BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 20, 1959

EXAMINER HEARING

IN THE MATTER OF:

Case 1678

DEARNLEY - MEIER & ASSOCIATES
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IN THE MATTER OF:

Application of Rice Engineering and Operating, Inc. for a salt water disposal well. Applicant, in the above-styled cause, seeks an order authorizing it to recomplete its Gulf Oberholtzer Well No. 2 as a salt water disposal well in the Devonian formation; said well is located 1980 feet from the North line and 2310 feet from the West line of Section 7, Township 12 South, Range 38 East, Lea County, New Mexico. Applicant proposes to inject the produced salt water into the Devonian formation in the interval from 12,206 feet to 12,400 feet. Case 1678

BEFORE:

Mr. E. J. Fischer, Examiner.

TRANSCRIPT OF HEARING

MR. FISCHER: The next case is Case 1678.

MR. PAYNE: "Application of Rice Engineering and Operating, Inc. for a salt water disposal well."

MR. KELLAHIN: Jason Kellahin of Kellahin and Fox, Santa Fe, New Mexico, representing the Applicant. We will have one witness, Mr. Bill Abbott.

(Witness sworn.)

WILLIAM G. ABBOTT

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Will you state your name, please?

A William G. Abbott.

Q By whom are you employed and what position, Mr. Abbott?

A I'm Division Manager of Rice Engineering and Operating, Incorporated of Hobbs, New Mexico.

Q Have you testified before the Commission as an expert engineer and had your qualifications accepted?

A Yes, sir.

MR. KELLAHIN: Are the qualifications of the witness acceptable?

MR. FISCHER: Yes, sir, please proceed.

Q Mr. Abbott, are you familiar with the application in Case 1678?

A Yes, sir.

Q Would you state briefly what's proposed to be done in this application?

A We're representing the operators in the Gladiola salt water disposal system, and will be the operator of the Gladiola

salt water dispcsal system. We propose to recomplete Gulf Oberholtzer No. 2 as a salt water disposal well.

This well was originally drilled by Warren Petroleum Corporation and then later merged under Gulf. This well is located on the Gulf Oberholtzer Lease in Section 7, Township 12 South, Range 38 East, Gladiola Pool, Lea County, New Mexico.

We propose to call this well the Rice Engineering and Operating, Incorporated, Gladiola S.W.D. Well F-7. The well is located 1980 feet from the North line and 2310 feet from the West line of the said section.

Q Now, referring to what has been marked as Exhibit A, would you state what that shows?

(Marked Rice Engineering & Operating, Inc.'s Exhibit A, for identification.)

A Exhibit A shows the entire Gladiola Pool or pools. It's actually the Gladiola-Devonian and the Gladiola-Wolfcamp Pools. On this it shows all the wells in these pools and on this Exhibit A we have an arc in green representing a half mile around this Oberholtzer No. 2, and also a trace of a cross section A-A^1 which I'm bringing up later on another exhibit.

Q What's the purpose of the green half mile radius, Mr. Abbott?

A We have analyzed all the wells in the half mile radius and tabulated the well data and completion data.

Q Is that in compliance with the provision of the order governing the operation of salt water wells?

A Yes, sir, it's under Rule 701 of the Commission rules.

Q Now, referring to what has been marked as Exhibit B, would you state what that shows?

(Marked Rice Engineering & Operating, Inc.'s Exhibit B, for identification.)

A Exhibit B is a well diagram of this Oberholtzer No. 2. This diagram also shows the proposed completion that we intend to make in order to recomplete this abandoned Devonian well as a salt water disposal well.

Q Are you familiar with the completion of the well in its present situation?

A Yes, sir.

Q Would you describe the cementing program on that well?

A At the present time, well, I'll give the whole cementing program and pipe program, there's 13-38ths surface casing set at 372 feet with the cement circulated. The second string, or the salt string, is 9 5/8ths inch casing set at 4502 with the cement circulated. The five and a half inch casing, a long string is set at 12,022 feet. The well is plugged back to 12,012 feet and the long string is perforated from 12,006 to 12,012 feet. We propose to run a liner.

Q Do you propose first to deepen the well?

A Yes, I'll give that whole recompletion data. We plan first to squeeze the present perforations from 12,006 to 12,012 feet. We will then drill out with a 4 5/8ths inch bit on 2 7/8ths inch O. D. tubing to 12,400 feet. We will then run a gamma ray neutron log, then we'll set a drillable open hole bridge tubing at 12,206 and we'll cap the bridge plug with cement. We will then set a 4 inch O. D. 11 pound in 80 flush joint welded liner at 12,206 feet with a Baker duplex, cement washdown whirler fleet shoe and will cement the liner in place.

We'll then pressure test the liner with thousand pounds. Then we'll drill out tc the Devonian of 12,400 feet with a three-quarter inch bit, we'll test the injectivity of the well and acidize the well if it's indicated.

(Marked Rice Engineering & Operating, Inc.'s Exhibit C, for identification.)

Q Now, referring to what has been marked as Exhibit C, will you describe what is shown on that exhibit?

A Exhibit C is a cross section A-A1 that shows up on Exhibit A as a red line. It is drawn through the Lou Continental Wallace No. 1 well south to our proposed S. W. D. on the F-7 Well and then east through Lou Oberholtzer No. 2 in the Northeast Quarter of Section 8. This exhibit also shows the top of the Devonian as a red line, and also the producing interval is marked in red.

Our proposed completion is marked in green on the S.W.D.-F-7 Well. This is all drawn up on the subsea basis and we show our oil-water contact, or the original oil-water contact, of the pool in green. That is at a minus 8150.

Q Referring to that exhibit, the Lou Oberholtzer Well No. 1 would appear below the oil-water contact. Do you know anything about that well, Mr. Abbott?

A Yes, sir, that well was obviously a dry hole and they tested salt water in the well and later plugged the well back and made a Pennsylvanian completion which did not last very long, and they have since abandoned the well.

Q Now, on the basis of the information contained on that exhibit, in your opinion would there be any danger of contamination or damage to the producing interval of the Devonian formation by completion of a salt water disposal well as you propose?

A No, sir, in my opinion there would not.

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

(Marked Rice Engineering & Operating, Inc.'s Exhibit D, for identification.)

A Exhibit D shows all the well completion information of all the, in this half mile radius, of the proposed S. W. D. Well. It shows the operator, the leases, the well number, the

completion interval on a subsea basis and the completion zone, and the top of the Devonian on some of the wells.

Q Is that exhibit submitted in compliance with the rules of the Commission in regard to the salt water disposal wells?

A Yes, it is.

Q Referring to Exhibit E, would you state what that is?

(Marked Rice Engineering & Operating, Inc.'s Exhibit E, for identification.)

A Exhibit E is a list of all the operators in the Gladiola salt water disposal system with their mailing address.

Q Has the subject well been assigned to Rice Engineering and Operating, Incorporated?

A It tentatively has. This is shown in Exhibit F.

(Marked Rice Engineering & Operating, Inc.'s Exhibit F, for identification.)

A Exhibit F is a letter from Gulf Oil Corporation to Rice Engineering tentatively assigning the well to Rice Engineering. You notice in the second paragraph, "Since it will be necessary to call a hearing to obtain approval for conversion of this well as a disposal well and it will be necessary to obtain a water lease prior to deepening, we feel that your company could perform these operations satisfactorily, and we therefore recommend that you obtain necessary surface lease, call a hearing, and

perform the deepening work scheduled for the subject well." We will, at a later date, be assigned this well as the operator of the salt water disposal system.

Q Has a surface lease been obtained by Rice Engineering and Operating?

A Yes, sir, we have obtained a surface lease around the proposed salt water disposal well from the surface owner.

Q As I understand your disposal, you will inject water through the casing without the use of tubing, is that correct?

A Yes, sir. We plan to start our injection down the casing, the five and a half inch casing. The reason for that being that we, if we run tubing we'll be restricted quite a lot. We can get approximately, oh, in the excess of 600 barrels an hour down the casing. When we run tubing, we will only be able to put in around 200 barrels an hour by gravity. So we propose to start our injection without the tubing string, but before we do inject any water, we propose to run a caliper survey of the casing and then in some interval, probably within six months, will run another caliper of this casing. If corrosion is indicated, well, we will be forced to run tubing, which will mean that we will need more salt water disposal wells to dispose of the produced water in the Gladiola Pool.

Q Now, on the basis of your experience in the operation of salt water disposal wells, would you anticipate any corrosion

in this area?

A This Devonian water is mildly corrosive and all our lines, our surface lines, will be of corrosion resistant material, and we expect that we will have some corrosion in this well.

Q But you will take adequate precautions to determine if corrosion is occurring?

A Yes, sir.

Q What volume of water do you anticipate you can dispose of in this well?

A At the present time we will dispose of approximately 15,000 barrels a day.

Q In your opinion will the Gladiola-Devonian formation take that much water?

A Yes, sir, all the indications are that the Devonian will take the water without any pressure or without any trouble at all.

Q In your opinion is the completion of this well as it now exists sufficient to adequately protect fresh water zones and prevent contamination?

A Yes, sir. It's completed such that we feel that the fresh water zones will be protected.

Q Will it adequately protect the producing formations within the area?

A Yes, sir, by running the liner and cementing in place, we feel that the water will be down below the original water-oil contact and it will not interfere with any of the oil wells in the area.

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

A Yes, sir.

Q And Exhibit F, is that a copy of a letter in your files?

A Yes, it is.

Q Would you make the original available to the Commission if requested?

A Yes, sir.

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

MR. FISCHER: Without objection it will be accepted.

MR. KELLAHIN: That's all the questions I have of the witness.

MR. FISCHER: Any questions of Mr. Abbott?

MR. PAYNE: Yes, sir.

MR. FISCHER: Mr. Payne.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Abbott, could you tell us what the current status

of this proposed salt water disposal well is?

A Yes, sir, that well was completed as an oil producer in August of 1957. The last month it produced any oil was October of 1957, and the cumulative oil production from that well was 5,771 barrels. At the present time it is temporarily abandoned.

Q So the casing is less than two years old?

A Yes, sir.

Q And you propose to dispose of this water by gravity flow, is that right?

A Yes, sir, by gravity into the well.

Q Have you made any analysis of the water to be disposed of as to how corrosive it is?

A We have a water analyses that was made available to us and it indicates that the Devonian water has a chloride content of 34,000 parts per million, which we believe will be corrosive.

Q Now, the Gladiola-Devonian is a water drive pool, is it not?

A Yes, sir.

Q And your injection interval is below the water-oil contact?

A Yes, sir.

MR. PAYNE: That's all. Thank you.

MR. FISCHER: Any other questions of Mr. Abbott?

BY MR. FISCHER:

Q Mr. Abbott, will you log this new interval you are going to open up?

A Yes, we are going to run a gamma neutron log of that interval.

Q And the perforations from 12,006 to 12012 are now squeezed off, is that right?

A No, they are open at the present time. We plan to squeeze them.

Q Will you pressure test the pipe, or pressure test the entire section after you squeeze?

A Yes, we plan to test the liner with a thousand pounds pressure.

Q If you have to go to tubing, what size tubing do you think you'd put in here?

A We plan to use three and a half inch O. D. tubing, and we will line that tubing with a plastic lining, or a coal tar epoxy lining before we run it.

Q Will you swing your tubing or will you put a packer in there?

A No, we will swing the tubing and we will fill the annular space between the tubing and the casing with a refined oil or a produced crude with a coal tar added.

MR. FISCHER: Thank you. Any other questions of Mr. Abbott? You may be excused.

(Witness excused.)

Any statements to be made in the case? The case will be taken under advisement.

MR. PAYNE: We have received communication from Gulf Oil Corporation asking that this application be granted.

MR. FISCHER: All right.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 3rd day of June, 1959.

Ada Dearnley
Notary Public - Court Reporter

My Commission Expires:

June 19, 1959.

BEFORE EXAMINER FISCHER
OIL CONSERVATION COMMISSION
Exhibit No. 16
Case No. E. Fischer

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

COPY

June 5, 1959

Mr. Jason Kellahin
Box 1713
Santa Fe, New Mexico

Dear Mr. Kellahin:

On behalf of your client, Rice Engineering & Operating, Inc., we enclose two copies of Order No. R-1412 issued June 5, 1959, by the Oil Conservation Commission in Case No. 1678.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

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Enclosures