

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1733

TRANSCRIPT OF HEARING

AUGUST 5, 1959

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3-6691 5-9546

BEFORE THE
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IN THE MATTER OF: :

CASE 1733 Application of Kersey and Company for a pilot:
water flood project, for several unorthodox :
locations for wells in said project, for ad- :
ministrative procedure for conversion of ad- :
ditional wells to water injection, and for a :
project allowable. Applicant, in the above- :
styled cause, seeks an order authorizing a :
pilot water flood project in the 2000-foot :
sand zone of the Grayburg formation underly- :
ing its Twin Lakes Lease comprising the SW/4 :
of Section 28, Township 18 South, Range 28 :
East, Eddy County, New Mexico. Applicant :
further seeks the approval of unorthodox lo- :
cations for three wells which would be placed :
on water injection immediately and the appro- :
val of an administrative procedure whereby :
several other wells on said lease may be con- :
verted to water injection without notice and :
hearing. Applicant further requests a pro- :
ject allowable for the acreage involved. :

BEFORE:

Elvis A. Utz, Examiner.

T R A N S C R I P T O F P R O C E E D I N G S

MR. UTZ: The next case will be Case 1733.

MR. PAYNE: Case 1733. Application of Kersey and Com-
pany for a pilot water flood project, for several unorthodox loca-
tions for wells in said project, for administrative procedure for
conversion of additional wells to water injection, and for a pro-

ject allowable.

MR. KERSEY: I'm Harold Kersey.

MR. PAYNE: I will swear you in, Mr. Kersey.

(Witness sworn)

HAROLD KERSEY,

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

DIRECT EXAMINATION

BY MR. PAYNE:

Q Will the witness please state his name and position?

A Harold Kersey, owner of Kersey and Company, and I have appeared before the Commission at other times.

Q All right, sir. Please state for the Examiner what you propose in your application here.

A We propose to start a pilot water flood in the SW/4 of Section 28, 18, 28 in the Artesia Field, Eddy County, New Mexico. And at the beginning we propose to convert old plugged wells No. 8, No. 4 and No. 5 into injection wells. When increases are noted in the new producers, No. 10 and 11, as shown on the plat, administrative approval will be obtained or asked to increase the number of injection wells, as shown on the plat, No. 7, No. 12 and No. 13. And then when further increases are noted in Nos. 14 and 15, we will ask for approval to start injection in Wells Nos. 1, 16, and 9. And I'll read you the location of these proposed injection wells. Now, these will -- this is total. I'm only asking to

start injecting into three at the present time. I'll read the locations of the injection wells that will be required on this property.

No. 8 is an old plugged producer on unorthodox location, located 270 feet East of the West line and 2370 feet from the South line of Section 28-18-28.

No. 4 is an old plugged producer on unorthodox location, located 1324 feet East of the West line and 2370 feet North of the South line of Section 28-18-28.

No. 5 is an old plugged producer on unorthodox location, located 2370 feet East of the West line and 2370 feet North of the South line of Section 28-18-28.

No. 7 is an old plugged well on unorthodox location, located 1316 feet North of the South line and 270 feet East of the West line of Section 28-18-28.

No. 12 is an unorthodox location to be drilled 1310 feet North of the South line and 1310 feet East of the West line of Section 28-18-28.

No. 13 is an unorthodox location to be drilled 2310 feet East of the West line and 1330 feet North of the South line of Section 28-18-28.

No. 1 is a producer on unorthodox location, located 270 feet North of the South line and 270 feet East of the West line to be converted to an injection well.

No. 16 is an unorthodox location to be drilled 330 feet North

of the South line and 1310 feet East of the West line of Section 28-18-28.

No. 9, present production well to be converted to injection well located 330 feet North of the South line and 2310 feet East of the West line of Section 28-18-28.

The production wells that we propose to drill are -- they are on regular locations, center of forties, so I will not give the locations of those, only so far as the plat shows them.

The cooperative line agreement will be made with the Graridge Corporation, which is the offset operator to the North and East and West, and to the South, I own the property to the South, but I didn't include it in the flood at this time. The flood will be expanded only as increase is noted. As noted before, the water for this flood will be obtained from the Graridge Corporation. We plan to set 8 5/8 surface casing in the injection wells, and set 4 1/2 inch casing for -- to inject through and circulate cement on the 4 and 1/2 inch casing. Administrative approval will be asked for increases in allowable at such time as the increases are more than the allowable allocated for the acreage. I believe that pretty well covers my plan.

Q Now, you say you propose to inject, through casing, 4 1/2 inch casing?

A That is right.

Q And that is set inside what?

A Set inside 8 5/8.

Q Now, that is not all the way, is it?

A Yes, it is all the way. And I am going to perforate the zone that we inject into.

Q And what is that?

A The zone is the first -- I didn't read that -- the first Grayburg sand at approximately 2,000 feet with a pay thickness of 15 to 20 feet. It is the zone that is presently being flooded by the Graridge Corporation.

Q Is your plan here essentially identical to the casing program used by the Graridge Corporation?

A Yes, it is. In fact, it is the same plan they are using. However, they are not circulating the cement or haven't in part of their wells, and I propose to circulate the cement.

Q So that you feel that your casing program will adequately protect any fresh waters in the area?

A I do, and then we are going to have 8 5/8 cemented also for the surface water at approximately 400 feet.

Q Now, you don't actually propose to go into the Graridge project at all, this is a separate project?

A Yes, this is a separate project. The only connection, we will enter a cooperative line agreement with Graridge, and Graridge will furnish us the water for this flood from their plant which they will have adequate capacity to take care of our water needs.

Q They are going to furnish enough water, not only for the

three wells, but for --

A For the rest of them. I don't know if the Commission is aware of it, but they are bringing 7 inch line down from Red Lake, or it is in the plan right at the present time, to assure an adequate supply of water for this area and for the salt area north that they are flooding at the present time.

Q Now, that water that they are getting, is it fresh water or salt water?

A Salt water. I am producing the same water used on the Red Lake flood in Red Lake, the same zone of water.

Q Now, you feel that your project, when it is completed, will encompass only this quarter section?

A I feel that it will, but when it's -- as this project goes along, Graridge, they have injection wells plotted, as you will note on this plat, on either side, and they will put their injection wells on as we go along with this project, and eventually the whole area will be flooded to conserve the oil; that is, to get the greatest amount of oil obtainable out of it.

Q Do you feel under the cooperative line agreement with them that will result in an efficient sweep of the oil?

A Yes, I do. This plan of injection, we spent considerable time on it, and we feel like, that with it we ought to obtain maximum amount of oil recoverable. The only other alternative we had was to increase the number of wells, but from an economic standpoint, we didn't think it was justified.

Q How much oil were these proposed injection wells making, Nos. 4, 5 and 8, when they were abandoned?

A About a barrel an hour.

Q Do you have any idea how much oil you are going to recover?

A We anticipate recovering a hundred thousand barrels to the forty, four hundred thousand barrels. We may fall short of that.

Q How long do you anticipate it will take you to produce that?

A About eight to ten years.

Q With the peak coming when?

A With the peak coming in possibly two years.

Q Now, Graridge will have -- hasn't gotten the peaks in the Artesia flood --

A No, they haven't. They are putting No. 21 on injection, and they are also adding several injection wells. That is in the process of drilling and completing. It might interest you to know their first producers on their tract, right to the north of it, have already produced 44,000 barrels of water flood oil.

Q Now, have you or do you propose to pressure test the casing in these plugged and abandoned wells which you are going to use as injection wells?

A What we will do with these old wells is put in casing.

Q Full string?

A Full string.

Q That's the 8 1/2 4 1/2?

A That's the 8 1/2 4 1/2. Now, they are to a certain extent an unknown quantity, and when we get into them we may find 8 inch or 10 inch, but it is our proposal to set through the zones and if it is possible -- I'll qualify it by saying this, we will have to run a caliper survey when we get down to the zone. It may be possible to set through, on account of the cement being too thick, in order to perforate to reach it, we might not have to set above, immediately above the zone, but if the wells are such, I believe we can obtain better control by setting it through.

Q Do you think you are going to have any problem in the market for this oil?

A Probably. I can see that; I can see it on all our projects, and I know that the markets are getting crowded and I don't know what the answer to it is.

Q Well, if you have to restrict your injection rate, that's liable to cause waste at a subsequent date?

A Yes. I hope that the market will be such that we won't have to curtail production rate. It is definitely a problem. Another thing, I don't intend to proceed with this project very fast. My present plan is to drill, to begin with, producers Nos. 10 and 11 and then go into the old holes and rework them. That is, I would rather, if we can, extend the life of this flood over a greater length of time from the standpoint of perhaps securing the greatest

amount of oil and then also from the standpoint of economic situation.

Q What is your proposed injection rate initially?

A About 200 barrels per day per well. Approximately 1000 pounds per day per well.

Q And Graridge owns the acreage offsetting you in the northeast and west?

A And west, and I own the acreage on the south, but I didn't include it in this proposal.

Q Now, you actually don't want a project allowable at this time?

A No, I don't, and probably I will not have one for a year. That is all I want is the -- so I can request the authorization of a project allowable at such time as it may be required. On a flood, you never know. I may never need one. That is something that is entirely -- you never know.

Q Actually, what you want is an administrative procedure for capacity allowable in the event that becomes necessary?

A That is right.

MR. PAYNE: I believe that's all.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Kersey, were Wells Nos. 4 and 5 producing, or are they abandoned?

A Wells Nos. 4, 5 and 8, all of those wells are abandoned.

That is on that North line that we propose to make injection wells out of. The ones with the mark across them are all plugged wells. That is, I propose to convert 4, 5, 8 and 7, abandoned plugged wells into the injection wells.

Q The wells encircling this project in the East, North and the West, that is the 15, the 22, 21, another 22, 33 or 38, which is it?

A 38.

Q And the No. 8 are all injection wells of Graridge?

A They are in the proposed statute. The only injection wells actually drilled offsetting this property are No. -- the ones No. 21 and 22, and water is presently being injected into No. 21.

MR. PAYNE: And since you haven't drilled your 10 and 11, you can't tell whether this is pushing oil over to your well or not?

A No, we have to drill our 10 and 11 to find out, but it is offsetting, it is right in the sweep. Theoretically, it should sweep some oil over to 10 and 11 or over to 11 at this point.

Q What you'll end up with is a five spot, is that right?

A That's right. We will end up with two five spots. When we complete all of our injection wells, we will have two five spots on the property, or four, rather.

Q (By Mr. Utz) Did you state what your casing program, proposed casing program was on 10 and 11?

A On 10 and 11 we will set 8 5/8 surface casing and cement with 50 sacks, and set 5 1/2 inch for production casing set through

the zone, and perforate the zone, and probably cement it with 75 or 100 sacks. It wouldn't be necessary on those to circulate cement to the surface.

Q What was the production string, 4 1/2?

A 5 1/2, 5 1/2 14 pound casing.

Q How much cement?

A Possibly a hundred sacks. That would fill up about 700 or 800 feet.

Q Did you state how deep you were going to set your 8 5/8?

A Approximately 400 feet, that takes care of the shallow water.

Q You don't intend to circulate it?

A The 8 5/8?

Q Yes, sir.

A Our present plan is to cement it with 50 sacks which will almost circulate it.

Q That will be sufficient to protect the --

A Yes, sir, it will.

Q Was Exhibit 1 prepared by you?

A Yes, it was.

Q Did you wish to enter that as an Exhibit?

A I wish to enter that into this as part of this hearing.

MR. UTZ: Without objection, it will be entered in evidence.

MR. PAYNE: Do you have any questions, Mr. Irby?

MR. IRBY: I would like to ask Mr. Kersey one question.

QUESTIONS BY MR. IRBY:

Q On my interpretation of his testimony, it is my understanding that your casing specifications will be exactly the same in the old converted wells for injection and the new wells you drill for injection, is that correct?

A That is right, with one minor exception there. If the old well has too big a shot hole, it will be necessary to set the casing on top of the, the shot hole, but on the new wells we will set the casing through the zone.

Q Well, in that event, then, your injection string will be landed at the top --

A At the top.--

Q -- of the producing formation?

A -- of the producing formation. That is right.

Q And cement circulated?

A That is right.

Q I would like to ask one more question relative to the location, I believe you said was in Range 28 East?

A That's right, 18 South, Range 28 East.

Q That's the first Township East of your water basin?

A That is right. The water basin is Range 27.

MR. IRBY: That's all.

MR. UTZ: Any other questions? If not, the witness may be excused.

(Witness excused)

MR. UTZ: Any statements in this case? If not, the case will be taken under advisement.

