in this application.

The witness testified that for the final month, production was a hundred and seventeen barrels. That was in June of 1967. He didn't, until on cross examination, bring out the fact that in May, the production was two hundred fifty-three barrels and in April, two hundred fifty-one barrels, and our Exhibit shows we averaged better than three hundred barrels per month during the months that the well was produced in 1967, but we disregard the thirty-nine barrels a month of January which is obviously too low for consideration.

During the preceding year, the average production

was considerably higher than that. Now, just why the well was abandoned, we don't know. Nobody's testified on behalf of Sunray that they had considered it depleted. As a matter of fact, the Applicant hasn't even testified that they considered the well depleted. They have only testified that they had a lease and an assignment and a bill of sale and they wanted to inject water into this zone.

It is the duty and the only duty of this Commission, as defined by the Statutes, as interpreted by the Supreme Court and the State of New Mexico, to prevent waste and to protect correlative rights. Now, certainly, the destruction of oil in place in the reservoir or the driving of such oil off the lease in such a fashion that it will never again be recovered, as our witness has testified, would constitute waste. If there is oil there, and we have offered sufficient evidence to show that the well at the time it was finally shut-in was still capable of producing in commercial quantities. It was making an amount of oil that would justify its continued operation. Therefore, there is oil available in commercial quantities as shown by the evidence before the Commission, and this oil should not be destroyed by the installation of a salt water disposal system at this stage of depletion of the reservoir.

And we submit it would constitute waste to permit

such an action on the part of the Applicant. Now, this is without any regard to whether B. T. A. is permitted to go back into the same well bore or has to drill its own well. The witness has already testified that it is quite possible if they cannot use this well, they'll go ahead and drill to the Bough C Zone anyway, and if they do that, would go ahead and test the Bough F. So it isn't a question of whose well or whose well bore it is. It's a question of whether the Commission can reasonably say there is no oil left in this reservoir that will be destroyed by the injection of salt water.

If they can make such a finding based on this evidence, then, of course, they should approve the application. We submit that the evidence will not support such an Order. It will not support such a finding. The only finding this Commission could possibly make is that the evidence would tend to indicate, if not stronger than that, it would clearly show that there is oil left in the Bough F Zone and that injection of water for disposal purposes should not be permitted at this time.

As it was testified in this hearing, the Applicants themselves bid on the lease that is involved in this application. I think it is probably highly doubtful, and this is only speculation, of course, but to me, it would be highly doubtful that had they been successful in securing a lease on this zone,

they would have proceeded with salt water disposal without further testing in the face of the production history of the well that was located on that lease. They were unsuccessful. The Protestant, B. T. A., was the successful bidder and in making their bid, our witness has stated that he took into consideration the possibility of production from the Bough F Zone. They should have the right to produce this oil for the benefit of the State of New Mexico, as well as for their own benefit, and to deny them this opportunity would constitute waste and their correlative rights would certainly not be protected by any such Order.

Midwest Oil Corporation, while not directly involved under the subject well, is the owner of the adjacent acreage, being the north half and the northeast quarter of the southwest quarter of Section 1 in Township 10 South, Range 33 East, which they have farmed out to B. T. A., as testified by the witness. Minerals, Incorporated and the B. T. A. Oil Producers object to the application and ask that it be denied.

MR. NUTTER: Mr. Morris?

MR. MORRIS: I have already given part of my arguments, so I'll try to keep mine a little brief.

First, I don't think it needs to be dwelled on at any length to point out to the Examiner and to the Commission of the necessity for compliance with the no ped Orders that

have been entered by the Commission and, in this area, by the first of January. In order to comply with the no ped Orders, obviously, the operators have had to get their plans underway for disposing of this salt water and this is what Midwest is trying to do in this case, is to find someplace to go with the salt water that it's now running into its pits.

As to the basic question here, which is probably a question of whether there is still oil in commercial quantities to be produced in the Bough F Zone, I'd like to point out that the Protestant, B. T. A., did not come forward with any evidence from which the Commission could properly find that there is still production in commercial quantities. Whereas, to the contrary, and contrary to Mr. Kellahin's statement here, Mr. Matson did testify that, in his opinion, the Bough F Zone in this well was depleted. That opinion was based upon his computation that the oil in place and that forty percent of that had been recovered which, in his opinion, was evidenced that there had been depletion of the reservoir. I would submit that that is the only evidence in the record on which finding can be made as to the question whether there is production in commercial quantities.

Now, there is some speculation by Mr. Halvorsen that there might be production in commercial quantities, but

that's submitted based more on hope than on fact and certainly is not based on any study of the amount of oil that might be found still to remain in the Bough F Zone. B. T. A. came forward with no evidence in that regard.

I have already argued to the Examiner the affect of the question of ownership of this well and whether Mr. Kellahin wishes to face up to it or not, it's still a very critical question in the ultimate position of B. T. A., because as the case stands, we have presented evidence to show that we have taken a business lease on this area just as Sunray took a business lease from the State of New Mexico on the well to the north. I might point out to the Examiner that that business lease that was issued by the State of New Mexico was specifically for salt water disposal purposes. There is indication by the State of New Mexico that no oil and gas lease is necessary in order to conduct salt water disposal operations, a business lease is specifically for salt water disposal.

But, in any event, here is the way Midwest has proceeded to acquire it's interest for salt water disposal purposes: by getting an assignment of that business lease on the well to the north and by obtaining the business lease on the subject well and this has been presented to the Examiner. The lease on the subject well was obtained in September of this

year and whether B. T. A. had actual knowledge or not, which seems to have been somewhat confused. At least, they had constructive notice by the recording of that lease in the records of Lea County, that Midwest had a business lease from Mr. Ainsworth for salt water disposal purposes with respect to this well. So the fundamental position of B. T. A. as a Protestant in this case perhaps depends upon this question of ownership.

Now, under the authority that we've cited you, the Texas case, where the Commission is presented with a question of ownership in this respect, if the Applicant has made a bona fide showing of ownership, then I submit that the Commission, here as there, should go ahead and assume the ownership and the right of Midwest to use this well for water injection which, of course, necessarily would preclude the use of the well by B. T. A. for production and decide the question of whether water can be injected into this well without damage to the Bough F Zone. And our consideration here, I believe, is clearly limited to whether the Bough F Zone would be damaged or not. It being admitted, even by Mr. Halvorsen, that there would be no damage to the Bough C Zone. And we have no quarrel but what B. T. A. is the only operator that has the authority to drill to and produce from the Bough C Zone.

So, we would respectfully submit, Mr. Examiner, that the application should be approved. If B. T. A. feels that the use of this well was unauthorized under the law, they have their remedy, and we'll be glad to argue that matter out with them in the Court House.

MR. NUTTER: Thank you. Does anyone have anything further they wish to offer in this case? If not, we'll take the case under advisement.

* * *

I N D E X

I N D E X (Continued)

EXHIBIT	MARKED	OFFERED AND ADMITTED
Applicant's 1 through 17	2	
Applicant's 1 through 6		9
Applicant's 7 through 15		41
Applicant's 16 and 17		64
Protestant's A, B, C, and D	75	88

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, CHARLOTTE MACIAS, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this 6th day of January, 1968.

Charlotte L. Macias
NOTARY PUBLIC

My Commission Expires:

February 10, 1971.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3705 heard by me on 12/20 1967.

..... Examiner
New Mexico Oil Conservation Commission

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3705
Order No. R-3369

APPLICATION OF MIDWEST OIL CORPORATION
FOR SALT WATER DISPOSAL, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 20, 1967, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 22nd day of January, 1968, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Midwest Oil Corporation, proposes to utilize the Midwest Oil Corporation Ainsworth State Well No. 1, formerly the Sunray DX State I Well No. 1, located in Unit N of Section 36, Township 9 South, Range 33 East, NMPM, Lane-Pennsylvanian Pool, Lea County, New Mexico, to dispose of produced salt water into the Bough zone of the Pennsylvanian formation, with injection into the perforated interval from approximately 9784 feet to 9810 feet.

(3) That the evidence indicates there are probably recoverable reserves of oil and gas in that section of the Pennsylvanian formation wherein applicant proposes to dispose produced salt water.

(4) That the disposal of produced salt water into the aforesaid section of the Pennsylvanian formation would result in the drowning out of said section and thereby cause the aforesaid reserves to become unrecoverable, thus causing waste and possible violation of correlative rights.

(5) That the subject application should be denied.

IT IS THEREFORE ORDERED:

(1) That the subject application is hereby denied.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

DAVID F. CARGO, Chairman

GUYTON B. HAYS, Member

A. L. PORTER, Jr., Member & Secretary

esr/

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

P. O. BOX 2088
SANTA FE

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

January 22, 1968

Mr. Richard S. Morris
Montgomery, Federici & Andrews
Attorneys at Law
Post Office Box 2307
Santa Fe, New Mexico

Re: Case No. 3705
Order No. R-3369
Applicant:
MIDWEST OIL CORPORATION

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC
Other Mr. Jason Kellahin and Mr. D. E. Gray, State Engineer Office

CASE 3702: Application of Coastal States Gas Producing Company for an exception to Order No. R-3221, Lea County, New Mexico. Applicant, in the above-styled cause, on its own behalf and as operator of the Flying "M" Unit Area, seeks an exception to the provision of Paragraph (6) of the Commission Order No. R-3221 which requires that certain unlined pits used for the disposal of produced water be filled, leveled, and compacted. Applicant proposes that said pits be left open in the Flying "M" San Andres Pool, Lea County, New Mexico, to permit their use for temporary emergency storage of produced water in connection with individual tank batteries connected to the Flying "M" San Andres Pressure Maintenance Project operated by Coastal States Gas Producing Company.

CASE 3703: Application of Texaco Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Abo formation in the perforated interval from 9013 to 9046 feet in its New Mexico "CW" State Well No. 2 located in Unit L of Section 18, Township 17 South, Range 37 East, Midway-Abo Pool, Lea County, New Mexico.

CASE 3704: Application of New Mexico Salt Water Disposal Company, Inc., for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Bough "D" zone of the Pennsylvanian formation in the perforated interval from 9844 to 9875 feet in its Ainsworth Well No. 1 located in Unit H of Section 19, Township 9 South, Range 34 East, Vada-Pennsylvanian Pool, Lea County, New Mexico.

CASE 3705: Application of Midwest Oil Corporation for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Bough zone of the Pennsylvanian formation in the perforated interval from 9784 to 9810 feet in its Ainsworth State Well No. 1, formerly the Sunray DX State I Well No. 1, located in Unit N of Section 36, Township 9 South, Range 33 East, Lane-Pennsylvanian Pool, Lea County, New Mexico.

CASE 3706: Application of Major, Giebel & Forster for an amendment to Order No. R-3307, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3307 to designate Major, Giebel & Forster as operators of the NW/4 SW/4 of Section 6, Township 13 South, Range 38 East, West Bronco-Devonian Pool, Lea County, New Mexico, rather than Vasicek and Fullinwider dba V. F. Petroleum, who were originally designated as operators of said compulsorily pooled unit.

Docket No. 38 - 67

DOCKET: EXAMINER HEARING - WEDNESDAY - DECEMBER 20, 1967

9 A.M. OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or Elvis A. Utz, Alternate Examiner:

CASE 3695 continued from the November 29, 1967, Examiner Hearing

Application of Tenneco Oil Company for Special Pool Rules, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the South Hospah Upper Sand Oil Pool and the South Hospan Lower Sand Oil Pool, McKinley County, New Mexico, to provide that wells drilled in said pools could be located anywhere on the 40-acre unit except that no well could be located closer than 330 feet to the outer boundary of the lease nor closer than 200 feet to another well producing from the same pool. Applicant further proposes that any existing well not located in accordance with the above requirements be granted an exception to said requirements.

CASE 3698: Application of H & S Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the approval of the West Artesia Grayburg Unit Area comprising 640 acres, more or less, of state and fee lands in Sections 7, 8, and 17, Township 18 South, Range 28 East, Artesia Pool, Eddy County, New Mexico.

CASE 3699: Application of H & S Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its West Artesia Grayburg Unit by the injection of water into the Grayburg formation through 8 wells located in Sections 7, 8, and 17, Township 18 South, Range 28 East, Artesia Pool, Eddy County, New Mexico.

CASE 3700: Application of Lone Star Producing Company for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation through the perforated interval from 4910 to 5015 feet in its Federal New Mexico "D" Well No. 1 located in Unit A of Section 29, Township 8 South, Range 36 East, South Prairie Field, Roosevelt County, New Mexico.

CASE 3701: Application of Coastal States Gas Producing Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Baum Wolfcamp Pool in Township 14 South, Range 33 East, Lea County, New Mexico, including a provision for 160-acre spacing and proration units.

CASE 3702: Application of Coastal States Gas Producing Company for an exception to Order No. R-3221, Lea County, New Mexico. Applicant, in the above-styled cause, on its own behalf and as operator of the Flying "M" Unit Area, seeks an exception to the provision of Paragraph (6) of the Commission Order No. R-3221 which requires that certain unlined pits used for the disposal of produced water be filled, leveled, and compacted. Applicant proposes that said pits be left open in the Flying "M" San Andres Pool, Lea County, New Mexico, to permit their use for temporary emergency storage of produced water in connection with individual tank batteries connected to the Flying "M" San Andres Pressure Maintenance Project operated by Coastal States Gas Producing Company.

CASE 3703: Application of Texaco Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Abo formation in the perforated interval from 9013 to 9046 feet in its New Mexico "CW" State Well No. 2 located in Unit L of Section 18, Township 17 South, Range 37 East, Midway-Abo Pool, Lea County, New Mexico.

CASE 3704: Application of New Mexico Salt Water Disposal Company, Inc., for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Bough "D" zone of the Pennsylvanian formation in the perforated interval from 9844 to 9875 feet in its Ainsworth Well No. 1 located in Unit H of Section 19, Township 9 South, Range 34 East, Vada Pennsylvanian Pool, Lea County, New Mexico.

CASE 3705: Application of Midwest Oil Corporation for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Bough zone of the Pennsylvanian formation in the perforated interval from 9784 to 9810 feet in its Ainsworth State Well No. 1, formerly the Sunray DX State I Well No. 1, located in Unit N of Section 36, Township 9 South, Range 33 East, Lane-Pennsylvanian Pool, Lea County, New Mexico.

CASE 3706: Application of Major, Giebel & Forster for an amendment to Order No. R-3307, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3307 to designate Major, Giebel & Forster as operators of the NW/4 SW/4 of Section 6, Township 13 South, Range 38 East, West Bronco-Devonian Pool, Lea County, New Mexico, rather than Vasicek and Fullinwider dba V. F. Petroleum, who were originally designated as operators of said compulsorily pooled unit.

November 13, 1967

Midwest Oil Corp.
1500 Wilco Building
Midland, Texas 79701

Gentlemen:

Receipt of a copy of your application to dispose of salt water by injection into a porous formation through your Ainsworth State Well #1 is gratefully acknowledged.

FEI/ma

cc-Oil Conservation Comm.

Yours truly,

S. E. Reynolds
State Engineer

By:
Frank E. Irby
Chief
Water Rights Div.

BTA OIL PRODUCERS
104 SOUTH PECOS
MIDLAND, TEXAS 79701
AC 915-682-3753

CARLTON BEAL
SOLE OWNER

November 9, 1967

'67 Nov 13 AM

In re: Application by Midwest Oil Corp.
Water Disposal in Lane (Penn.) Field
Lea County, New Mexico

Case 3705

Mr. A. L. Porter, Jr.,
Secretary-Director
New Mexico Oil Conservation Committee
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Sir:

This refers to Form C-108, Application to Dispose of Salt Water by Injection into a Porous formation dated November 8, 1967 filed by Midwest Oil Corp. This application proposes to inject water into a well situated on Unit "N", 660' FSL and 1980' FWL Section 36, T-9-S, R-33-E, NMPM, Lea County, New Mexico.

BTA Oil Producers acquired oil and gas lease #L-332 from the State of New Mexico including, among other lands, the S/2 of this same Section 36. BTA is currently evaluating this tract for possible oil and gas production, and at present consider all porous zones in Pennsylvanian formations as potentially productive of oil and/or gas. This includes the interval from 9774-9810 into which Midwest plans to inject water.

It is hereby requested that the Midwest application to dispose of water into the referenced well be disapproved.

Very truly yours,

R. L. HALVORSEN
For BTA Oil Producers

RLH/slt
cc: Midwest Oil Corporation
1500 Wilco Building
Midland, Texas 79701
Attn: Mr. John Pulte, Engineer

DOCKET MAILED
Date 12-7-67

INTER-OFFICE MEMO

Date 11-8-67, From MIDWEST OIL CORP. - MIDLAND To OIL CONSERVATION COMMISSION

- ☐ For your signature
- ☐ For your information
- ☐ For your attention
- ☐ For filing
- ☐ For mailing
- ☐ For approval
- ☐ Please advise
- ☐ O.K. the attached and return
- ☐ Attach papers on the subject and return
- ☐ See me about this

COMMENTS

FORM 1-10

Case 3705

Form C-108
Revised 1-1-65

NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR: Midwest Oil Corporation		ADDRESS: 1500 Wilco Bldg., Midland, Texas 79701	
LEASE NAME: * Ainsworth State SWD	WELL NO.: 1	FIELD: Lane (Penn)	COUNTY: Lea

LOCATION

UNIT LETTER N ; WELL IS LOCATED 660' FEET FROM THE South LINE AND 1980' FEET FROM THE West LINE, SECTION 36 TOWNSHIP 9-S RANGE 33-E NMPM.

CASING AND TUBING DATA

NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	13 3/8"	345	325	Circ.	
INTERMEDIATE	9 5/8"	3992	1500	2120	Temp. Survey
LONG STRING	7"	9849	500	7650	Temp. Survey
TUBING	2 3/8"	9750	NAME, MODEL AND DEPTH OF TUBING PACKER: Guiberson KVL - 30		

NAME OF PROPOSED INJECTION FORMATION: Bough Penn	TOP OF FORMATION: 9774	BOTTOM OF FORMATION: 9814
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing	PERFORATIONS OR OPEN HOLE? Perfs.	PROPOSED INTERVAL(S) OF INJECTION: 9784 - 9810
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Oil Well	HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? Yes

LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH

9647-9660 Wolfcamp - Squeezed to 6800 PSI w/60 sax cement

DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA: 300'	DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA: 9660	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA: None

ANTICIPATED DAILY INJECTION VOLUME (BBLS.) MINIMUM	MAXIMUM	OPEN OR CLOSED TYPE SYSTEM	IS INJECTION TO BE BY GRAVITY OR PRESSURE?	APPROX. PRESSURE (PSI)
2000	5000	Closed	Pressure	Unknown

ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE –	WATER TO BE DISPOSED OF	NATURAL WATER IN DISPOSAL ZONE	ARE WATER ANALYSES ATTACHED?
	Yes	Yes	No

NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND)

Alton Ainsworth, et al, Bledsoe, Texas — Midwest Oil has purchased Salt Water Disposal lease from all surface owners.

LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (½) MILE OF THIS INJECTION WELL

BTA - 104 South Pecos - Midland, Texas

Sunray DX Oil Co. - 1101 Wilco Bldg. - Midland, Texas

'67 Nov 13 AM 0 29

HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?	SURFACE OWNER	EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL	THE NEW MEXICO STATE ENGINEER
	YES	YES	YES
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)	PLAT OF AREA	ELECTRICAL LOG	DIAGRAMMATIC SKETCH OF WELL
	YES	YES	YES

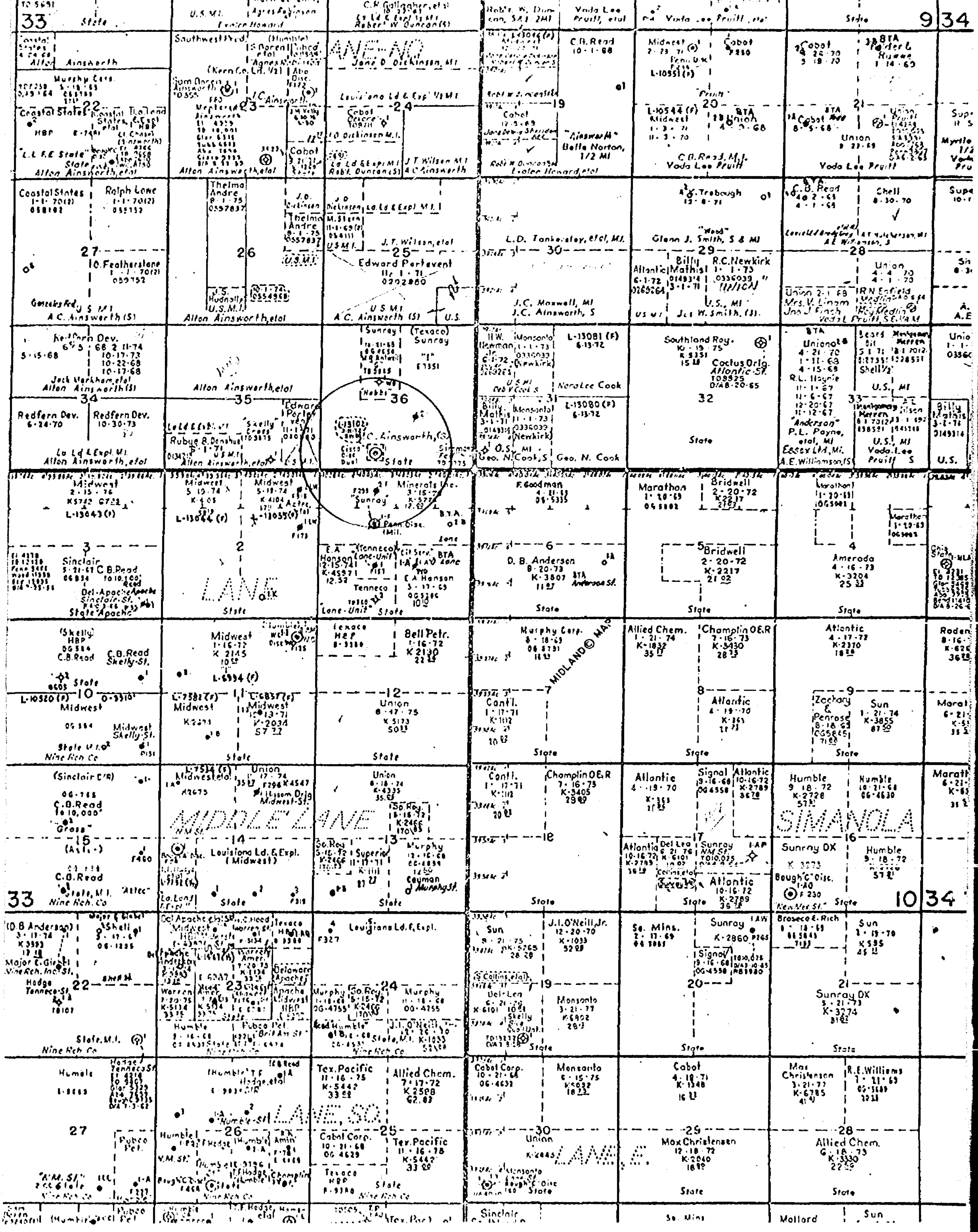
DOCKET MAILED

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

John Pulto (Signature) — Engineer (Title) — Date November 8, 1967 (Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well. not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

*This lease was previously the Sunray DX New Mexico State I #1



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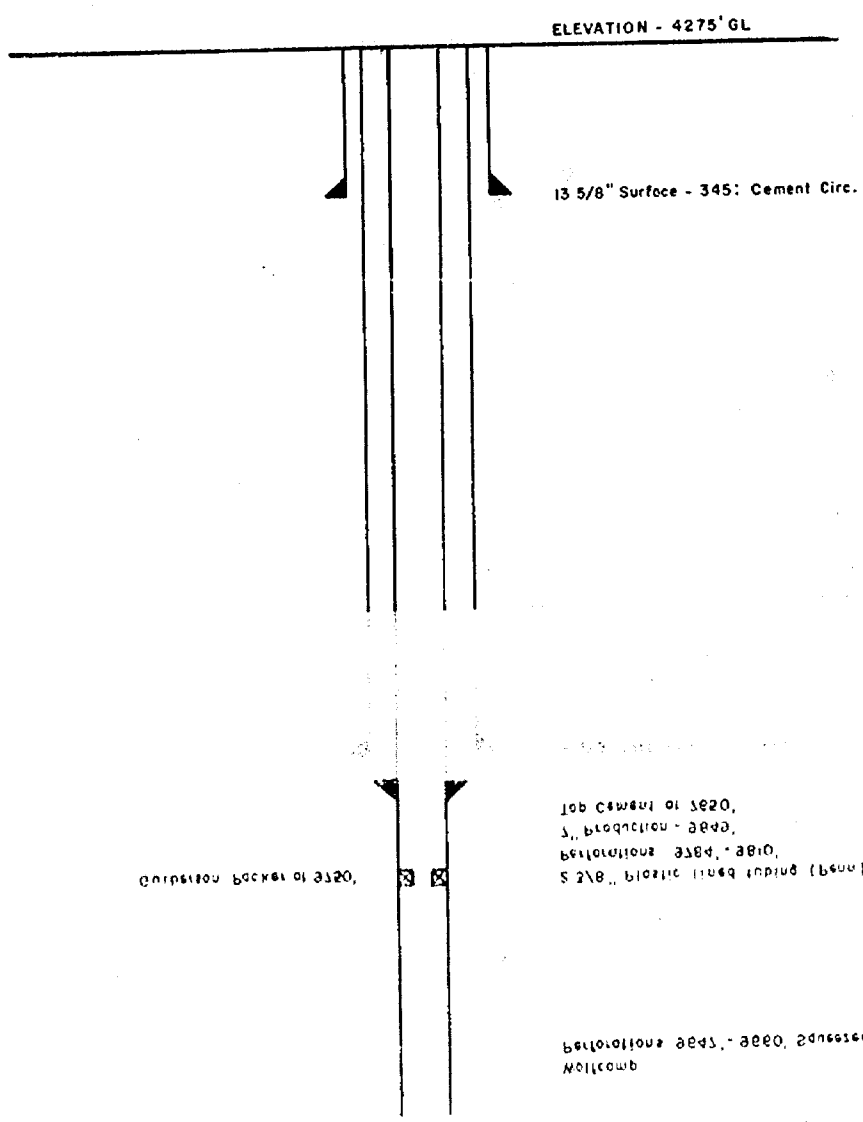
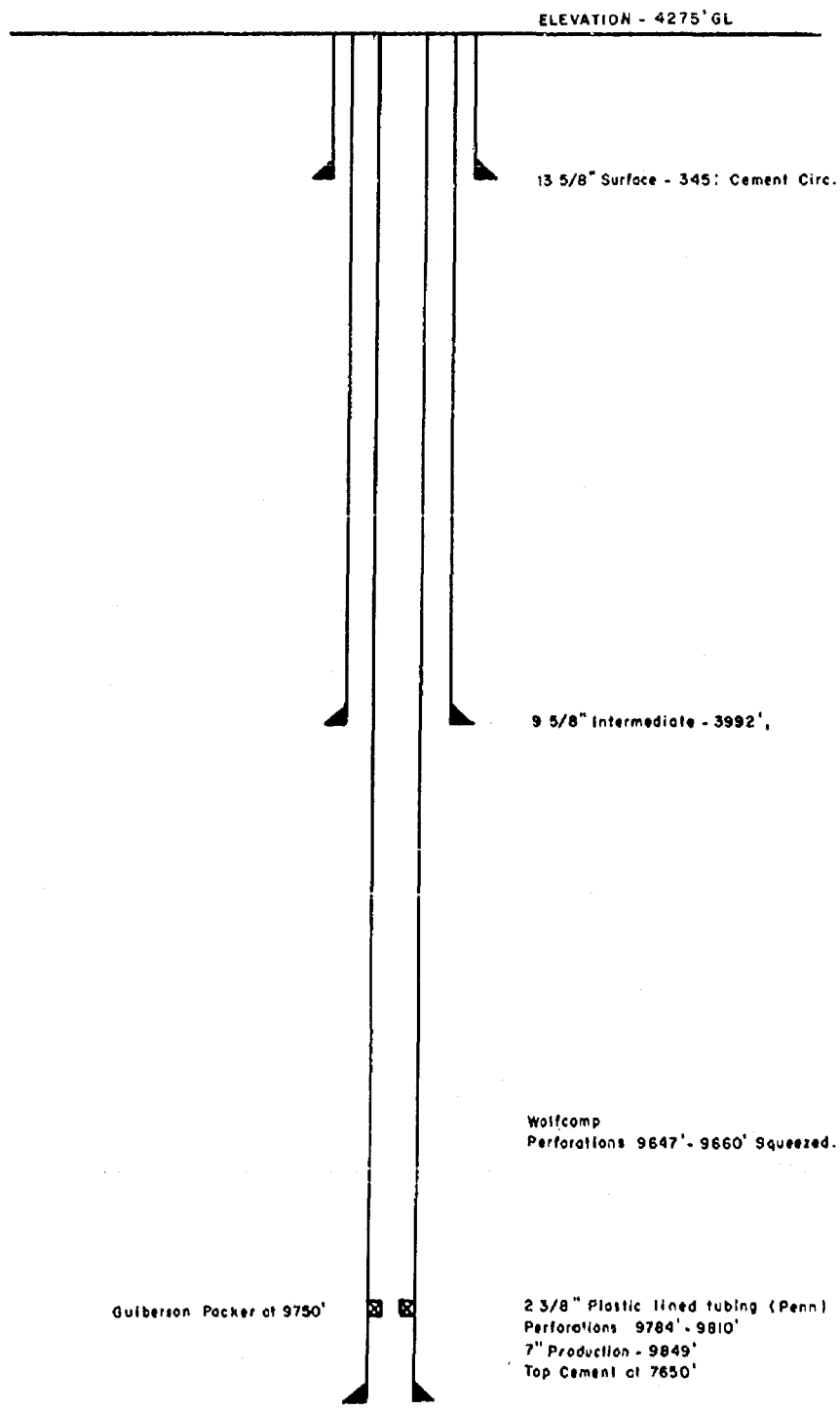
VADA
LANE
MIDDLE LANE
SIMANOLA
LANE, SO.
LANE, E.
MIDLAND© MAP
Alton Ainsworth
Coastal States
Ralph Lowe
Redfern Dev.
Midwest
Sinclair
C.B.Read
Union
Atlantic
Humble
Bridwell
Amerada
Marathon
Murphy Corp.
Allied Chem.
Champlin O&R
Monsanto
Cabot
Sun
Sunray DX
Tex.Pacific
Cabot Corp.
Max Christensen
R.E.Williams
Louisiana Ld.& Expl.
D. B. Anderson
Bell Petr.
J.I. O'Neill,Jr.
Tenneco
Southland Roy.
Cactus Drlg.
Glenn J. Smith, S & MI
L.D. Tankersley, etal, MI.
J.C. Maxwell, MI
J.C. Ainsworth, S
Edward Portevent
Vada Lee Pruitt
Geo. N. Cook
State

MIDWEST OIL CORPORATION
Ainsworth State
Salt Water Disposal Well No. 1
Lea County, New Mexico



MIDWEST OIL CORPORATION
Ainsworth State
Salt Water Disposal Well No. 1
Lea County, New Mexico



BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 1532
Order No. R-1278

APPLICATION OF SUNRAY MID-CONTINENT
OIL COMPANY FOR AN ORDER AUTHORIZING
A SALT WATER DISPOSAL WELL IN SECTION
36, TOWNSHIP 9 SOUTH, RANGE 33 EAST,
NMPM, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 22, 1958, at Santa Fe, New Mexico, before Elvis A. Utz, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 5th day of November, 1958, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Sunray Mid-Continent Oil Company, is the owner and operator of the Hobbs "G" Well No. 1, located 1980 feet from the North line and 1980 feet from the West line of Section 36, Township 9 South, Range 33 East, NMPM, Lea County, New Mexico.

(3) That the applicant proposes to inject salt water down tubing in the said Hobbs "G" Well No. 1 into the Pennsylvanian formation below the water-oil contact with the proposed injection zone from 9834 feet to 9865 feet.

(4) That a packer should be set above the injection interval.

(5) That the applicant's proposed salt water injection program will not jeopardize the production of oil, gas or fresh water in the area and is consonant with sound conservation practices.

IT IS THEREFORE ORDERED:

(1) That the applicant, Sunray Mid-Continent Oil Company, be and the same is hereby authorized to utilize its Hobbs "G" Well No. 1, located 1980 feet from the North line and 1980 feet from the West line of Section 36, Township 9 South, Range 33 East, NMPM, Lea County, New Mexico, for the purpose of disposing of produced salt water into the Pennsylvanian formation below the water-oil contact in the zone from 9834 to 9865 feet.

PROVIDED HOWEVER, That the salt water shall be injected through tubing and provided further that a packer shall be set above the injection interval.

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1119 of the Commission's Rules and Regulations.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

MURRAY E. MORGAN, Member

A. L. PORTER, Jr., Member & Secretary

S E A L

ir/

STATE OF NEW MEXICO
STATE ENGINEER OFFICE
ROSWELL

S. E. REYNOLDS
STATE ENGINEER

ADDRESS CORRESPONDENCE TO:
P. O. BOX 1717
ROSWELL, NEW MEXICO

December 14, 1967

Mr. John Pulte
Midwest Oil Corporation
1500 Wilco Building
Midland, Texas

Dear Mr. Pulte:

Reference is made to our telephone conversation of December 12 concerning Midwest's plans to dispose of waste salt water by injecting it into the Pennsylvanian formation. It is my understanding that the 13-3/8-inch surface casing was set at 345 feet below land surface and cement was circulated and further that injection will be through tubing with a packer set at 9750 feet in casing with perforations between 9784 and 9810 feet. The well is located in Section 36, Township 9 South, Range 36 East, NMPM.

We do not have available water well logs in the immediate area but have knowledge of several stock wells drawing water from a relatively shallow depth.

Based upon the above understanding of the well construction, it appears that no threat of contamination to the fresh waters which may exist in the area will occur.

Very truly yours,

Fred H. Hennighausen
District Supervisor

FHH*td
cc: Mr. D. E. Gray

15

MAGNOLIA PETROLEUM CO. v. RAILROAD COMMISSION et al.

No. 8040.

Supreme Court of Texas.

March 31, 1943.

Rehearing Denied April 28, 1943.

1. Mines and minerals ⇐51(1)

Prior to enactment of conservation statutes, party in possession, or any one who could obtain possession peaceably, could drill for oil notwithstanding title dispute, and if it later developed that he had no title, he had to account to true owner for value of oil removed.

2. Mines and minerals ⇐52

Prior to enactment of conservation statutes, either party involved in suit to determine title to land on which each desired to drill for oil might have an injunction to preserve the status quo pending settlement of the title controversy, or a receiver might be appointed to drill well and hold proceeds of oil to await outcome of title suit.

3. Mines and minerals ⇐92

A permit from Railroad Commission to drill for oil does not authorize permittee to take possession of land and drill where there is a dispute as to title thereto.

4. Mines and minerals ⇐92

The function of Railroad Commission in granting permit to drill for oil is to administer conservation laws, and in granting permit it does not undertake to adjudicate questions of title or right to possession, but those questions are to be settled by courts.

5. Mines and minerals ⇐52, 92

Where person obtaining permit from Railroad Commission to drill for oil is not in possession of land, he may not drill for oil until his title has been established by courts, and persons in possession may defend their possession by self-help or by injunction proceedings.

6. Mines and minerals ⇐52

A holder of permit to drill oil well who brings suit to establish his title to land on which he desires to drill may have a receiver appointed to drill well and hold proceeds to await final judgment on title issue.

7. Mines and minerals ⇐52
Quieting title ⇐7(1)

Where title to oil land is in dispute, but permittee is in possession, or can obtain possession peaceably, his adversary may resort to court for determination of title dispute and therein ask for injunction or for a receivership.

8. Mines and minerals ⇐92

An order of Railroad Commission granting permit to drill oil well grants no affirmative right to permittee to occupy property and does not cloud title claimed by another, but order merely removes conservation laws and regulations as a bar to drilling well and leaves permittee to his rights at common law.

9. Quieting title ⇐44(2)

In suit to determine title to land claimed by holder of permit to drill oil well, fact that a permit has been granted is not admissible in support of permittee's title.

10. Mines and minerals ⇐92

The Railroad Commission should not grant permit to drill oil well to one who does not claim property in good faith, but if applicant makes reasonably satisfactory showing of good faith claim of ownership, fact that title is in dispute will not defeat his right to permit.

11. Mines and minerals ⇐92

The existence of dispute as to title to land for which permit has been obtained to drill for oil is not ground for suspending permit or abating statutory appeal from Railroad Commission's order pending settlement of title controversy.

12. Appeal and error ⇐840(1), 1177(6)

In suit to cancel permit to drill oil wells on ground that tract involved was a voluntary subdivision in derogation of oil spacing rule, where district judge had not passed on question of voluntary subdivision and there was nothing to show that larger tract, from which tract in question was segregated, was entitled to no well or that had all wells to which it would be entitled without regard to subdivision, reviewing court could not determine question, but was required to remand the case.

Error to Court of Civil Appeals of Third Supreme Judicial District.

Suit by the Magnolia Petroleum Company against the Railroad Commission of Texas and another to cancel and annul a permit to drill two oil wells as an exception to spacing rule 37 and enjoin the drilling thereof. To review a judgment of the Court of Civil Appeals, 163 S.W.2d 446, reversing a judgment of the District

Court canceling the permit, the plaintiff brings error.

Judgments of the District Court and of the Court of Civil Appeals reversed and cause remanded.

Walace Hawkins, of Dallas, Paul A. McDermott, of Ft. Worth, and Dan Moody, J. B. Robertson, and Powell, Rauhut & Gidcon, all of Austin, for petitioner.

Gerald C. Mann, Atty. Gen., E. R. Simmons, Grover Sellers, Lloyd Armstrong, and James D. Smullen, and E. A. Landman, Asst. Attys. Gen., for respondents.

ALEXANDER, Chief Justice.

This is a Rule 37 case. E. A. Landman applied to the Railroad Commission for a permit to drill two oil wells on a narrow strip of 1.26 acres of land in Gregg County as an exception to the Commission's spacing regulations. The application was opposed by Magnolia Petroleum Company on the ground that Landman had no title because the land was within the boundaries of one of its own leases, and on the alternative ground that the 1.26-acre tract was a voluntary subdivision in derogation of Rule 37. The Commission granted the permit, reciting that it was necessary to prevent confiscation and waste. The Magnolia filed a statutory suit in the district court of Travis County to test the validity of said order. In that suit the Magnolia introduced its chain of title, and also showed that the identical land was involved in a trespass to try title suit between the same parties then pending in the district court of Gregg County. It disclaimed any desire to have the title question settled in the Travis County suit, but alleged merely that there was a bona fide title controversy, and prayed that the permit be cancelled on that ground. The Magnolia also alleged that the 1.26-acre tract constituted a part of a voluntary subdivision of a larger tract made subsequent to the spacing regulations, and, therefore, could form no basis for an exception thereto. Upon a trial without a jury, the district court rendered judgment cancelling the permit and restraining the drilling of the well. The judge filed findings of fact in which he traced the claim of title of each party, and also found that the Magnolia had actual possession of both the surface and the minerals. He concluded as a matter of law that a bona fide controversy as to the title of the leasehold was shown, and that consequently the Commission had no jurisdiction to grant the permit. He further stated that since this conclusion settled the case, he did not pass on the question of voluntary subdivision. Landman and the Railroad Commission appealed to the Court of Civil Appeals. That court reversed the judgment cancelling the permit and abated the suit, suspended the permit, and remanded the case to the district court with instructions to retain it suspended upon its docket pending determination of the title suit in Gregg County. 163 S.W.2d 446.

[1, 2] The effect of a bona fide title dispute on the power of the Railroad Commission to grant a permit as an exception to Rule 37 is a question never before decided by this Court. In order to view the problem in its proper perspective, we must first consider the situation as it was at common law before the conservation statutes were enacted. No permit was then required to drill for oil. If there was a title dispute, the party who had possession, or who could obtain possession peaceably, could drill for oil. If it later developed that he had no title, he had to account to the true owner for the value of the oil removed. Bender v. Brooks, 103 Tex. 329, 127 S.W. 168, Ann.Cas.1913A, 559; Right of Way Oil Co. v. Gladys City Oil & Gas Mfg. Co., 106 Tex. 94, 157 S.W. 737, 51 L.R.A.,N.S., 268; Gulf Production Co. v. Spear, 125 Tex. 530, 84 S.W.2d 452; 1 Summers Oil and Gas, Perm.Ed., § 23, p. 32 et seq.; 31 Tex. Jur. 531. Pending settlement of the controversy in a suit brought for that purpose, either party in a proper case might have an injunction to preserve the status quo. 1 Summers, Oil and Gas, Perm.Ed., § 29, p. 77; 31 Tex.Jur. 534. Or, upon proper showing, in order to prevent waste, a receiver might be appointed to drill the well and hold the proceeds of the oil to await the outcome of the title suit. 1 Summers, Oil and Gas, Perm.Ed., § 30, p. 80; Guffey v. Stroud, Tex.Com.App., 16 S.W.2d 527, 64 A.L.R. 730; 31 Tex.Jur. 534.

[3-9] In our opinion, the situation is not materially changed by the conservation laws. In cases where the Court of Civil Appeals has considered the matter, it seems to have been erroneously assumed that such a permit affirmatively authorizes the permittee to take possession of the land and drill. Consequently, it has been held that unless the applicant has an undisputed title to the leasehold, the Commission has no power to grant him a permit. Tide Water Oil Co. v. Railroad Commission, Tex.Civ.

App., 76 S.W.2d 553; Altgelt v. Texas Company, Tex.Civ.App., 101 S.W.2d 1104, writ dismissed. We do not think the permit has this effect. The function of the Railroad Commission in this connection is to administer the conservation laws. When it grants a permit to drill a well it does not undertake to adjudicate questions of title or rights of possession. These questions must be settled in the courts. When the permit is granted, the permittee may still have no such title as will authorize him to drill on the land. If other parties are in possession of the property, as in the present case, they may defend their possession by self-help, or by injunction proceedings. Before the permittee can drill, he must first go to court and establish his title. In that suit, upon proper showing, he may have a receiver appointed to drill the well and hold the proceeds to await the final judgment on the title issue. On the other hand, if he has possession, or can obtain possession peaceably, his adversary may resort to the courts for a determination of the title dispute, and therein ask for an injunction or for a receivership. In short, the order granting the permit is purely a negative pronouncement. It grants no affirmative rights to the permittee to occupy the property, and therefore would not cloud his adversary's title. It merely removes the conservation laws and regulations as a bar to drilling the well, and leaves the permittee to his rights at common law. Where there is a dispute as to those rights, it must be settled in court. The permit may thus be perfectly valid, so far as the conservation laws are concerned, and yet the permittee's right to drill under it may depend upon his establishing title in a suit at law. In such a suit the fact that a permit to drill had been granted would not be admissible in support of permittee's title.

[10, 11] Of course, the Railroad Commission should not do the useless thing of granting a permit to one who does not claim the property in good faith. The Commission should deny the permit if it does not reasonably appear to it that the applicant has a good-faith claim in the property. If the applicant makes a reasonably satisfactory showing of a good-faith claim of ownership in the property, the mere fact that another in good faith disputes his title is not alone sufficient to defeat his right to the permit; neither is it ground for suspending the permit or abating the statutory appeal pending settlement of the title controversy.

[12] The Magnolia contends alternatively that even if Landman's title is good, the judgment of the district court cancelling the permit should be affirmed because it appears as a matter of law from the judge's findings of fact that the 1.26-acre tract is a voluntary subdivision in derogation of Rule 37. We find no merit in this contention. The 1.26-acre tract appears to be a part of a voluntary subdivision of the 9-acre tract. Landman alleged in his pleadings that the owners of the remainder of the 9-acre tract joined with him in his application for the permit. There is no statement of facts, and the findings do not show that the 9-acre tract, from which the 1.26-acre tract was segregated, is entitled to no well or that it has all the wells to which it would be entitled without regard to the subdivision. Neither does it appear whether or not the Commission took into consideration the needs of the 9-acre tract as a whole in locating the two wells on the 1.26-acre tract. See in this connection Railroad Commission v. Magnolia Pet. Co., 130 Tex. 484, 109 S.W.2d 967; Gulf Land Co. v. Atlantic Refining Co., 134 Tex. 59, 131 S.W.2d 73; Humble Oil & Refining Co. v. Potter, Tex.Civ.App., 143 S.W.2d 135; Railroad Commission v. Miller, Tex.Civ.App., 165 S.W.2d 504. The district judge expressly stated that he did not pass on the question of voluntary subdivision. Consequently, the case must be remanded for a new trial.

The judgments of the district court and of the Court of Civil Appeals are reversed, and the cause is remanded to the district court for a new trial.

KIMBELL MILLING CO. v. GREENE.

No. 8021.

Supreme Court of Texas.

March 17, 1943.

Rehearing Denied April 28, 1943.

1. Appeal and error ⇐846(5)

Where case was tried before court without jury and no findings of fact were filed, Supreme Court was required to view the evidence in light most favorable to the judgment of the trial court.

PRODUCTION HISTORY
LANE PENN. FIELD
SUNRAY N. M. STATE "I"
Well #1-N-36-9-33
BBLS. PER MONTH

	1956		1957		1958	
	OIL	WATER	OIL	WATER	OIL	WATER
January	--	---	6,279	---	5,434	---
February	---	---	5,894	---	4,347	---
March	---	---	6,480	---	4,796	---
April	---	---	6,309	---	5,379	---
May	---	---	5,356	---	5,018	---
June	---	---	3,293	---	4,223	---
July	---	---	5,614	---	5,029	---
August	---	---	5,086	---	4,858	---
September	---	---	5,264	---	5,285	---
October	3,710	---	5,172	---	5,148	---
November	5,827	---	5,014	---	4,807	---
December	5,927	---	4,723	---	5,082	---
	15,464	---	64,484	---	59,406	---
Accum. Total			79,948	---	139,354	

	1959		1960		1961	
	OIL	WATER	OIL	WATER	OIL	WATER
January	4,366	---	3,355	1,475	2,349	2,900
February	4,175	---	2,765	1,540	2,449	2,600
March	4,608	---	3,495	1,700	2,850	2,900
April	4,208	---	2,534	1,700	2,498	2,610
May	4,343	755	3,348	1,590	2,245	2,900
June	5,136	520	3,041	1,375	2,248	2,700
July	3,356	625	3,560	2,625	1,822	2,385
August	5,094	1,475	2,895	2,660	2,549	3,100
September	3,186	2,052	3,201	3,310	2,157	3,100
October	4,004	1,356	2,875	3,042	1,574	2,100
November	4,141	4,250	2,586	2,690	1,792	3,775
December	2,535	1,000	2,747	2,8[illegible]	[illegible]	[illegible]
	51,152	12,033	36,402	26,[illegible]07	25,403	[illegible]34,870
Accum. Total	190,506	---	226,908		292,311	---

[illegible] EXHIBIT NO. [illegible]

Production History

Sunray N. M. State "I" - Well #1

	1962		1963		1964	
	OIL	WATER	OIL	WATER	OIL	WATER
January	2,637	4,400	1,419	4,000	1,550	3,100
February	1,909	2,780	1,411	4,000	1,037	2,600
March	2,453	3,300	1,817	4,000	1,195	3,100
April	1,570	2,700	100	600	1,088	3,100
May	2,100	3,985	1,403	600	687	2,500
June	1,392	3,850	1,269	3,600	908	3,500
July	1,916	4,500	1,280	3,600	865	3,500
August	1,587	4,500	939	600	1,008	3,500
September	1,789	4,500	1,447	3,456	1,004	3,500
October	2,170	4,500	1,319	2,800	651	3,800
November	1,978	4,250	1,045	2,600	878	3,650
December	1,282	4,500	1,019	2,500	831	3,650
	22,783	47,765	14,468	32,356	11,702	39,500
Accum. Total	315,094	---	329,562	---	341,264	---

	1965		1966		1967	
	OIL	WATER	OIL	WATER	OIL	WATER
January	575	2,600	546	2,800	39	600
February	557	2,500	180	12,000	399	1,500
March	799	3,500	447	31,000	473	2,000
April	532	3,500	429	1,875	251	1,700
May	490	3,500	419	3,100	253	1,900
June	454	3,100	442	3,500	117	1,250
July	381	3,000	326	3,350	---	---
August	409	3,000	223	1,500	---	---
September	333	2,600	209	1,500	---	---
October	298	3,100	545	3,200	---	---
November	324	30,000	124	600	---	---
December	384	2,500	212	1,500	---	---
	5,536	62,900	4,102	65,925	1,532	8,950
Accum. Total	346,800	---	350,902	---	352,434	---

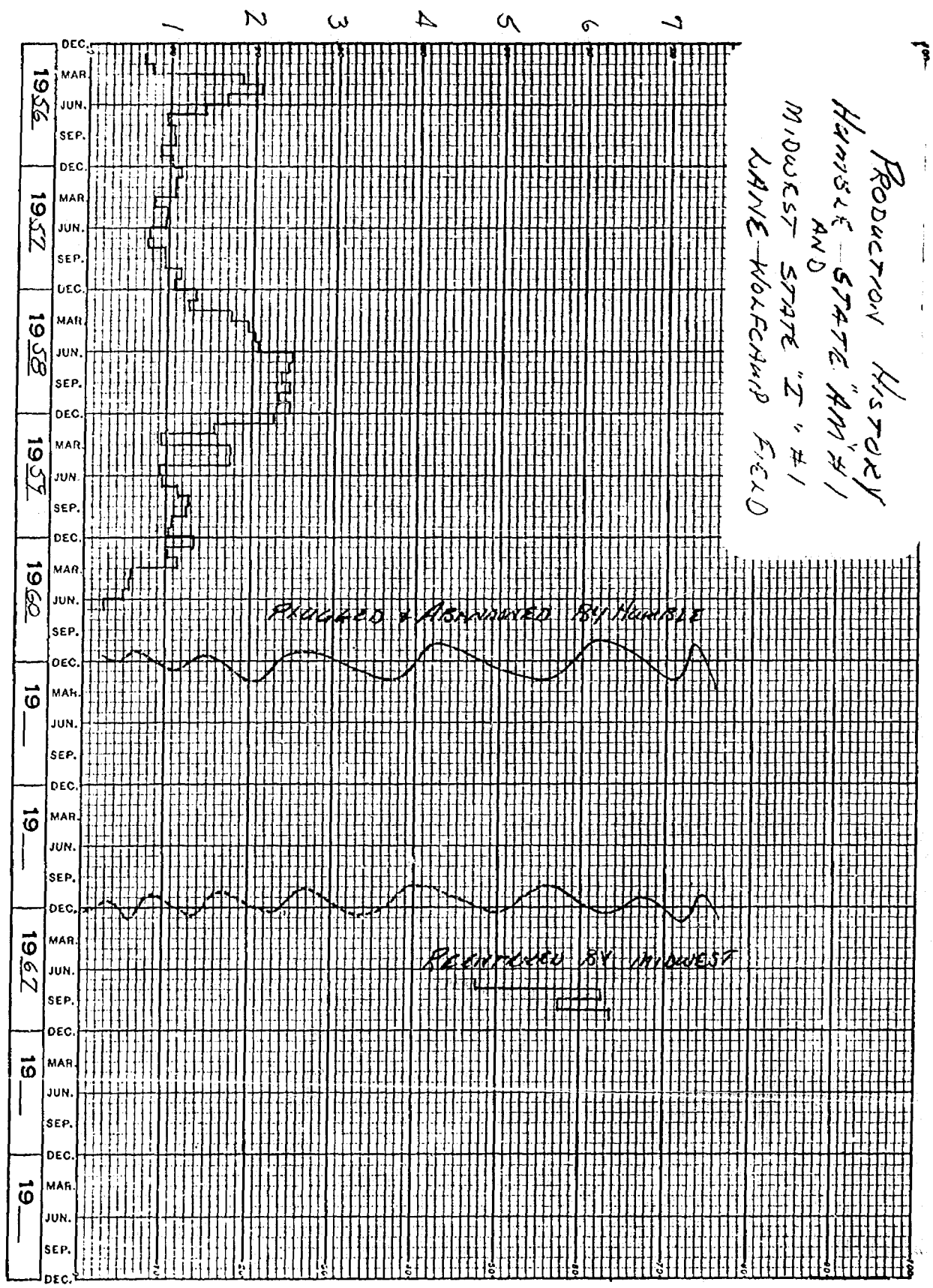
PRODUCTION HISTORY
HUMBLE N. M. STATE "AM"
WELL #1-A-11-10-33
BBLS. PER MONTH

	1956		1957		1958	
	OIL	WATER	OIL	WATER	OIL	WATER
January	---	---	1,160	10,440	1,349	---
February	690	---	1,095	9,855	1,272	---
March	792	---	1,088	9,792	1,760	---
April	1,852	7,891	810	7,290	1,954	---
May	2,092	---	990	8,910	2,014	---
June	1,668	---	972	8,748	2,091	---
July	1,411	10,339	770	6,930	2,491	---
August	970	10,580	749	8,541	2,455	---
September	1,029	---	970	---	2,364	---
October	1,041	---	978	3,467	2,457	---
November	899	---	1,172	4,155	2,318	---
December	1,032	9,288	1,097	4,388	2,461	---
	13,430	---	12,051	---	24,986	---

	1959		1960		1967	
	OIL	WATER	OIL	WATER	OIL	WATER
January	2,262	---	1,317	14,400		
February	1,578	---	1,004	11,546		
March	932	---	1,154	6,059		
April	1,754	---	573	5,790		
May	1,746	---	563	5,693	Midwest re-entered well and re-completed in same producing zone.	
June	922	---	497	5,025		
July	953	---	247	2,497		
August	1,156	---	---	300	4,745	18,260
September	1,274	3,445	Plugged & Abandoned		6,234	5,050 (est.)
October	1,246	138			5,753	4,660
November	1,089	121			6,341	5,136
December	1,004	11,546				
	15,716	---	5,355			

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
BTA EXHIBIT NO. C
CASE NO. 3705

PRODUCTION – 1000 BBLS PER MONTH



PRODUCTION HISTORY
HUMBLE – STATE "AM" #1
AND
MIDWEST STATE "Z" #1
LANE-WOLFCAMP FIELD

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 3405

PP-2 (S-37539 Sur)
Lea County, New Mexico

ASSIGNMENT OF LEASE

STATE OF NEW MEXICO)
) SS.
COUNTY OF LEA)

The undersigned, herein referred to as "Assignor," whether one or more, for and in consideration of the sum of TEN DOLLARS ($10.00) and other good and valuable consideration in hand paid, the receipt and sufficiency of which are hereby acknowledged, does hereby grant, bargain, sell, assign, transfer, set over and convey, without warranty of title, either express or implied, unto Midwest Oil Corporation, Assignee herein, and to its representatives, successors and assigns of such Assignee, all of Assignor's right, title and interest in and to that certain Business Lease No. 3 BL-388 dated November 18, 1963, made and entered into by and between The State of New Mexico, as Lessor, and SUNRAY DX OIL COMPANY, as Lessee, covering the following described land situated in Lea County, New Mexico:

E/2NW/4 of Section 36, T-9-S, R-33-E, N.M.P.M., Lea County, New Mexico beginning at a point South 1832.42 feet, and East 1832.42 feet from the Section corner common to Sections 26,25,35 and 36, T-9-S, R-33-E, N.M.P.M., Lea County, New Mexico: Thence East 295.16 feet, thence South 295.16 feet; Thence West 295.16 feet; thence North 295.16 feet to the point of beginning, containing 2.0 acres, more or less.

IN WITNESS WHEREOF, the foregoing instrument is executed on this the 25th day of October, 1967.

ATTEST:

By: Marvin Renfrow
Assistant Secretary

SUNRAY DX OIL COMPANY

By: [signature]
Vice President

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
[illegible] EXHIBIT NO. 1
CASE NO. 3905

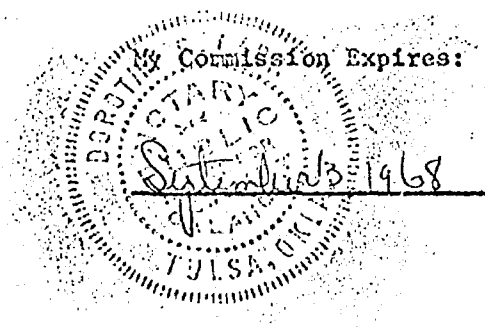
STATE OF OKLAHOMA)
) SS.
COUNTY OF TULSA)

Be it remembered, that on this 25th day of October, 1967, before me, the undersigned, a Notary Public, duly commissioned, in and for the County and State aforesaid, personally appeared GLEN BURROUGHS, Vice President of Sunray DX Oil Company, a corporation, who is personally known to me and known to me to be the Vice President of said corporation, and the same person who executed the foregoing instrument, and he duly acknowledged the execution of the same for and on behalf of and as the act and deed of said corporation.

In witness whereof, I have hereunto set my hand and affixed my official seal the day and year above written.

Dorothy E. Carr
Notary Public

My Commission Expires:
September 3, 1968



APPLICATION NO. C- 400 RENEWAL LEASE NO. BL- 388

BUSINESS LEASE

THIS INDENTURE, Made and entered into this 18th day of November, 19 63, by and between the State of New Mexico, acting by and through its Commissioner of Public Lands, hereinafter called the Lessor, and Sunray DX Oil Company whose post office address is Tulsa 2, Oklahoma hereinafter called the Lessee.

WITNESSETH:

1. The Lessor, in consideration of the covenants and agreements of the Lessee hereinafter set forth, has this day leased to the Lessee the hereinafter described tract of land for the sole and only purpose of using the hereinafter described tract for the purpose of erecting, maintaining and operating a Salt water disposal system
(Be Specific)

2. The tract of land included in this lease is as follows:

E½NW¼, Section 36, Township 9 South, Range 33 East, N.M.P.M., Lea County, New Mexico.

Beginning at a point South 1832.42 feet, and East 1832.42 feet from the Section corner common to Sections 26,25, 35 and 36, Township 9 South, Range 33 East, N.M.P.M., Lea Count , New Mexico: Thence East 295.16 feet, thence South 295.16 feet, Thence West 295.16 feet, thnece North 295.16 feet to the point of beginning, containing 2.0 acres, more or less.

(Renewal of BL-139)

3. TO HAVE AND TO HOLD the same for the term of five years, beginning at the date of this lease and ending November 18, 1968, for which Lessee agrees to pay: $50.00 Annually in advance.

4. The Lessee expressly grant to the Lessor a first and prior lien upon any and all improvements and equipment which have been or shall have been placed upon the above described premises during the term of this lease as security for the payment of any due and unpaid rentals provided for in this lease.

5. That the Lessee shall be permitted to remove any or all improvements placed upon the tract embraced in this lease on or before the expiration of this lease, provided that all rentals have been fully paid. In the event of sale of the land, all authorized improvements not so removed shall be appraised by the Commissioner and disposed of in the same manner as provided by law in the case of improvements upon grazing leases. Any improvements placed upon the land without the prior written approval of the Lessor shall be deemed unauthorized and become the property of the Lessor.

6. This lease shall terminate upon default of any payments due, upon thirty (30) days' notice by registered mail to the Lessee, evidenced by return receipt, unless such default is cured within such thirty (30) day period.

7. This lease includes the right to Lessee of ingress and egress to and from said premises and any part thereof.

8. This lease is made for the sole use and benefit of Lessee, for the express purposes herein intended; that except for the purposes of this lease, no sub-lease or under-lease (either written or verbal) shall be made by the Lessee without the written consent of the Commissioner of Public Lands and any violation of this agreement and understanding will subject the lease to cancellation. This lease is not assignable except upon written approval by the Commissioner of Public Lands.

9. The Lessee ____ may at any time surrender and be relieved of any obligations under this lease by the payment of Ten ($10.00) Dollars to the Lessor, provided, however, that all rentals then due have been fully paid and the terms of this lease have been complied with. However, upon such surrender, no part of any rentals already paid by the Lessee ____ shall be refunded.

10. This lease is issued subject to all valid existing rights upon the tract included herein.

11. Applications for a new lease should be submitted to the Lessor for consideration at least thirty (30) days prior to the expiration of the term herein.

12. Lessee ____ is authorized to place the following described improvements upon the land, the total valuation of which shall in no event exceed $22,700.00 without the prior written approval of the Lessor.

Fence, 1000 bbl,, steel galvanized tank, Miscellaneous facilities for disposal, Salt water disposal well with casing and tubing.

13. Lessor reserves the right to execute leases on the above land for mining purposes or for the extraction of petroleum, oil, gas, salt, and other mineral deposits therefrom and the right to go upon, explore for, mine, remove and sell same.

All the terms of this agreement shall extend to and bind the successors and assigns of the parties hereto.

Executed in duplicate.

WITNESS the hands and seals of the parties aforesaid the day and year first above written.

THE STATE OF NEW MEXICO

By: _____
Its Commissioner of Public Lands
LESSOR

SUNRAY DX OIL COMPANY (SEAL)
LESSEE

By _____
Vice President

ATTEST:

_____
Assistant Secretary

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Applicant EXHIBIT NO. 2
CASE NO. 3705

S-3753-Sur-1

PP-2
S-23323, S-37539 Sur.
Lea County, New Mexico

BILL OF SALE

KNOW ALL MEN BY THESE PRESENTS:

That the undersigned, SUNRAY DX OIL COMPANY, a Delaware Corporation, and designated operator, with an office at 1001 Wilco Building, Midland, Texas, for and in consideration of TEN DOLLARS ($10.00) and other good and valuable considerations to it in hand paid by Midwest Oil Corporation, 1500 Wilco Building, Midland, Texas 79701, as Buyer, receipt of which is hereby acknowledged, does hereby bargain, sell, transfer, and convey unto said buyer the personal property described on the attached Exhibit "A".

It is understood and agreed that the personal property attached and described herewith as Exhibit "A" is or was used in connection with Seller New Mexico State "I" #1 Well together with the salt water disposal system and is hereby sold pursuant to the terms and conditions of that certain letter styled "Invitation to Bid" dated July 11, 1967, and certain Letter of Agreement dated September 25, 1967 from seller to buyer.

It is further understood and agreed that buyer accept title to the property described on Exhibit "A" in its present location and condition and that this sale and conveyance is made by Seller without warranty, either express or implied, as to the title and condition of the property described and attached herewith.

IN WITNESS HEREOF, the undersigned Seller has signed and sealed this instrument on the 25th day of October, 1967, but effective October 1, 1967.

ATTEST:

By: _____
Assistant Secretary

SUNRAY DX OIL COMPANY

By: _____
Vice President

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Applicant EXHIBIT NO. 3
CASE NO. 3705

INVENTORY OF MATERIAL SOX-1906

LEASE OR WAREHOUSE: New Mexico State "I"

DATE: 3-30-67 PAGE 1 OF 1

Lea County, New Mexico

DESCRIPTION OF MATERIAL	COND.	QUANTITY	UNIT PRICE	PER	AMOUNT	DISTB.	OVER AND (SHORT) QUAN.	OVER AND (SHORT) AMT.
Casing, 13 3/8" OD 48# H-40 ST&C cemented to surface		335'						
Casing, 9 5/8" OD 36# J-55 ST&C cemented to surface		3992'						
Casing, 7" OD 23#-26#-29# N-80 LT&C - top of cement by temp. survey is 7650'		9850'						
Tubing, 2 3/8" OD 4.70# J-55 EUE		6125'						
Wellhead, 13 3/8" x 9 5/8" x 7" x 2 3/8"		1						
Rods, 7/8" x 25' Sucker		2025'						
Rods, 3/4" x 25' Sucker		4050'						
Pump, 2" x 1 1/2" x 24' H.F.		1						
Valve, 2" Orbit SE Gate		1						
Unit, Lufkin A640-DB Air Balanced		1						
Engine, Waukesha 135GKO with IR type 30 electric starter		1						
Treater, 4' x 27'6" National ICP w/3" National dump valves		1						
Platform, Firebox w/4' Stair and 4' walk		1						
Separator, 30" x 13' National w/3" FE Dump Valve		1						
Tanks, 15'6" x 16" all 1/4" welded, cone bottom steel		2						
Walkway, 26" steel tank w/HR		30'						
Stairway, 26" x 19' steel tank w/HR		1						
Regulator, 3" Kimray gas back pres.		1						
Fitting, 3" Daniel Orifice 1000# WP		1						
Unit, circulating w/Gould Fig. 1813 2 1/2 x 3 pump and Wisconsin AKN Gas Engine all on Skids		1						
Cattleguards, 7' x 16' welded steel		2						
Pipe, 2 3/8" OD std. T & C Line		2916'						
Pipe, 3 1/2" OD std. T & C Line		1066'						

TAKEN BY AND COMPANY

WITNESSED BY AND COMPANY

INVENTORY OF MATERIAL SDX-1906

LEASE OR WAREHOUSE	DATE		
Salt Water Disposal System	3-30-67	PAGE 1	OF 1

Lea County, New Mexico

DESCRIPTION OF MATERIAL	COND.	QUANTITY	UNIT PRICE	PER	AMOUNT	DISTB.	OVER AND (SHORT) QUAN.	OVER AND (SHORT) AMT.
Casing, 13 3/8" 44.50# H-40 - cemented to surface		352'						
Casing, 8 5/8" 24# J-55 ST&C cemented to surface		4031'						
Casing, 5 1/2" 17# N-80 LT&C cemented with 340 sacks		9850'						
Tubing, 2 3/8" 4.70# N-80 EUE internally plastic coated		9810'						
Wellhead, 13 3/8" x 8 5/8" x 5 1/2" x 2 3/8"		1						
Valve, 2" WKM 3000# WP FE Gate		2						
Filter, National 5' x 6' 40# WP welded steel #F-540		1						
Valve, 4" F.E. Dump lever operated		1						
Pipe, 4" Thinwall cement lined		5031'						
Packer, 5 1/2" Baker Model R		1						

TAKEN BY AND COMPANY

WITNESSED BY AND COMPANY

8738

SALT WATER DISPOSAL LEASE

This AGREEMENT made and entered into this 11th day of September, 1967, by and between the owners of interests in the surface estate in the land hereinafter described, who execute this instrument hereinafter called LESSOR, and MIDWEST OIL CORPORATION, hereinafter called LESSEE.

WITNESSETH:

That Lessor, for and in consideration of the sum of Ten and No/100 Dollars ($10.00) cash and other good and sufficient consideration, in hand paid receipt of which is hereby acknowledged, hereby grants, leases and lets exclusively unto Lessee, its representatives and assigns, for the purpose of using as a salt water disposal well and facility that certain well located 1980' from the west line and 660' from the south line of Section 36, T-9-S, R-33-E, Lea County, New Mexico, together with 2.06 acres of land in the form of a square centered around said well which is necessary and required for the proper maintenance and operation of same as a salt water disposal facility. Said 2.06 acres being more fully described by metes and bounds on the plat attached hereto as Exhibit "A".

Lessor further grants Midwest Oil Corporation, all rights of ingress and egress to said salt water disposal well and facility hereinabove described together with the right to lay, maintain, replace and take up pipe lines, conduits and other facilities thereon for transporting salt water, basic sediment and similar petroleum refuse over and across said area.

This lease shall be for a term of five (5) years from this date and as long thereafter as said salt water disposal well is used as a place for disposal and retention of salt water and similar substances hereunder. Thereafter, non-use by Lessee for a period of six (6) successive months shall automatically terminate rights granted hereunder.

As additional consideration for granting this lease, Lessee agrees to pay Lessor $100.00 per year in advance for each year Lessee maintains this lease in force beyond the five (5) year primary term provided for above.

It is recognized that from time to time, in case of emergency, it may be necessary to haul salt water and similar petroleum refuse to said salt water disposal well by means of trucks, however, Lessee agrees with Lessor that except in such emergency circumstances, Lessee shall transport said salt water and refuse to the salt water disposal facility by means of pipe lines and conduits.

Lessee agrees to operate and maintain said salt water disposal well and facility in accordance with the rules and regulations of the New Mexico Oil Conservation Commission or other authority having jurisdiction thereof. Lessee further agrees that it will indemnify and hold Lessor harmless from any and all claims, suits or causes of action asserted against Lessor due to or arising from Lessee's use of said well as a salt water disposal facility.

Lessee shall have the right at any time during or after the expiration of this lease to remove all property and fixtures placed by Lessee on said land including the right to draw and remove all casing.

Upon termination of this lease, this salt water disposal well hereinabove described shall be plugged and abandoned by Lessee, its successors and assigns, in accordance with the rules and regulations of the New Mexico Oil Conservation Commission.

All provisions of this lease shall inure to the benefit of and be binding upon the parties hereto, their heirs, administrators, executors and assigns.

IN WITNESS WHEREOF, this instrument is executed the day and year first written above.

A. C. AINSWORTH

FAYE O. AINSWORTH

STATE OF Texas X

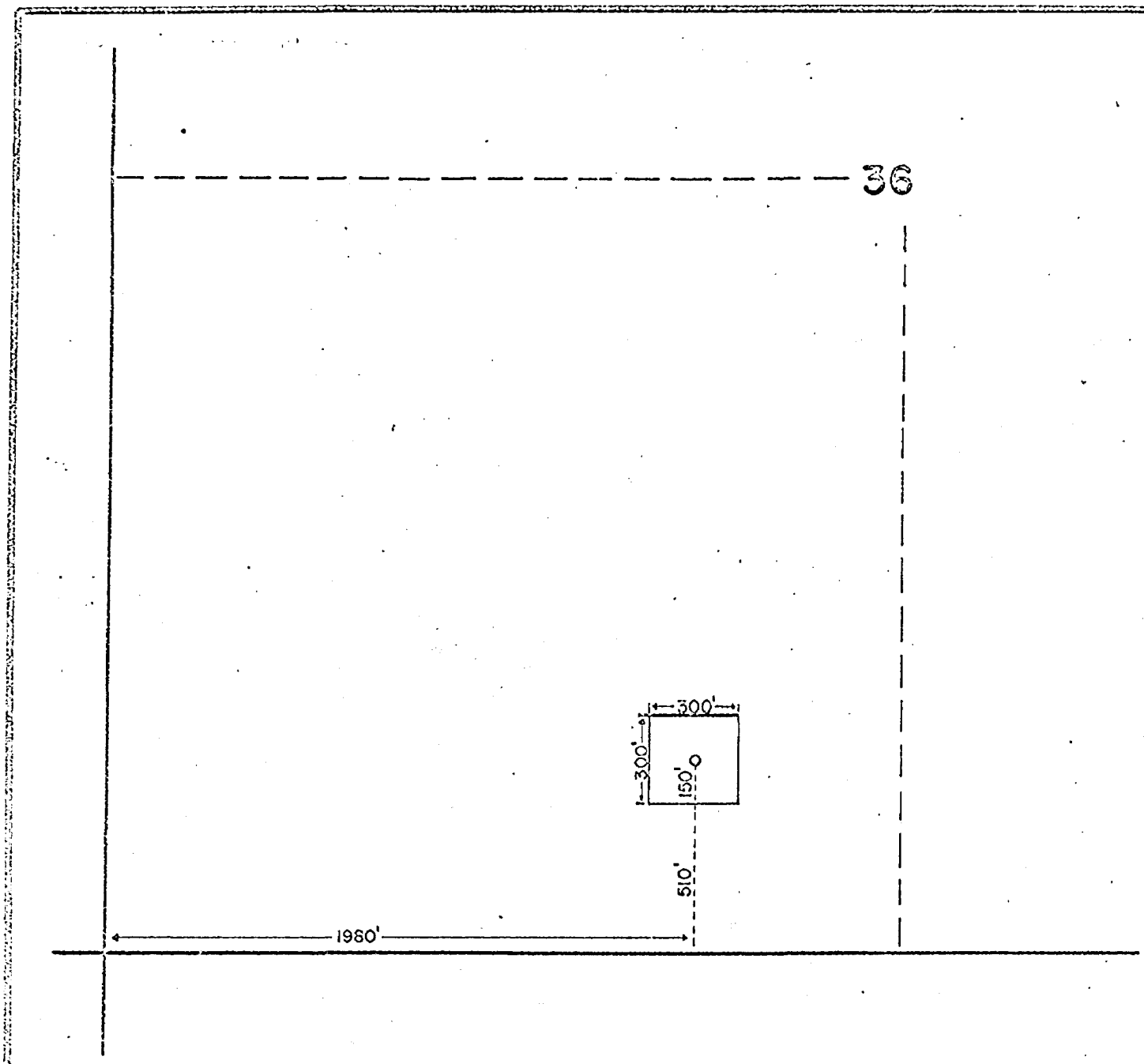
COUNTY OF Cochran X

The foregoing instrument was acknowledged before me this 11th day of September, 1967 by A. C. Ainsworth and wife Faye O. Ainsworth.

Notary Public

My Commission Expires: June 1st 1969

EXHIBIT "A"
SALT WATER DISPOSAL AGREEMENT
September 1, 1967



8738

STATE OF NEW MEXICO
COUNTY OF LEA
FILED

SEP 25 1967

at 10:10 o'clock A M
and Recorded in Book 263
Page 962
EFFIE HALD.MAY, County Clerk
By Jane Rice Deputy

2.06 acre tract out of SW/4 Sec. 36, T-9-S, R-33-E, Lea County, New Mexico.

Scale: 1" = 500'

E A S E M E N T
PIPE LINE
TEXAS AND NEW MEXICO

KNOW ALL MEN BY THESE PRESENTS:

That the undersigned, A. C. Ainsworth and wife Faye O. Ainsworth, Exalee Ainsworth Howard and husband Elza Howard hereinafter called "GRANTOR" (whether one or more), for and in consideration of the sum of $ 10.00, in hand paid by MIDWEST OIL CORPORATION, a corporation organized under the laws of the State of Nevada, hereinafter called "GRANTEE," the receipt whereof is hereby acknowledged, does hereby grant and convey unto said GRANTEE, its successors and assigns, the right of way from time to time to lay, construct, reconstruct, replace, renew, operate, maintain, repair, change the size of, and remove pipes and pipe lines for the transportation of oil, petroleum or any of its products, gas, water, and other substances, or any thereof, over, through, upon, under, and across the following described land situated in the County of Lea, State of New Mexico, to-wit:

Section 19: T-9-S, R-34-E
Section 25: T-9-S, R-33-E
Section 30: T-9-S, R-34-E
Section 36: T-9-S, R-33-E

together with the right to install, operate, maintain and remove upon and from said premises any and all equipment or other appurtenances necessary thereto.

Together with the right of ingress and egress to and from said pipe line or lines or any of them for the purposes aforesaid. GRANTOR reserves the right to use and fully enjoy the above described premises, except as to the rights hereinabove granted, and GRANTEE hereby agrees to pay any damages which may arise to crops, livestock, fences, buildings, or timber of GRANTOR from the exercise of the rights herein granted, said damages, if not mutually agreed upon, to be ascertained and determined by three disinterested persons, one to be appointed by GRANTOR, one by GRANTEE, and the third by the two so appointed, and the award of such three persons, or any two of them, to be final and conclusive. The costs of such arbitration shall be borne equally by GRANTOR and GRANTEE.

Should more than one pipe line be laid under this grant, at any time, an additional consideration of $ 2.00 per rod shall be paid for each line so laid after the first line.

Each pipe line laid under this grant shall be laid upon a route selected by GRANTEE, its successors or assigns, and shall, when requested by GRANTOR, be buried to such depth as not to interfere with the ordinary cultivation of said land.

TO HAVE AND TO HOLD said easement, rights, and rights of way unto GRANTEE, its successors and assigns, forever.

THIS AGREEMENT shall be binding upon the heirs, executors, administrators, and assigns of the parties hereto, and embodies the entire agreement between said parties, including the consideration paid or to be paid therefor.

IN WITNESS WHEREOF, GRANTOR has executed this instrument this 11th day of September, 19 67.

A. C. Ainsworth

Faye O. Ainsworth

Exalee Ainsworth Howard

Elza Howard

STATE OF Texas X

COUNTY OF Cochran X

The foregoing instrument was acknowledged before me this 11th day of September, 1967, by A. C. Ainsworth and wife Faye O. Ainsworth.

My commission expires June 1st, 1967

Jennie B Denny
Notary Public
in and for Cochran County
State of Texas

STATE OF Texas X

COUNTY OF Cochran X

The foregoing instrument was acknowledged before me this 11th day of September, 1967, by Exalee Ainsworth Howard and husband Elza Howard.

My commission expires June 1st, 1967

Jennie B Denny
Notary Public
in and for Cochran County
State of Texas

WELL HISTORY
Skelly-Hobbs 1-G
(Sunray Lane SWD #1)

The well was drilled by Skelly Oil Company in May,1957. Surface casing, 13 3/8", was set at 352' and cemented with 360 sax. Intermediate casing, 8 5/8", was set at 4029' and cemented with 1900 sax. It was drilled to a total depth of 9865', tested dry, and was abandoned.

Morris Antweil re-entered the well, ran 5 1/2" casing to 9857', completed the well in the Wolfcamp (Bough "C") from 9681-84', and produced it for a short period of time. Production was reported 100% water.

Sunray purchased the well from Antweil in 1958. The Wolfcamp (Bough "C") perforations 9681-84' were squeezed with 50 sax cement to 7000 PSI. Drilled out below casing shoe from 9857' to 9867'. Perforated casing 9834-50. Began water injection into Cisco Penn (Bough "F") interval 9834-67' in February, 1959. Disposed of water from Sunray's State "I" and "F" leases until May, 1966. Cumulative injection is 1,089,500 BW. The last average daily rate was 400 BWPD on vacuum. A Baker model R packer is set at 9776' on 2 3/8" plastic coated tubing and annulus is loaded with treated water to prevent corrosion. The Oil Conservation Commission granted permission for water disposal on November 5, 1958 by Order R-1278.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Applicant EXHIBIT NO. 7
CASE NO. 3705

WELL HISTORY
Sunray State "I" Well No. 1
(MOC Ainsworth State #1 SWD)

Initial Completion:

Dual Completed in July, 1956

Wolfcamp (Bough "C") 9647-60'. IPF 300 BO/24 hrs., 16/64" choke. TP 600 PSI, GOR 500.

Cisco Penn (Bough "F") 9784-9810. IPF 280 BO/24 hrs., 16/64" choke. TP 580 PSI, GOR 485

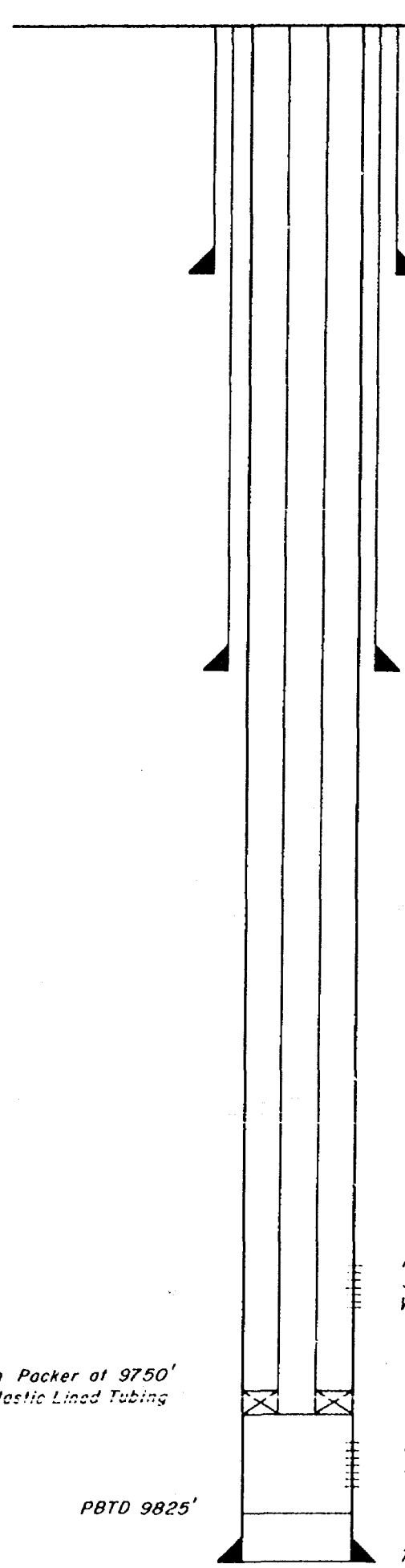
Workover:

April, 1963

Squeezed Wolfcamp (Bough "C") perfs 3647-60 with 50 sax to 9000 PSI.

Ran tubing, pump and rods to 6158'. Continued pumping Cisco Penn (Bough "F") until June, 1967.

MIDWEST OIL CORPORATION
Ainsworth State SWD No. 1
LEA COUNTY, NEW MEXICO



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Applic. EXHIBIT NO. 9
CASE NO. 3705

n.l.g

INJECTION RATES
AINSWORTH STATE SWD #1

RICE'S DISPOSAL SYSTEM, SOUTHIAND MIDDLE LANE AREA:

Rice is currently injecting about 3000 BWPD into a Devonian well on vacuum. The well is capable of injecting in excess of 7000 BWPD on vacuum. Cumulative injection to 10-1-67 is 2,079,413 BW.

MIDWEST'S DISPOSAL WELL, NONOMBRE FIELD:

Midwest is currently injecting about 650 BWPD into a Penn (Bough "B") well on vacuum. The well is capable of injecting about 1000 BWPD on vacuum. Cumulative injection to 10-1-67 is 234,749.

SUNRAY'S (now Midwest) LANE SWD #1, LANE FIELD: (Sketch to 1-67)

Sunray disposed of 1,089,500 BW into the Bough "F" Zone in the Lane SWD #1. The last average injection rate was 400 BWPD on vacuum. A recent injection rate test indicates that the well will take water at satisfactory rates. A plot of injection rate versus pressure is attached. (2x 11)

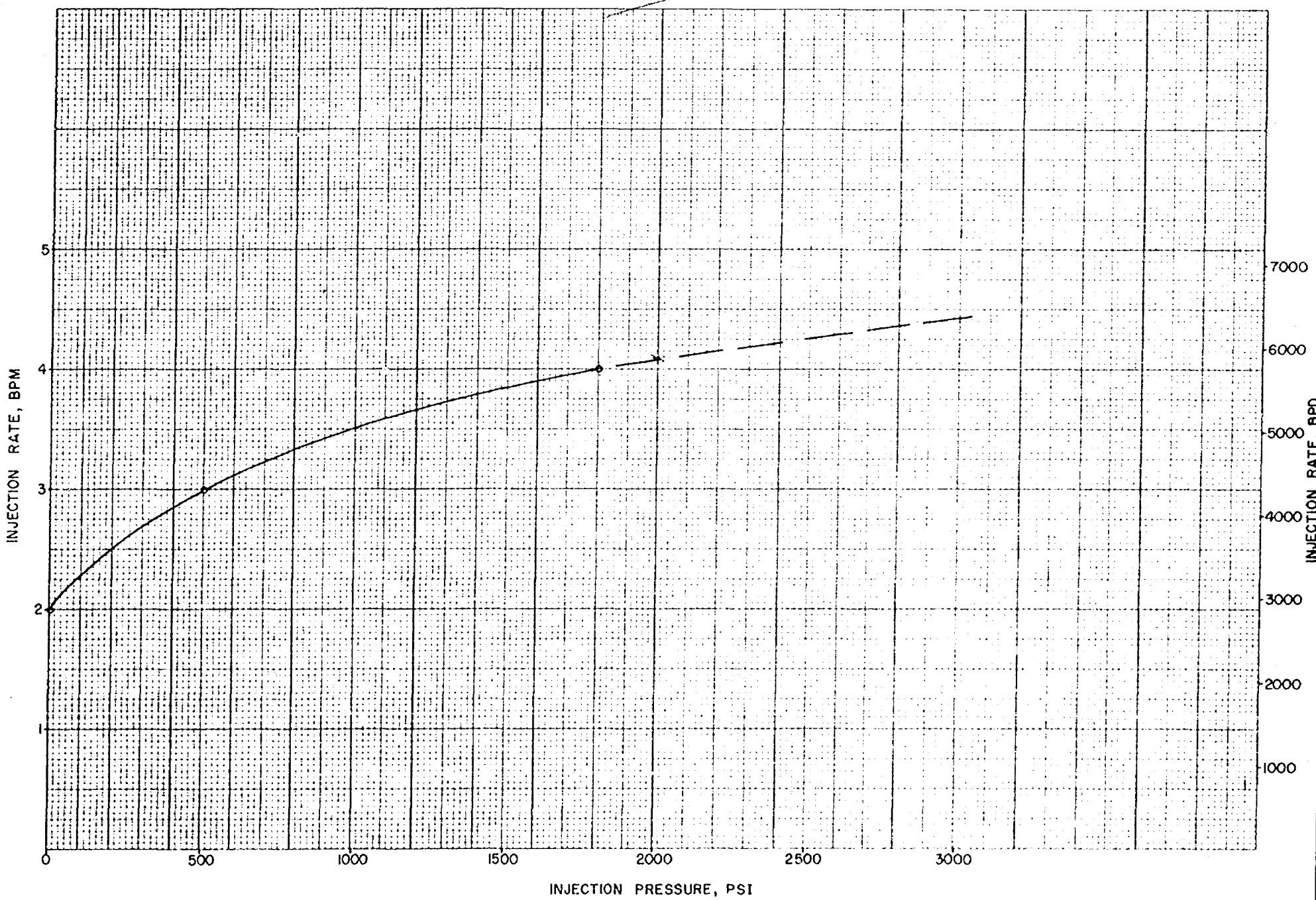
MIDWEST'S AINSWORTH STATE SWD #1, LANE FIELD:

Based on the above data, Midwest expects to be able to dispose of about 1000 BWPD on vacuum and possible 3000 BWPD at 2000 PSI on the Ainsworth State SWD #1 for a limited period of time. The Lane SWD #1, formerly Sunray's well, is expected to inject a similar amount.

Because of the unknowns involved, particularly the number of wells in the system and the volume of water for disposal, Midwest's plans for injection are indefinite. Initially we will dispose of water into one well on vacuum and as volumes increase, both wells will be used on vacuum. Pumps may be installed and injection continued into the Bough "F" if there are not many wells in the system and the volume of water is small. If we are successful in getting a large number of wells committed to the system, we intend to request permission to dispose of water into the Devonian and will deepen the Ainsworth State SWD #1 to the Devonian.

Skelly Hobbs

Skelly, Hobbs I-G
(Sunray Lane SWD #1)



VADA PENN SWD SYSTEM
DISPOSAL WELL COSTS

PURCHASE OF TWO WELLS	$19,800.
LESS SALVAGE	$11,800.
COST OF BOUGH "F" DISPOSAL WELLS	$8,000.
DEEPEN AINSWORTH STATE SWD #1 TO DEVONIAN	$90,000.
COST OF DEVONIAN DISPOSAL WELL	$98,000.
DRILL DISPOSAL WELL TO BOUGH "F", 9800'	$120,000.
DRILL DISPOSAL WELL TO DEVONIAN, 12,700'	$195,000.

VADA PENNSLYVANIAN POOL
PRODUCTION HISTORY

WELL		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Cum.	SEPT. PROD/DAY
Midwest Pruitt No. 1	O	4,700	6,565	5,668	6,801	6,025	8,412	7,152	6,973	4,873	8,166	5,660	5,372	76,367	179
C,20,9S,34E	W	11,313	9,900	8,502	10,201	9,037	12,156	10,318	13,761	2,924	4,900	3,396	3,223	99,631	113
Midwest Pruitt No. 2	O							1,373	2,725	1,904	2,524	1,886	1,050	11,462	35
M,17,9S,34E	W							410	813	571	757	566	315	3,432	19
Midwest Pruitt A No. 1	O									6,925	6,244	6,944	6,959	27,072	232
O,17,9S,34E	W									2,978	2,123	2,361	2,366	9,828	79
Midwest Pruitt A No. 2	O											6,944	6,959	13,903	232
G,17,9S,34E	W											1,667	1,670	3,337	56
Cabot Pruitt No. 1	O					1,055	5,535	3,172	4,303	3,837	4,858	5,010	5,317	33,087	175
B,20,9S,34E	W					7,000	7,600	4,028	5,921	5,282	6,572	6,138	9,300	51,851	310
Ralph Lowe State D No. 1	O											2,196	5,762	7,958	192
L,16,9S,34E	W											2,000	4,800	6,800	160
Ralph Lowe State D No. 2	O												3,119	3,119	104
E,16,9S,34E	W												2,100	2,100	70
TOTAL	O	4,700	6,565	5,668	6,801	7,080	13,947	11,697	14,001	17,539	21,792	28,640	34,539		1152
	W	11,313	9,700	8,502	10,037	16,037	19,756	14,756	20,495	11,755	14,352	16,128	23,774		807
CUMULATIVE	O	4,700	11,265	16,933	23,734	30,814	44,761	56,458	70,459	87,998	109,790	138,430	172,969		
	W	11,313	21,013	29,515	39,716	55,753	75,509	90,265	110,760	122,515	136,867	152,995	176,769		

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Cypress EXHIBIT NO. 13
CASE NO. 3705

FORM LR 4

Laboratory Report

Byron Jackson Inc.

SUBJECT:
DEPTH:
FORMATION:

Company Midwest Oil Company Farm Vada Pruitt Well No. 1

Location _____ County _____ State N. Mexico Date 12-14-67

Pool Vada Field Date Sampled 12-14-67 Submitted by _____

SPECIFIC GRAVITY: 1.071 at 60°
pH: 7.0

PRINCIPAL CONSTITUENTS

RADICAL	PARTS PER MILLION	REACTING VALUE EQUIVALENTS PER MILLION	PER CENT
SODIUM	26,622	1157.45	37.80
CALCIUM	4825	240.77	7.85
MAGNESIUM	1660	136.45	4.35
CHLORIDE	54100	1525.62	
SULPHATE	205	4.26	
BICARBONATE	292	4.79	

PRIMARY SALINITY: 75.60 PER CENT TOTAL REACTING VALUE

SECONDARY SALINITY: PER CENT TOTAL REACTING VALUE

SECONDARY ALKALINITY: PER CENT TOTAL REACTING VALUE

General Remarks:

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Coppi EXHIBIT NO. 14
CASE NO. 3705

LAB. NO. _____

DISTRICT _____

ANALYZED BY _____

DISTRIBUTION _____

Signed Betty Knight

3M—9-64—C-J

STATE OF NEW MEXICO
STATE ENGINEER OFFICE
ROSWELL

S. E. REYNOLDS
STATE ENGINEER

December 14, 1967

ADDRESS CORRESPONDENCE TO:
P. O. BOX 1717
ROSWELL, NEW MEXICO

Mr. John Pulte
Midwest Oil Corporation
1500 Wilco Building
Midland, Texas

Dear Mr. Pulte:

Reference is made to our telephone conversation of December 12 concerning Midwest's plans to dispose of waste salt water by injecting it into the Pennsylvanian formation. It is my understanding that the 13-3/8-inch surface casing was set at 345 feet below land surface and cement was circulated and further that injection will be through tubing with a packer set at 9750 feet in casing with perforations between 9784 and 9810 feet. The well is located in Section 36, Township 9 South, Range 36 East, NMPM.

We do not have available water well logs in the immediate area but have knowledge of several stock wells drawing water from a relatively shallow depth.

Based upon the above understanding of the well construction, it appears that no threat of contamination to the fresh waters which may exist in the area will occur.

Very truly yours,

Fred H. Hennighausen
District Supervisor

FHH*td
cc: Mr. D. E. Gray

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Applicant EXHIBIT NO. 15
CASE NO. 3705