

BEFORE THE  
OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE NO. 1294

TRANSCRIPT OF HEARING

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BEFORE THE  
OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

IN THE MATTER OF:

Application of Ambassador Oil Corporation  
for capacity allowables for three wells in  
a water flood project. Applicant, in the  
above-styled cause, seeks an order authoriz-  
ing capacity allowables for the following  
described wells situated in the project  
area of its North Caprock Queen water flood  
project No. 2 in the Caprock-Queen Pool in  
Lea and Chaves Counties, New Mexico.

Well No. 18-2; NE/4 SE/4, Section  
12, Township 13 South, Range 31  
East;

Well No. 19-1, SW/4 NW/4, Section  
7, Township 13 South, Range 32  
East;

Well No. 22-1, SW/4 SE/4, Section  
12, Township 13 South, Range 31,  
East.

CASE NO.  
1294

BEFORE:

Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. NUTTER: We will take up next Case 1294.

MR. PAYNE: Case 1294. Application of Ambassador  
Oil Corporation for capacity allowables for three wells in a water  
flood project.

MR. JENNINGS: Mr. Examiner, I am James T. Jennings from Roswell appearing on behalf of the Ambassador Oil Corporation. We will have one witness, Mr. Vick.

(Witness sworn.)

MR. JENNINGS: Mr. Examiner, Ambassador Oil Corporation, for the purpose of this hearing, would like to adopt the testimony and evidence heretofore introduced and offered in this cause on May 7, 1958 and also the evidence and testimony introduced in the Graridge cases, and I believe these cases are 1195 and 1433. This testimony related to the necessity for capacity production of water flood oil, and any testimony we might give would just be additional and serve only to further clutter the record, and we would like to move the admission of the testimony in these prior cases in this case.

MR. NUTTER: Is there objection to the incorporation in the record in this case the testimony that was offered May the 7th, 1958 in Case 1294 and the testimony in cases 1195 and 1433? If not, the record will show that the testimony entered in these cases has been incorporated in this case.

ROBERT H. VICK

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

DIRECT EXAMINATION

BY: MR. JENNINGS:

Q Would you state your name.

A Robert H. Vick.

Q And what is your present occupation?

A Employed by Ambassador Oil Corporation as manager of engineering.

Q Mr. Vick, have you heretofore testified before this Commission on a number of occasions?

A Yes, sir.

Q Are you a water flood engineer?

A Yes, sir.

MR. JENNINGS: Will the Commission accept Mr. Vick's qualifications?

MR. NUTTER: Yes, he is qualified, please proceed.

Q (By Mr. Jennings) Mr. Vick, the Ambassador Oil Corporation is the unit operator of the Caprock-Queen Unit No. 2?

A Yes, sir, the North Caprock Queen Unit No. 2.

Q And you have heretofore established a water flood project?

A Yes, sir.

Q And by an order of this Commission issued last May, a top capacity allowable was granted for twelve wells?

A Yes, sir.

Q Referring to Exhibit A, would you locate these wells?

A They are indicated by the red shaded area in the immediate center of the outlined unit No. 1 area, including twelve

wells; 25-1, 10-1, 9-1, 5-1, 7-3, 12-1, 15-1, 16-2, 23-2, 17-1, 14-1, and 6-3 on the North Caprock Queen Unit No. 1 operated by the Graridge Corporation.

Q Would you explain briefly what the development history has been since approval of the project?

A Since the inception of the two additional 80-acre five spot injection pattern, the flood has been expanded to the presently indicated area there of the injection wells shown in red, circled in red, consisting of eighteen present injection wells, with the total number of producers in the unit producing.

Q Were additional injection wells added pursuant to approval by this Commission?

A Yes, sir. By administrative approval.

Q What effect has the additional injection wells had on Wells No. 19-1, 18-2, and 22-1?

A Creating an additional response in oil production from these three producing wells to the amount shown on the exhibit in red letters; the oil and water production, the oil being on top, and the water production underneath the line.

MR. NUTTER: Mr. Vick, my exhibit A has the water production below the line, but it doesn't have the oil production above the line. Could you give me that information, please?

A 19-1 Well--these are the most recent tests that we have on the producing wells--96 barrels of oil, zero barrels of water; 18-2, 41 barrels of oil and zero barrels of water,

and 22-1, 9 barrels of oil and zero water.

Q Mr. Vick, I hand you here what has been marked Exhibit C and ask you what that is and what it shows?

A This is an Oil Conservation Commission form, Form C-116 on which is reported the most recent test of the three subject wells in the North Caprock Queen Unit No. 2 for which capacity allowables are being applied for; namely, 18-2, 19-1, and 22-1 showing there the date of the last test and present daily allowable, present daily oil and water production, and noted at the bottom, the approximate average production of the three wells prior to the effect of water flood, which was one and a half to two barrels per day per well.

Q What does it show about the present, the latest tests on these wells?

A It indicates the date of the latest test and the volume of oil and water, and the present daily allowable as carried by the Commission.

Q Well No. 22, the latest test showed nine barrels?

A Yes, sir.

Q Do you anticipate that that will increase?

A Yes, sir, within the next week, it's been the past history, as occurred in the 18-2 and 19-1, that the response starts out rather slow, like that, for a period of one week or two weeks, and then starts a very rapid incline.

Q Do you anticipate in the very near future that this

well will be producing in excess of the normal allowable?

A Yes, sir, within two weeks we do, yes, sir.

Q Mr. Vick, have you prepared or caused to be prepared a general report showing the general progress -- a report showing the result of the unit operations as of the month of January, 1959?

A Yes, sir, and we prepare a monthly report which is submitted to the working interest owners in the North Caprock Queen Unit No. 2 and submit this data montly to them.

Q Does this generally show the results of your water flood?

A Yes, sir, the detailed work that has transpired during the month, the entire presentation of general performance together with an up-to-date map of the unit and also includes a monthly data sheet including the monthly injection by wells, their average daily injection pressure, their cumulative injection volumes and also a resume of the oil production by producing wells during the month, both oil and water, and cumulative production figures on the oil and water for all the producing wells in the unit.

Q Referring to Page 6 os this Exhibit B, just briefly explain that chart to the Commission.

A This monthly report also includes a general performance set of curves for the overall unit, including the number of producing wells, for the curve on the average injection pressure, the total water injected for the complete unit, and the total oil

produced for the complete unit. That total oil production is in barrels per day, and the -- pardon me, in barrels produced for the month as is the water injection.

Q Mr. Vick, I believe that you have now had an emergency order covering Wells No. 18-2 and 19-1?

A Yes, sir, that's right.

Q And that order expired this morning at 7:00 a.m.?

A Yes, sir.

Q Do you feel that, Mr. Vick, all three of these wells, or that these wells will continue to be capable of producing in excess of the normal allowable?

A Yes, sir, I do.

Q And that production will increase?

A Yes, sir.

Q In the future?

A Yes, sir, substantially.

Q Mr. Vick, in your opinion will the ultimate recovery of oil be reduced and will waste occur if the production for these three wells is restricted or curtailed?

A Yes, sir. I believe so.

MR. JENNINGS: I believe that's all.

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

MR. JENNINGS: Excuse me, I have one more question.

MR. NUTTER: Go ahead.

Q (By Mr. Jennings) Mr. Vick, do you know where the

source of the water that is being used in connection with the injection wells --

A Yes, sir, it was appropriated water through the Lea County Underground Water Basin, and is being produced from wells indicated on our plat in Section 1 of 12 South, 31 East in Chaves County, the D3WS and our H1WS water supply wells, and also from our F1WS water supply well, which is located in Lea County in Section 7, in 13 South, 32 East.

Q And what part of the section is that in?

A The F1WS is in Lea County in Section 7, and it is in the Southwest corner of the Northwest corner of the Northwest quarter of Section 7, and the others are as indicated: The H1WS Water supply well located in the Southeast of the Southwest of the Southeast Quarter of Section 1.

Q Is that Township 12?

A 13 South, 31 East. I am sorry. And the 3WS, which was a replacement well drilled for the original water supply well at the same location, the D3WS located in the Northeast Quarter of the -- Let's see, it would be, I am sorry, the Southeast Quarter of the Northeast Quarter of the Southwest Quarter of Section 1, Township 13 South, Range 31 East.

MR. JENNINGS: Mr. Examiner, we would like to move the admission of Exhibits -- or offer Exhibits A, B, and C.

MR. NUTTER: Is there objection to the introduction of Applicant's Exhibits A, B, and C? If not, they will be

admitted in evidence.

MR. JENNINGS: That's all.

MR. NUTTER: Any questions of Mr. Vick?

CROSS EXAMINATION

BY: MR. NUTTER:

Q Mr. Vick, I notice in your Exhibit No. B, the engineering report, that it refers to a thief zone that has been detected. Is this a thief zone for oil or water?

A For water in the injection well, Mr. Nutter. We feel that we have the situation under control now. We have recemented the liner in our 15-1 well, which was included in the original pilot, and we located this thief zone by running a laterolog which indicated that approximately fifty per cent of the water was going into a section of the formation above the actual pay sand. The liner was cemented in and the water production on the four offsetting producing wells has since then started decreasing, and we feel that it will ultimately decrease to nothing, and we will go ahead and get an efficient flood out of it. Also, in the same line, the 8-1 well, we have entered that well and ran a caliper survey which indicated that the original liner set in the well did not have a correct cement job on it and was possibly the cause for early water production on 12-1 and 7-3 producing wells. That is also being remedied at the present time.

Q Mr. Vick, the Examiner not long ago had the occasion

to be reviewing the production as well as the allowables from this Caprock Queen Unit No. 2 and noted a rather wide discrepancy in the amount of allowable that is assigned to the wells in the unit and the amount of production. Do you think that there is any real necessity for carrying high allowables for these wells that are not making it?

A Mr. Examiner, I think the situation in point there was created by this early water break through that we are speaking of on 12-1 and 7-3 and some of the other wells which we had applied, which actually were producing in the neighborhood of 500 barrels per day, and when the water break through came, it cut the water production, which wasn't corrected soon enough by us. I believe that is the overall situation. I think now that it has been brought up to date, and it will be kept closer to actual monthly anticipated production for the Commission's information and everybody's.

Q In other words, by correcting this water break through and getting your water --

A The oil production has started back up, but we have since corrected that wide discrepancy in allowables, in actual production in our C-120 and C-116 that we submit.

Q What is the most recent month that the production data is carried in this engineering report that you have?

A That report --

Q Is that January?

A That report is January. I have here the pencilled figures for February which we can submit for the Commission's information if they do so desire. It is the same type of information that will appear in our report for February which will be out in a few days.

Q Yes, if you could either give us the pencilled figures or mail us a report.

MR. JENNINGS: We will be glad to offer this and make it Exhibit D.

MR. NUTTER: You wish to offer this as Exhibit D?

MR. JENNINGS: Yes, sir.

MR. NUTTER: Without Objection, this tabulation of production statistics will be admitted as Exhibit D in this case.

Q (By Mr. Nutter) What is the total production for February, Mr. Vick?

A I don't have a copy of that, Mr. Examiner. Total oil production for the month of February was 51,676 barrels.

Q 51,6 --

A 51,676 barrels.

Q How many 40-acre units do you have contained in the North Caprock Queen Unit No. 2, Mr. Vick?

A A total of 47 40-acre units.

Q What would the production of the normal unit allowable

times the 47 units be?

A I believe the present 40-acre unit allowable is thirty-four barrels, and on that basis it would be 1598 barrels per day.

Q And what would be the total allowable be for a 28 day month, February?

A 45,744 barrels.

Q So the production in February would exceed the normal unit allowable multiplied times the 40-acre units in the unit?

A Yes, sir.

MR. NUTTER: Are there any further questions of Mr. Vick?

Q (By Mr. Nutter) Mr. Vick, you are acquainted with the testimony offered in the cases which were consolidated in the record of this case today and the theory introduced at those hearings, are you not?

A Yes, sir.

Q Do you subscribe in principle to the theories that were adduced relative to the need for capacity allowables to gain the most oil on a water flood project?

A Yes, sir, I do.

MR. NUTTER: No further questions, the witness may be excused.

(Witness excused.)

MR. JENNINGS: Mr. Commissioner, we would certainly request that you recommend to the Commission that these three wells be given the capacity allowable and that the order be made effective as of 7:00 a.m. this morning, as that is the date that the emergency order expires.

MR. NUTTER: We will take that motion into consideration, Mr. Jennings.

Does anyone have anything further in Case 1294? Nothing further, we will take the case under advisement.

