

BEFORE THE  
OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

IN THE MATTER OF:

Cases 1195 and 1433

TRANSCRIPT OF HEARING

JANUARY 20, 1959

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

## NEW MEXICO OIL CONSERVATION COMMISSION

Mabry HallSanta Fe, NEW MEXICOREGISTERHEARING DATE Examiner January 20, 1959 TIME: 1:30 p.m.

NAME:

REPRESENTING:

LOCATION:

Jack M Campbell  
John Hampton  
B. H. Harmon  
A. L. Porter, Jr.  
Olive E. Payne

Campbell & Russell  
Grazing Western  
Grange Corp.  
O.C.C.  
O.C.C.

Roswell NM.  
MIDLAND  
Buckleyridge, Tex.  
Santa Fe.  
Santa Fe, N.M.

BEFORE THE  
OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

-----:  
IN THE MATTER OF: :

Cases 1195    Application of Graridge Corporation for    :  
and 1433       capacity allowable for one well in a    :  
                 water flood project. Applicant, in the    :  
                 above-styled cause, seeks an order autho-    :  
                 rizing capacity allowable for the follow-    :  
                 ing-described well situated in the pro-    :  
                 ject area of its water flood project in    :  
                 the Caprock-Queen Pool in Lea and Chaves    :  
                 Counties, New Mexico:    :

Cap Unit Well No. 31-1, NE/4 NE/4    :  
of Section 31, Township 12 South,    :  
Range 32 East, Lea County, New    :  
Mexico.    :

-----:  
Mr. A. L. Porter's Office  
Santa Fe, New Mexico  
January 20, 1959

BEFORE:

Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

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

The one and only case on the docket this afternoon will  
be Cases 1195 and 1433.

MR. PAYNE: Cases 1195 and 1433, "Application of Graridge  
Corporation for capacity allowable for one well in a water flood  
project."

MR. CAMPBELL: Jack M. Campbell, Campbell and Russell,  
Roswell, New Mexico, appearing for the applicant.

I have one witness, Mr. Harrison, to be sworn.

(Witness sworn in).

B. G. HARRISON

called as a witness, having first been duly sworn, testified 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 and in what capacity?

A I am employed by the Graridge Corporation as Manager of Secondary Recovery.

Q What is your profession?

A Engineer.

Q Have you testified previously before this Commission or its examiners?

A Yes, I have, Mr. Campbell.

MR. CAMPBELL: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, they are. Please proceed.

Q (By Mr. Campbell) Mr. Harrison, are you acquainted with the North Caprock-Queen Unit Number 1 Water Flood Project?

A Yes, sir.

Q Is Graridge the operator of that project?

A Yes, sir.

(Whereupon, the document was marked as Applicant's Exhibit Number One for identification.)

Q (By Mr. Campbell) I am going to hand you what has been identified as Applicant's Exhibit Number One and ask you to state what that is, please?

A This is a plat showing the North Caprock-Queen Unit Number 1 operated by the Graridge Corporation, and reflects the present injection wells as indicated by the red, the wells, injection wells, that have received administrative approval but are not presently under injection indicated in blue, and the wells as indicated in green, which are to be injection wells and which administrative approval has been requested but has not been granted.

Q Will you state also what the figures are that appear adjacent to certain producing well locations?

A The figures adjacent to the well numbers are figures indicating the oil and water production from each of these wells during the latest test that we have from each well.

Q Now, with reference to the wells in blue, would you state for the Examiner what the status of those is with regard to their being used as water injection wells?

A Wells Number 32-6 and 32-10 have been prepared for injection and we expect to have water going in those within the next few days. Well Number 32-4 is the location to be drilled as replacement well for a plugged and abandoned well.

Q Now, referring to Exhibit Number One, will you identify on the exhibit the well covered by this application for which you seek capacity allowable, please?

A The well is Unit Well Number 31-1 and it is located in the northeast of the northeast of Section 31.

Q Are you sure of that location? Yes, yes, and what is it you now are seeking in connection with that well?

A We are seeking a capacity-type allowable in order that we may prevent waste by being able to produce this well at its top capacity.

Q What is the date of this test of 43 barrels?

A This 43-barrel test was on January 12.

Q In your opinion, if you are not permitted to produce this well at capacity, would it result in loss of ultimate recovery of oil?

A Yes sir, it would, Mr. Campbell.

(Whereupon, the document was marked as Applicant's Exhibit Number Two for identification.)

Q (By Mr. Campbell) Now, I am going to hand you what has been identified as Applicant's Exhibit Number Two and ask you to state what that is, please?

A This is a set of composite curves that reflect the production and injection from the entire Caprock-Queen Unit Number 1, and it indicates that we produced some 45,000 barrels of oil during the month of December while injecting some 160,000

barrels of water.

Q Are some of the wells in the project and in the pilot area of the project now declining in production?

A Yes, they are, Mr. Campbell. We have had three wells, I believe, in the area that are showing decline. One of the major producers has declined to some 150 barrels per day now.

Q And what was it at its peak?

A At its peak, it was somewhere in the order of 570 barrels per day.

Q And about how long did that peak production stay there?

A In the order of two months.

Q I notice also on Exhibit Number One that there are some wells, principally 31-7 and 31-9, showing sizeable water production. Could you explain what your situation is with regard to those wells?

A Through an interference test, we shut in Well Number 31-10, this being an injection well. We have discovered that we have had apparently a water break-through from this well. We believe this to have been caused by the air injection program which was conducted in this area. At present, we feel like the water cuts to a point now that we should shut Number 31-10 in for a short period of time and determine if other wells offsetting this injection well, such as Number 31-11 and Number 31-15, are being affected by this well. If not, then we feel like that some remedial work should be done to Number 31-10, something

in the order of a selective plugging.

Q Do you have anything further you would like to tell the Examiner in regard to either of these two exhibits, Mr. Harrison?

A I think I might explain one thing, Mr. Campbell, that the reason for the delay in placing 32-6 and 32-10 on injection after receiving administrative approval was a result of inadequate water supply. We received permission to drill a water well in Section 6 in the latter part of November, I believe November 28, and we started a water well shortly thereafter and we have had considerable trouble in completing this well, but the well is complete now and it will supply sufficient water now that we'll be able to place these wells on injection.

MR. CAMPBELL: I believe that's all, Mr. Examiner.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Harrison, your Exhibit Number--I am having a little bit of difficulty tracking some of these lines here.

A All right, sir.

Q Now, on this upper area on this line that starts where it is labeled, "Primary life of the total unit area," where does that line go, does it get over into 1957?

A That primary life of the unit area extends on up and eventually becomes the total unit production curve. The primary life curve would be only until we received our first increase



from the water flood production.

Q Does it intersect one of these vertical lines that passes by it there or --

A No, it's a continuous line.

Q Mr. Harrison, if I hand you some colored pencils, would you indicate the courses that those several lines follow on the exhibit, please?

A Yes.

MR. CAMPBELL: After you finish, identify each of those lines by color, will you, after you finish them?

A All right.

MR. CAMPBELL: What colors have you marked those lines?

A I have indicated the primary life of the total unit area in red, and I projected it into the curve as we received our first increase from the water flood and from that point on, it reflects water flood oil rather than secondary--rather, primary oil.

Q (By Mr. Nutter) So the primary life production after the injection of water has commenced becomes the secondary recovery as well, is that correct?

A Yes, that is right. We do not have a break-down here showing the primary oil that was--would have been produced had not the water flood been instituted; however, we do have a line that is shown as a dashed red line that indicated the cumulative oil above the normal primary decline, which indicates that we have

produced some--almost 300,000 barrels of secondary oil.

MR. NUTTER: Off the record here a minute.

(Discussion off the record.)

Q (By Mr. Nutter) Mr. Harrison, is it your opinion that the injection of water in this area has caused an increase in the ultimate amount of oil that will be recovered?

A Yes, sir.

Q Are you acquainted with the previous record in this case in which certain experts testified that it would be necessary to produce these wells at a rate in excess of the normal unit allowable for the Caprock-Queen Pool?

A Yes, Mr. Nutter, I have read those transcripts of the hearing.

Q Is it your belief as an engineer in the field of water flooding that the expert opinion expressed in those hearings does reflect the condition that exists in this area?

A Yes sir, I agree with the experts that testified that capacity-type allowables were necessary to prevent waste in water floods.

Q And you feel that this well Number 31-1, will, in order to increase the ultimate recovery of oil, have to be produced at a rate in excess of the normal unit allowable?

A Yes, sir.

Q Are there any other wells at the present time in the Caprock-Queen unit area which are capable of producing in excess

of the top unit allowable for which authorization of such excessive production has not been received?

A No, sir.

Q The well that you mentioned that had had a peak production rate of some 590 barrels a day and has now declined to the neighborhood of 150 barrels per day is identified as which well, Mr. Harrison?

A Number 61.

Q In the northeast northeast of Section 6, correct?

A Yes, sir.

Q How long has 32-13 been producing in the neighborhood of 576 barrels?

A It's in the neighborhood of two months now and we don't have a test on that well during the last few days, but we do know that it is making some water now.

Q It has started to make water?

A Yes, sir.

Q Do you expect the productive capacity of the well to decline in the near future?

A Yes, we believe that it has reached its peak and will decline.

MR. NUTTER: Thank you. Does anyone have any questions of the witness?

If not, he may be excused. (Witness excused).

MR. CAMPBELL: I would like to offer Applicant's

Exhibits One and Two in evidence.

MR. NUTTER: Is there objection to the introduction of Applicant's Exhibits One and Two in the case?

If not, they will be received.

MR. PAYNE: Mr. Campbell, do you want to introduce the entire record in Cases Number 1195 and 1433?

MR. CAMPBELL: We ask that the prior record in Cases Number 1195 and 1433 be considered to be a part of the record in this hearing.

MR. NUTTER: Is there objection to this motion?

If not, the record will be considered a part of this case.

Does anyone have anything further they wish to offer in this case?

MR. PAYNE: Mr. Campbell, when does this emergency order of yours expire?

MR. CAMPBELL: The emergency order--I'm sorry, I do not have a copy of the emergency order, so I don't know its date.

MR. NUTTER: Here is the one effective at seven o'clock on January 5.

MR. CAMPBELL: January 5, so --

MR. PAYNE: It would expire tomorrow morning at seven o'clock?

MR. CAMPBELL: Yes.

MR. PORTER: Right.

MR. CAMPBELL: That's correct.

MR. PAYNE: Mr. Examiner, we received one statement here from Gulf Oil Corporation.

MR. NUTTER: Would you read it into the record?

MR. PAYNE: "Gulf Oil Corporation, being a working interest owner in the North Caprock-Queen Unit Number 1, concurs with the Graridge Corporation in their application in Cases 1195 and 1433 scheduled for examiner hearing January 20, 1959, and urges approval by the Commission."

MR. NUTTER: Is there anything further in this case?

If not, we will take the consolidated cases, 1195 and 1433, under advisement, and the hearing is adjourned.

I do hereby certify that the foregoing is  
 \*\*\*\*\* complete record of the proceedings in  
 the Examiner hearing of Case No. 1195-1433  
 heard by me on 1-20-59 1959

STATE OF NEW MEXICO )  
 : SS  
 COUNTY OF BERNALILLO )

Examiner  
 New Mexico Oil Conservation Commission

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 was reported by me in Stenotype and that the same was reduced to typewritten transcript by me and contains a true and correct record of said hearing, to the best of my knowledge, skill and ability.

DATED this 21st day of January, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

My Commission Expires:  
 January 24, 1962

*Jerry Martinez*  
 Notary Public