

would like to move for the introduction of the record of the testimony and exhibits in Case No. 2582 which was heard by Mr. Nutter on June the 7th of this year; and in which an order has already been entered involving this same pool; **that order was to** authorize the waterflood project mentioned in this application.

MR. UTZ: What area did that waterflood mention that this order covered?

MR. LOSEE: The identical area in which this application is referring to, the Southeast Northeast of 20 and the West Half Northwest Quarter of 21, 18, 28. It was just entered, I think, about two or three days ago.

MR. UTZ: The record in Case 2582 will be made a part of the record in this case.

HAROLD PORTER

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

DIRECT EXAMINATION

BY MR. LOSEE:

- Q State your name, please.
- A My name is Harold Porter.
- Q Where do you live, Mr. Porter?
- A Artesia, New Mexico.
- Q What is your occupation?
- A I'm a petroleum engineer.
- Q Have you previously testified before this Commission as



an expert?

A Yes, sir.

MR. LOSEE: Are Mr. Porter's qualifications acceptable?

MR. UTZ: Yes, sir, they are.

Q (By Mr. Losee) Please refer to what has been marked Applicant's Exhibit 1 and state what that is.

A Exhibit 1 is an area plat showing the lease being applied for outlined in yellow and showing offset operators in the distance of at least two miles in each direction.

Q Please refer to Exhibit 2 and state what that portrays.

A Exhibit 2 is a plat showing the Waterflood Associates Mershon Lease and Humble Lease, and the Graridge Waterflood No. 2. It also shows the Graridge injection wells, which are circled and connected with a black line. It shows the Mershon State No. 3 Well, which was converted to an injection well this morning and which was authorized in the recent order. Also the possible expansion of the flood to include other acreage to the west.

Q You've already started injecting water in this Well No. 3?

A Yes, sir, it was supposed to start this morning.

Q This Graridge-Artesia Flood No. 2, what lands are covered by that project in Section 21?

A Section 21, all of the South Half, and the South Half of the Northeast Quarter, and the Southeast Quarter of the Northwest Quarter are included in that flood.

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325 1112

ALBUQUERQUE, N. M.
PHONE 243 6691



FARMINGTON, N. M.
PHONE 325-1112ALBUQUERQUE, N. M.
PHONE 243 6691

Q Now this Artesia Flood No. 2, is it operating under restricted allowables, or was it in effect prior to Rule 701 as amended in 1959?

A It was in effect prior to that time and is operating at a capacity type allowable.

Q Please refer to Applicant's Exhibit 3. State what that portrays.

A Exhibit 3 is a graphic presentation of the production from **Mershon** State Wells No. 1 and 3. It shows a decline in the production from 1951 through '58 when only Well No. 1 was present, and then the completion of Well No. 3 in the early part of 1959 and the further decline of the two wells combined; and then in 1961 in November it shows the response from Mershon State No. 1 as a result of the injection by Graridge Corporation.

Q That Well No. 1 has continually gone up in production in the last five or six months?

A Yes, sir, it's making over 30 barrels a day now, and Well No. 3, before it was completed, it was making approximately one barrel per day.

Q Please refer to Applicant's Exhibit 4 and state what that portrays.

A Exhibit 4 is a graphic presentation of the performance of Graridge's Flood No. 2 showing the water injected, the oil produced, and the water produced by months.

Q What is the peak production point of that flood area?



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182ALBUQUERQUE, N. M.
PHONE 243 6691

A The peak oil production occurred in January of 1961 at nearly 40,000 barrels a month.

Q Do you know how many wells, both injection and producing, are portrayed in that project area, the Graridge?

A Right now there are 85 total wells, injectors and producers, in the project.

Q You've mentioned that this Graridge Flood is operating under unrestricted allowables. Could it, at its peak point of production, have been operated under Rule 701?

A Yes, sir, it could have been without curtailing any production. However, this was due to the fact that there were so many wells and they were able to expand the thing at a sufficient rate to always maintain enough allowable under Rule 701 to where they would be able to produce their total amount of oil.

Q Have individual wells in the Graridge area exceeded 84 barrels a month?

A Yes, sir.

Q Please refer to Applicant's Exhibit No. 5 and state what that portrays.

A Exhibit No. 5 shows the performance of two individual producing wells in the flood. The first one is the McNutt State No. 7 in "K" of Section 21. This well was taken because it was fairly close to the area being talked about, and you can see that the oil production for this well --

Q Excuse me, Mr. Porter. Now your map, Exhibit 2, doesn't



clearly portray the Well No. 7. Is that located in the Northwest of the Southeast of Section 21?

A Yes, it is. I have corrected it in pencil on the exhibits. It was marked No. 1, but actually it's No. 7.

Q Excuse me, go ahead.

A The production from this well went up to approximately 3800 barrels per month, which is around 120 barrels per day.

Q How long was the production up in that neighborhood?

A Well, it was --

Q For over a hundred barrels?

A It was over a hundred barrels a day for nearly six months.

Q Now this Welch Duke State No. 1.

A Welch Duke State No. 1 was chosen because it was one of the better wells in the flood, and as you can see from the exhibit, the production from this well went up to over 9,000 barrels per month, or over 300 barrels per day. Therefore, had these been, either of these wells been located in a small waterflood where it was not possible to combine the allowables of several wells, it would have been necessary to curtail the withdrawals from these wells in order to live under 701.

Q Now referring back, really, to your Exhibit No. 2, it shows the location of Graridge's -- I think they call it McNutt State No. 16, which is an offset to your Mershon 3 and 1. When was that well drilled and why do you not have it portrayed on any



of these exhibits?

A That well was recently drilled, it was drilled approximately two months ago.

Q How much production is being made from this well now?

A The well produced over 2500 barrels in May, and the most recent test which Graridge has on the well was made on the 10th of June. It made 76.65 barrels of oil and 1.1 barrels of water.

Q Is it probable then that it's receiving some response from these two injection wells, 13 and 17?

A Yes, it is.

Q Do you know what the injection rate is on the average throughout this Graridge flood?

A I talked to Mr. Chapman, Graridge's engineer, yesterday, and he said their injection rates were running between 150 and 200 barrels per day into each injection well, and that the maximum pressure was 1100 pounds; and he also said that their injection rate in the No. 13 would run between 150 and 200 barrels per day.

Q Now your application requests buffer zone treatment for your 120-acre project. Is all of that project area, your Waterflood Associates area, located within one-half mile of the Graridge project?

A Yes.

Q It actually directly offsets it?

A Yes.

direction?

(Whereupon, Applicant's Exhibit No. 6 marked for identification.)

Q Please refer to Applicant's Exhibit 6 and state what that is.

A Exhibit 6 is a letter from Graridge Corporation to the Oil Conservation Commission dated June 27th, signed by Mr. J. C. Chapman, Waterflood Engineer, and it states that Graridge Corporation supports our application with regard to a buffer zone.

Q Now, Mr. Porter, in your opinion, in your Well No. 3, which is the sole injection well, would you be able to inject corresponding amounts of water into your well as Graridge is injecting into their offset wells and keep your project area under the allowable provisions of 701?

A Well, sir, I feel like that we can certainly inject as much water as they are into their well. However, inasmuch as they are withdrawing rates in excess of Rule 701, if we were to operate under 701, being directly offset, then it would be impossible to keep these two injection wells in balance by injecting reasonably close to the same amount in each well and still keep from having an unbalance across the line.

Q Would this unbalanced situation impair the correlative rights of the royalty and working interest owners underlying your leases?

A Yes, sir, I believe it would.

Q Were Exhibits 1 through 5 prepared by you or under your direction?

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325 1182

ALBUQUERQUE, N. M.
PHONE 243 6691



A Yes.

Q And Exhibit 6 is the letter to the Commission?

A Yes.

MR. LOSEE: The Applicant moves the introduction of Exhibits 1 through 6.

MR. UTZ: Without objection, the Exhibits 1 through 6 will be entered into the record of this case.

(Whereupon, Applicant's Exhibits Nos. 1 through 6 entered in evidence.)

MR. LOSEE: That is the Applicant's case.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Porter, referring to your Exhibit 2, you have in Section 20 four wells marked with a dashed circle. Are those future injection wells?

A Yes, sir. That's shown to mean the possible extension of the flood further to the west.

Q That area is not a flood at the present time?

A No, sir, it isn't.

Q However, you do have some of that area leased?

A Yes, sir. We have the well directly offsetting our Mershon State No. 3, which is the Humble No. 1, and then we have four 40's running north and south starting with Well No. 4, 5, and then where a proposed injection well is located, and then the 40 acres to the south which shows Well No. 6 on it.



DEARNLEY-MEIER REPORTING SERVICE, Inc.FARMINGTON, N. M.
PHONE 325-1112ALBUQUERQUE, N. M.
PHONE 243 6691

Q Who owns the 40 marked "Western Ventures Humble 1-A"?

A That's the Western Ventures, Artesia, New Mexico.

Q So it would be your intention to try to include that in the flood or in your extension?

A No, sir. It's not under application right now. However, we are negotiating to purchase the well marked C. C. Powell just to the west, and in the event we do, we are going to try to pool the interest under the well marked Powell and Western Ventures' well, in order to be able to inject into 1-A when we decide to go further.

Q Now this area in Section 20 which you have just spoken of, would it be your intention to make a new flood out of that, or an extension to this 120-acre flood?

A I would say we will just apply for an extension of the present flood when and if that comes up. Of course, the economics of the further expansion will have to be looked at before we can determine whether or not we want to go ahead and expand the flood to the west.

Q This buffer zone that you are requesting here consists of the 120 acres that you now have, does it not?

A Yes, sir, that's what we are applying for.

Q So that if you extended that flood, in other words, if your request was granted for a buffer zone with capacity allowables, then an extension to that would also have capacity allowables, would it not?



A Well, I sure couldn't answer that question. I don't know, I'm not familiar enough with the rules and regulations to know whether or not it would be entitled --

MR. LOSEE: I can make a statement, Mr. Utz.

MR. UTZ: All right.

MR. LOSEE: My own interpretation, of course, of our application pertains solely to the 120 acres under the express provisions of 701. Although our project was authorized as a separate project it is offset by capacity flood and we feel like that the area at least a half a mile out from the capacity flood, in order to reduce the injection rate, is entitled to buffer zone treatment. Beyond that point our application isn't intended to cover, and I don't think under the present interpretation, at least of 701, that it would cover any further extensions to the west.

MR. MORRIS: If I might interject something here, you realize, Mr. Losee, that any expansion of your project area to the west might be authorized as an expansion, and yet not included within a buffer zone.

MR. LOSEE: Yes.

MR. MORRIS: And therefore the production from those wells might be subject to the allowable provisions of 701.

MR. LOSEE: Yes, sir.

MR. UTZ: Within this 120-acre buffer zone, you are requesting capacity allowables the same as in your Garridge No. 2 Flood?

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243 6691



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1112ALBUQUERQUE, N. M.
PHONE 243 6691

MR. LOSEE: Yes.

MR. UTZ: I'm having a little difficulty in my mind as to how we can call it a buffer zone and still have capacity allowables. The buffer zone, it would seem to me, would imply something less than capacity allowables so that you can taper off into an area where Rule 701 would be effective.

MR. LOSEE: Well, I think you have it; frankly, that is the interpretation, I think that's the purpose of the buffer zone. I would agree with you. I don't know of any instance, and maybe you do, I'm not familiar enough with them, in which the Commission has tried to, in a buffer zone, set less than capacity allowables. They have, it seems to me, left it up to the operator, placed the burden on him to reduce his injection rates across this half a mile area so that when he gets beyond it, he's not going to be injecting on the opposite end of the buffer zone at as high rate as the capacity would require.

Q (By Mr. Utz) Mr. Porter, what would be your intention as to the quantity injection that you would, the injection rate, rather, into your Mershon State No. 3?

A Well, we feel like that we need to balance that with the injection in the Graridge No. 13 and we have agreed upon a lease line agreement wherein we agreed to inject the same relative volumes into each well, depending upon their ability to take the water at the plant pressure in order to protect the correlative rights across the lease line.



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1112ALBUQUERQUE, N. M.
PHONE 243 6691

Q Whose correlative rights, theirs or yours?

A Both of them, Mr. Utz. Presently we are getting oil moved to our Well No. 1 because they have been injecting for some time up there, and we right now --

Q At the present time, you feel that their correlative rights are not being protected, is that right?

A Well, sir, I feel like they are moving oil to our well, and they are injecting and we are not. However, we weren't then, but we are today. In order to properly balance the injection across the lease line, we need to inject at about the same rates.

Q Do you know whether or not the Graridge Resler-Yates Lease in Section 20 is a part of the No. 2 Unit?

A No. 2 Flood?

Q Yes.

A Yes, sir. That Well No. 31 is an injection well.

Q I don't see No. 31.

MR. LOSEE: I think he's referring to Section 20.

Q (By Mr. Utz) Did I say 21? I meant 20.

A You are referring to the East Half of the Southeast Quarter?

Q Yes.

A No, sir, that has not been drilled. It's undrilled acreage and not part of the flood.

MR. UTZ: Are there other questions of the witness?

MR. MORRIS: No, sir.



