BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

Case No. 1531

TRANSCRIPT OF HEARING

October 22, 1958

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BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:	
Application of Rice Engineering & Operating, Inc. for an order authorizing a salt water disposal well. Applicant, in the above-styled cause, seeks an order authorizing the disposal of produced salt water through Amerada Petroleum Corporation's Adkins Well No. 2, located 990 feet from the South line and 330 feet from the West line of Section 5, Township 20 South, Range 37 East, Lea County, New Mexico. Applicant proposes to inject the produced salt water into the San Andres formation in the interval from 4490 to 4950 feet.	Case 1531

Mabry Hall
Santa Fe, New Mexico
October 22, 1958

BEFORE:

Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: The hearing will come to order, please.

The next case on the docket will be Case 1531.

MR. PAYNE: Case 1531, "Application of Rice Engineering & Operating, Inc., for an order authorizing a salt water disposal well."

MR. KELLAHIN: Jason Kellahin from Kellahin and Fox, Santa Fe, appearing for the applicant. We have one witness, Mr. Abbott, who was sworn in the other case. Do you want to swear him again?

MR. PAYNE: That's all right.

W. G. ABBOTT

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A W. G. Abbott.

Q You are the same Mr. Abbott who testified in Case 1530 and sworn --

A Yes, sir.

Q In that case?

A Yes, sir.

Q Mr. Abbott, are you familiar with the application in Case 1531?

A Yes sir, I am. This application is for the purpose of getting approval from the Commission to recomplete an Amerada Blinebry well to a salt water disposal well. This well was temporarily abandoned by Amerada in September of 1956. This will also be a disposal well in the San Andres zone and it is up in the Monument area.

Q Referring to what has been marked as Exhibit A, would you state what that is?

A Exhibit A is a plat of this immediate area surrounding the Adkins, Amerada Adkins Number 2. There is also a half a mile radius circle drawn around this well and then the wells in this

half mile radius are marked by a key on this exhibit showing the producing zone and also there is a cross section, AA prime, marked on this exhibit, which will be described later.

Q Now, on that exhibit, it indicates other wells in the Grayburg and San Andres formation, does it not?

A Yes sir, it does.

Q The plat likewise shows the lease ownership in the area involved?

A Yes.

Q Now, you referred to the Adkins Well Number 2. Is that the subject well which you propose to convert into a salt water disposal well?

A Yes sir, that is the well we propose to make into a salt water disposal well.

Q Now, referring to Exhibit B, would you state what that shows?

A Exhibit B is a diagramatic sketch of the casing program in this Adkins Number 2 and also a side of the well bore is pictured and a gamma ray resistivity log of this well is also shown and the proposed zone that we intend to perforate in this well to make a salt water disposal well.

Q Now, that exhibit would seem to indicate a rather unusual casing situation. Can you give something of the history of this well?

A Yes sir, this well was drilled by Amerada. It was

drilled in 1952 to the Blinebry formation and it is also fairly high on the Monument structure. In that area, there was a lot of shallow gas present and they had trouble from lost circulation and then gas blowing out at the same time. When they were drilling this well, it was necessary for them to run all these strings of casing. There's a thirteen and three eighths inch set at 1297 feet, there's nine and five eighths set at 2388, seven-inch at 3710 and then there's a liner set from 3661 to 5665, five-inch liner. It was necessary to set that seven-inch at 3710 because the well was blowing out and they were having trouble with the lost circulation zone.

Q Now, are you familiar with the cementing program on that casing?

A Yes, I am. On the thirteen and three eighths, they used 225 sacks and that was circulated.

Q Circulated to the surface?

A Yes, sir. Then on the nine and five eighths, they used 2,000 sacks and the top of the cement is at 1,096. That was by a temperature survey, and then in the seven-inch, they used 300 sacks of cement which brought the cement back to 1440 on the outside of the seven-inch and then set the liner and used--let's see, 160 sacks of cement around the bottom of the liner and then they squeezed about 740 sacks in at the top of the liner between the top of the liner and the seven-inch casing, so we feel that it is an adequate cementing program and that the San Andres

zone is very well protected.

Q In your opinion, would the type of completion made in this well be adequate to protect any fresh water zones that might be encountered?

A Yes, sir.

Q Now, do you propose to make any tests of the well prior to converting it to salt water disposal?

A Well, we plan to test the top of the liner, pressure test that with 2,000 pounds pressure before we perforate the liner.

Q Then what type of completion do you expect to make in the well for salt water disposal purposes?

A It will be a perforated completion well, perforate this liner and acidize it.

Q And setting a bridge plug at five thousand feet?

A We will set the bridge plug at five thousand feet.

Q Referring to what has been marked as Exhibit C, would you state what that shows?

A Exhibit C is a cross section, more or less a completion cross section. It is marked AA prime on Exhibit A showing the wells surrounding this Adkins 2 within a half mile radius and other cross sections AA prime. The Grayburg-San Andres wells are shown in blue, the Monument-Paddock wells are shown in red, the completion interval and the Monument-Blinebry wells are shown in green, our proposed salt water disposal zone is in yellow.

Q Now, that exhibit indicates wells producing from the

Grayburg-San Andres formation, does it not?

A Yes sir, those two wells. The Ohio Barber Number 6 is shown on this cross section and also the Amerada Adkins Number 1.

Q How does the disposal interval compare to the producing interval in those other wells?

A Well, the disposal interval is approximately about five hundred feet below the lowest producing interval in the San Andres formation.

Q In your opinion, will the use of this zone as a disposal interval cause any contamination to any producing zones in the area --

A No, sir.

Q That are above or below?

A No. Well --

Q Is there any danger of communication to the lower intervals?

A No sir, the lowest interval in the disposal will still be approximately over two hundred feet above the top of the Paddock zone.

Q In your opinion, is there effective separation between the two zones?

A Yes, sir.

Q Referring to what has been marked as Exhibit D, would you state what that shows?

A Exhibit D shows all of the wells in this half mile radius surrounding the Adkins Number 2 Well. It shows the operator and the lease, well number and the completion interval and the completion zone, and then it shows some dual completions and gas wells in that area also.

Q That indicates that Amerada has producing wells from the Grayburg-San Andres near by the disposal well, does it not?

A Yes sir, their Adkins Number 1 is the closest well.

Q And in spite of that, they have agreed to the use of this well as a disposal well?

A Yes sir, they feel that there will be no danger of communication between the Adkins 2 and the Adkins 1 wells.

Q Now, referring to what has been marked Exhibit E, would you state what that is?

A Exhibit E is a list of the operators with addresses that are in the Eunice-Monument-Eumont SWD System.

Q And again, Rice Engineering is the operator of the disposal system, is that correct?

A Yes, sir.

Q Referring to what has been marked as Exhibit F, would you state what that is?

A Exhibit F is an agreement between Amerada Petroleum Corporation and Rice Engineering setting out certain stipulations in this Adkins 2 as to the sum of money that Rice will pay Amerada for this well, and also agreeing that this well will be

turned over to the Eunice-Monument-Eumont Salt Water Disposal System.

Q Now, what volumes of water do you propose to dispose of in this well?

A In this well, because of that five-inch liner, we expect to get approximately 12,000 barrels a day in that well.

Q What is the source of this water?

A It will be the Monument pay, the Monument-Blinebry, Monument-Paddock and there may be some Eumont wells that the water will go to this well.

Q Has there any analysis been made of this water?

A Yes, sir.

Q Is any of it potable water?

A No sir, it is not.

Q In your opinion, Mr. Abbott, is the formation you propose to use for salt water disposal sufficiently--of sufficient permeability and porosity to handle the volume of water contemplated?

A Yes, sir.

Q And is it necessary, in your opinion, to dispose of this water in the interests of conservation and prevention of waste?

A Yes sir, it is.

MR. KELLAHIN: At this time, we would like to offer in evidence Exhibits A through F inclusive.

MR. UTZ: Without objection, they will be received.

MR. KELLAHIN: That's all the questions we have, Mr. Examiner.

MR. UTZ: Are there questions of the witness?

MR. FISCHER: Yes, sir.

MR. UTZ: Mr. Fischer?

CROSS EXAMINATION

BY MR. FISCHER:

Q Mr. Abbott, are you going to inject tubing in this well?

A Yes sir, we will. We will have to run a smaller tubing, smaller string of tubing in the liner, but it will be a large size tubing string up in the seven-inch.

Q That will taper on your string?

A Yes, sir.

Q What size do you think that the bottom of that tubing will be?

A It will either be two and a half inch upset tubing or three-inch erect tubing.

Q Do you anticipate that you could put it in under gravity?

A Yes sir, it will be under gravity.

MR. FISCHER: That's all.

MR. UTZ: Any other questions of the witness?

MR. IRBY: Yes, sir.

MR. UTZ: Mr. Irby?

MR. IRBY: Frank Irby, State Engineer's Office.

CROSS EXAMINATION

BY MR. IRBY:

Q Mr. Abbott, I note that in that interval between the bottom of the thirteen and three eighths and the bottom of the nine and five eighths, you have a section of roughly a thousand feet in there which has no cement behind the nine and five eighths?

A Yes, sir.

Q Is there anything between the seven-inch and the nine and five eighths in that thousand-foot interval?

A No, you will have your--of course, in the completed disposal well, you will have the injection tubing, you will have the seven-inch and nine and five eighths in that interval, but it was not indicated that the cement came up between or around that nine and five eighths in that interval.

Q Will this tubing be such that the annulus outside the tubing be filled with oil as in the previous case?

A Yes sir, it will.

Q Was there any fresh water encountered in this thousand-foot interval?

A No sir, the bottom of the fresh water is approximately two hundred feet in that area.

Q There was no water found in the so-called Santa Rosa?

A No, not to my knowledge. In that Santa Rosa, in that area, we just don't know if it is potable. It may be brackish, we

don't know.

Q Is it your opinion that the tubing, the oil in the annulus around the tubing, the seven-inch and nine and five eighths-inch casings, will be adequate protection to any fresh water that might exist in that thousand-foot interval?

A Yes sir, we feel that that will be very adequate protection.

Q And do you have means of determining if there is a leak-through from your salt water tubing in that thousand-foot interval?

A Yes sir, we will keep a pressure gauge and recordings on the annular space and we will take periodic readings of that pressure and with that method, we can determine if there are any leaks in the tubing string.

Q Now, in the event a leak is found there, what takes place?

A Well, if a leak is found in the casing, the pressure will drop and we will be able to know that we have a leak in that tubing or casing.

Q What is done about reporting this to the Oil Conservation Commission or toward the repairs of any leak that occurs?

A Well, we will repair any leaks immediately.

Q You are not required to make any report on it?

A No sir, I don't believe so.

MR. IRBY: Thank you.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Abbott, wouldn't you be required to report any repair work on your C-103?

A Yes sir, before we did the work, we would have to report it on the C-103 and after we have done the work, report it on the C-102.

Q The other way around.

A 102 and 103, yes sir.

Q Mr. Abbott, when was this well completed? In other words, how is the casing?

A That well was completed November 17, 1952. It is a fairly new well in that area.

Q Have you done any work on the well so far?

A No sir, we have not.

Q Do you intend to test this casing before you start injecting water down?

A Yes sir, that is right.

Q What will be the nature of the test?

A We will set the bridge plug at around five thousand feet and then pressure test the casing to at least two thousand pounds to see if there is any drop in pressure and then we will perforate the well.

Q During the process of injection, will there be pressures in excess of two thousand pounds?

A No sir, not at the --

Q Surface?

A Not at the surface, no. We plan no gravity of the water in the well.

Q I believe you stated that in your opinion there was no danger of contamination of the oil producing zones either below or above this formation, did you not?

A No sir, we feel that they are well protected.

Q What would be the interval of injection from the well surface, is it 4490 and 4560?

A I have it written down some place. The zones we plan to perforate are 4490 to 4560, 4600 to 4715, 4750 to 4795, 4825 to 4950.

MR. UTZ: Any other questions of the witness?

MR. FISCHER: Yes.

CROSS EXAMINATION

BY MR. FISCHER:

Q Will your tubing in the well be lined?

A We plan to either cement line that tubing or have a plastic lining.

MR. FISCHER: That's all.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Abbott, any corrosion that might be taking place in this casing now, do you think that the sweet oil in the annulus

will stop that corrosion?

A Yes sir, it will stop it.

Q And it will protect it from then on?

A Yes, sir.

MR. UTZ: Any other questions of the witness?

(No response).

MR. UTZ: If not, the witness may be excused.

(Witness excused).

MR. UTZ: Any other statements in this case?

(No response).

MR. UTZ: If there are none, the case will be taken under advisement.

STATE OF NEW MEXICO)
: ss
COUNTY OF BERNALILLO)

I, JERRY MARTINEZ, 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 in stenotype and reduced to typewritten transcript by me, and that the same is a true and correct record, to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this 24th day of October, 1958, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Jerry Martinez
Notary Public

My Commission Expires:
January 24, 1962

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1531, heard by me on Oct. 22, 1958.

, Examiner
New Mexico Oil Conservation Commission