

MAIN OFFICE 688

1959 JUN 10 AM 8:03 BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
May 20, 1959

EXAMINER HEARING

IN THE MATTER OF:

Case 1680

DEARNLEY - MEIER & ASSOCIATES  
GENERAL LAW REPORTERS  
ALBUQUERQUE NEW MEXICO  
Phone CHapel 3-6691

as follows:

DIRECT EXAMINATION

BY MR. CAMPBELL:

Q Will you state your name, please?

A B. G. Harrison.

Q Where do you live, Mr. Harrison?

A Breckenridge, Texas.

Q By whom are you employed?

A I'm employed by Graridge Corporation.

Q In what capacity?

A As Manager of Secondary Recovery.

Q Have you previously testified before this Commission or its Examiners in your professional capacity?

A Yes, I have.

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

MR. FISCHER: Yes, sir, they are.

Q Mr. Harrison, in connection with your work, are you acquainted with the North Caprock-Queen water flood unit No. 1?

A Yes, I am, Mr. Campbell.

(Marked Graridge Corporation's  
Exhibit No. 1, for identification.)

Q Mr. Harrison, I refer you to what has been identified as Graridge Exhibit No. 1 in this case and ask you to state

if that represents a plat of the area known as the North Caprock-Queen Unit No. 1.

A Yes, sir, this is a plat showing the outline of Caprock-Queen Unit No. 1.

Q What are the wells which are shown in red, large red circles?

A The red circles indicate present injection wells.

Q And the black dots represent present producing wells, is that correct?

A Yes, that's correct.

Q Now, are you acquainted with the application of Gra-ridge Corporation in this particular case?

A Yes, I am.

Q How are the wells that are involved in this application identified on this Exhibit No. 1?

A The wells may be identified by having red and blue figures on either side of the well location indicating the production from that well. The red figures indicating present production as of the latest test made between May 12 and May 18, 1959, the blue figures indicate the production prior to an increase due to the water flood.

Q Do the figures above the line indicate the oil production in both cases and the figures below the line the water production?

A Yes, that is correct.

Q Per day?

A Barrels per day.

Q Now, referring to the wells commencing with the northernmost well, Well No. 30-15, and proceeding in a clockwise direction, will you advise the Examiner what the situation is with regard to each of those wells that are involved in this application?

A No. 30-15 has increased from two barrels per day to 107 barrels per day. At the time the application was made for emergency allowable, capacity allowable, this well was producing in the neighborhood of five to ten barrels per day, having increased from two barrels per day.

Q So that there was an increase in that well from five to ten barrels a day to 107 barrels per day in a period of less than fifteen days, is that correct?

A Yes, sir, that is correct. As a matter of fact, the increase came over a much shorter period of time than that. The 107 barrel test was actually recorded on May 17.

Q Is that an unusual situation in these floods or not?

A Not necessarily an unusual situation. We have had it to happen before in this particular flood that a well would increase very suddenly. In this case it probably can be attributed to the well being rather closely spaced to injection Well

No. 30-16.

Q To your knowledge, how long has that well been producing at that rate? You determined that it was producing at that rate, I believe you said, on the 17th?

A 17.

Q Of May?

A Yes. I have no knowledge of the length of it other than report from the Field Superintendent that this well came up very suddenly and that this was the first recorded test.

Q Do you recall when the recorded test was that indicated it had increased from two barrels to in the neighborhood of five to ten barrels prior to the request for emergency order on other wells?

A This would have been in the first week of May. I don't recall specifically the exact date.

Q But the tests were taken just prior to the request for emergency orders on the two wells that are involved in emergency orders, is that correct?

A Yes, that is correct.

Q Now, proceeding on around to Well 32-3, what is the situation on that at this time?

A Well No. 32-3 as indicated, has increased production from one barrel of oil and no water per day to nine barrels of oil and no water per day.

Q Do you anticipate that that production will continue to increase as the water movement is in that direction?

A Yes, sir, we do. It has been borne out by the previous experience of wells in the area.

Q Now, refer to Well 32-7.

A In this case we thought we had an indication of increase there, however a subsequent test indicated that we had two barrels of production per day there as compared to a previous test of three barrels of oil per day. This well was to be tested on May 17. On that day the well sanded up and it was necessary to pull the rods and tubing and clean out operations are in progress. I would like to say here that it is a normal reaction of a well to cave in or slough in sand at the time of its initial water flood kick.

Now, this is caused by a rather rapid entry of fluid into a bore hole, causing it to cave, and we feel like that even though we don't have a test to indicate this well has definitely increased, that it will increase and probably has increased as would be indicated by the well having caved in requiring a clean out job.

Q Now, move on around to the south to Well 6-15.

A Well No. 6-15 has increased from two barrels of oil per day to eight barrels of oil per day. It is reacting rather normally for wells in that area in response to the water injection program.

Q I notice that you have not placed a well 7-2 on water injection. Is that in process of being converted, or what is the situation there?

A Yes, sir, the application has been made and approved

for placing that well on injection. We do have some remedial work to do on that well, and as soon as we have a rig available, we'll be on that well. Our rig that we are using in that area has been tied up for a period of some forty-five to fifty days now on a workover in the Ambassador Unit.

Q Now, refer to Well 7-3.

A Well 7-3 has shown an increase of from one barrel of oil per day to fourteen barrels of oil per day with no indication of water production so far.

Q Well 6-11.

A Well No. 6-11 has increased from two barrels per day to 41 barrels per day. At the time we asked for the emergency order for capacity allowable on this well it was producing at the rate of 48 barrels per day. We do not feel like we have a decline in production in this well, but rather that the test of 48 barrels per day was a test which involved pumping off some accumulated oil from the well bore.

Q Now, with regard to Well 36-9.

A This well has responded to the water injection program and has increased from two barrels per day to 32.6 barrels of oil per day.

Q Well No. 31-3, which is the other well involved in the emergency order.

A No. 31-3 has increased from three barrels per day to 86 barrels of oil per day, and I believe at the time of the emergency request the well was producing 74 barrels per day, and since that time has increased to 86.

Q Mr. Harrison, based upon your experience in water flood

operations and in the North Caprock-Queen Unit No. 1 particularly, is it your opinion that waste may be prevented if these wells are permitted to produce at capacity in connection with this water flood operation?

A Yes, sir. We feel that producing these wells to capacity is necessary in order to prevent waste.

Q Referring for a minute to the situation in the original pilot area of this project, how long has the project been in operation, when was it first initiated in the pilot area?

A We began the water injection on April 15th of 1957.

Q Will you refer to Exhibit No. 1, and with particular reference to wells in the immediate area of the original pilot, indicate to the Examiner what the situation is now with regard to those wells?

A The two center producers in the original pilot flood were Well No. 31-15 and Well No. 6-1, these being located in Section 31 and Section 6. The current production from Well No. 31-15 is 43 barrels of oil and no water. This well has not been a prolific producer in that water flood. It has responded very slowly and we feel that due mostly to ineffective injection in Well 31-10 where we had a rapid water breakthrough to Wells 31-9 and 31-7 plus the fact that we have a low injection rate into Well 31-14, has contributed to the slow response of this well.

Q What has occurred with regard to the Gulf well which, as I recall it, was the most prolific well in the original pilot area?

A This would be Unit Well No. 6-1, Mr. Campbell, and this well is currently producing 78 barrels of oil and 462 barrels of

water per day. This well had a normal water flood response and reached a peak production of something over 500 barrels per day, I believe in the neighborhood of 550 barrels per day, and peaked at that figure and has shown a normal water flood decline since that time to its present production.

Q Considering the spacing of the wells in this area and the injection rates that you have been able to obtain, do you consider that this flood has progressed in a normal manner, Mr. Harrison?

A Yes, we do, Mr. Campbell. We have been very happy with the results that we have seen in this water flood.

Q You consider that the wells then-in the original area in the center of the project have peaked out and are now, generally speaking, on a decline?

A With respect to Well No. 6-1, I would definitely make that statement. However, with regard to No. 31-15, this well is more or less at a steady production of approximately 43 barrels per day and could possibly increase from that figure.

Q Do you consider that insofar as the entire project is concerned that on the basis of daily production the area is approaching its peak, Mr. Harrison?

A Yes, we feel like that with the development program that is fairly apparent now, that this flood should reach a peak within the next three to six months.

MR. CAMPBELL: I would like to offer Graridge Exhibit No. 1 in evidence.

MR. FISCHER: Without objection it will be admitted.

MR. CAMPBELL: That's all the questions I have at this time.

MR. FISCHER: Are there any questions of Mr. Harrison?  
Mr. Nutter.

CROSS EXAMINATION

BY MR. NUTTER:

Q Have you made application for conversion of Well No. 36-8 and 36-10 to water injection?

A Mr. Nutter, that application was being prepared yesterday and should be in to the Commission within the next two or three days.

Q Is it your intention to convert those wells to water injection in the near future?

A Yes, sir, as soon as the application is approved.

Q How many 40 acre tracts do you have in this unit, Mr. Harrison?

A I believe there are seventy-two 40 acre tracts.

Q Assuming that the normal unit allowable for Southeast New Mexico for this depth is 36 barrels, how many total barrels of allocation would there be to the seventy-two 40 acre tracts, Mr. Harrison?

MR. CAMPBELL: Forty barrels?

MR. NUTTER: Thirty-six barrels.

A I believe we would have 2597 barrels per day.

Q What is the total daily production from this area at the present time?

A At the present time we have a daily production in the order of 3400 barrels per day.

Q So that the production is in excess of the normal unit allowable times the number 40 acre tracts in the unit?

A Yes, sir, it is. This figure of 3400 barrels per day is a gross oil figure and is not necessarily a figure that could be multiplied times thirty days, and with the unit production, due to down time on various pumping wells as a result of rod failures or electrical power failures. However, we do feel like that well will be in excess of an average of 3,000 barrels per day.

Q And you do have a capacity of in excess of 3400 barrels, a producing capacity?

A Yes, sir. You mean allowable?

Q No, sir, the capacity to produce.

A Yes, sir, we have capacity to produce into facilities at hand the oil in excess of 3,000 barrels per day.

MR. NUTTER: That's all.

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

BY MR. FISCHER:

Q Mr. Harrison, is this Well 32-7 offset outside the unit by any other well?

A No, sir, it is not. That was the extent of the field to the east.

Q And your well 6-5, is it offset by any capacity allowable wells to the west in either Caprock-Queen water flood unit?

A Well No. 6-5 is offset by the Ambassador Unit and is offset by a water injection well.

Q Do you know what the production of this 6-5 is at this time or at the latest test?

A The latest test that I have was a test following a fracture treatment on this well at which time the well was only producing at the rate of three to four barrels of fract oil per day.

Since that time, however, the Field Superintendent has reported that that well has indicated that it is increasing in production, and a test is scheduled. We are making an application for capacity allowable for this well to be set for formal hearing.

Q And your well, present injection well 7-2, do you have any idea when it will be ready for injection?

A It will require a workover which should take about seven to ten days, and I feel like that we'll be on that well and working on it within the next four to five days.

MR. FISCHER: Are there any other questions of Mr. Harrison? Mr. Harrison may be excused.

(Witness excused.)

MR. CAMPBELL: That's all the witnesses in this case, all the evidence we have.

MR. FISCHER: If there are no statements in the case, the case will be taken under advisement.

MR. PAYNE: There is one statement.

MR. FISCHER: Mr. Payne.

MR. PAYNE: Gulf sent the following telegram: "Gulf being a working interest owner in the Caprock concurs with Graridge Corporation in their application in 1680.

MR. FISCHER: If there are no other statements to be taken in the case, the case will be taken under advisement and the hearing will be recessed until one-thirty, at which time we will take Case 1681.

(Whereupon the hearing was recessed until one-thirty.)

STATE OF NEW MEXICO )  
COUNTY OF BERNALILLO ) ss

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 2<sup>nd</sup> day of June, 1959.

Ada Dearnley  
Notary Public-Court Reporter

My Commission Expires:  
June 19, 1959.

**BEFORE EXAMINER FISCHER**  
OIL CONSERVATION COMMISSION  
Exhibit No. 1680  
Case No. [Signature]