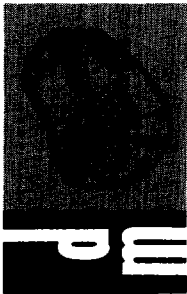


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BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
July 1, 1970

EXAMINER HEARING

-----  
IN THE MATTER OF: )

Application of Shenandoah Oil )  
Corporation for a waterflood )  
project, Eddy County, )  
New Mexico. )  
-----

Case No. 4380

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: The first case on the docket to be heard will be Case 4380. The balance of the cases will be taken in order.

MR. HATCH: This is the application of Shenandoah Oil Corporation for a waterflood project, Eddy County, New Mexico. The applicant seeks authority to institute a waterflood project in the Shugart Pool, Eddy County, New Mexico, by injection of water into the Yates and Queen formations through its Shugart "B" Well No. 1 located in the southwest quarter, southeast quarter of Section 33, Township 18 South, Range 31 East.

MR. UTZ: Any other appearances in this case?

MR. JENNINGS: I am James T. Jennings of Jennings, Christy & Copple, appearing on behalf of the applicant, Shenandoah Oil Corporation. I will have one witness, Mr. Pat Bates.

PAT BATES,

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

DIRECT EXAMINATION

BY MR. JENNINGS:

Q Would you state your name and occupation, please?

A My name is T. Pat Bates, Shenandoah Oil Corporation,

Vice President in charge of secondary recovery, Fort Worth.

Q Have you testified at hearings before this commission on many occasions, Mr. Bates?

A Yes, on two separate occasions.

MR. JENNINGS: Do you wish any further qualification of Mr. Bates?

MR. UTZ: No, sir. He is previously qualified to testify before the Board of Commissioners.

MR. JENNINGS: Before proceeding I would like to amend our application to make an application for a waterflood project and to convert this one well to waterflood injection. We originally made an application for administrative approval in connection with Case No. 3779 and the acreage in question had been included in that project and would also call the Commission's attention to a typographical error in paragraph No. 5 of the application where the well which we propose to convert "Shugart 'B' No. 1 Well" was described as "Unit I" when in affect it should have been "Unit O". The location is correct. It is in the SW/4, SE/4 of Section 33.

MR. UTZ: What is the amendment that you propose here?

MR. JENNINGS: We originally filed this -- we still want to -- we filed it for administrative approval to convert this well or to convert a well to water injection and the

Commission determined that while this was in the same area it would not qualify for administrative approval, so we want to make our application coincide with --

MR. UTZ: I see, to a waterflood project. What you want is an expansion of the waterflood?

MR. JENNINGS: No, sir.

MR. HATCH: Excuse me. We didn't allow the expansion. That was the reason he had to come on for a hearing as a separate party because the one they had applied for, administrative procedure under an expansion, but it was not their own waterflood, so we said --

MR. UTZ: I see. You want to create a waterflood.

MR. JENNINGS: Well, maybe that is it. I am not too sure, but there is one there.

MR. UTZ: If you don't have one, I guess you do want one if you are going to have an injection well, is that it?

MR. JENNINGS: Yes, sir.

Q Mr. Bates, is the Shenandoah Oil Company the owner and operator of the Shugart No. "B" unit well located in the SW/4, SE/4 of Section 33, Township 18 South, Range 31 East?

A Yes. It is.

Q Is that well located within your original waterflood project which is known as the Shenandoah-Shugart Waterflood Project?

A Yes. It is in the same area included in the same acreage as we initially started out with.

MR. JENNINGS: Mr. Reporter, would you mark that as Exhibit 6?

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

MR. HATCH: May I interrupt? Our engineers said that there were certain dry holes or something in-between the area to be flooded and this particular well, and he said he would have to have a new well.

MR. UTZ: Well now, you are confusing me. Does Shenandoah have a waterflood in this area?

MR. JENNINGS: Maybe I can clarify it. Shenandoah has a -- and our exhibit will show this -- Shenandoah has a waterflood to the north and west and under Case No. 4251 Kersey has instituted or proposed to institute a waterflood project in Section 4, 19, 31, which is south of there.

MR. UTZ: You do have the waterflood up in Sections 29 and 30?

MR. JENNINGS: Yes, sir. In light of the present advertisement we now propose to join Mr. Kersey in his and we have a cooperative waterflood agreement with Mr. Kersey with the two wells which are located in Section 4, Township 19 South, Range 31 East.

MR. UTZ: But you do only have a lease-line agreement with him?

MR. JENNINGS: Yes, sir. We have. We have an agreement which is attached to our exhibit, a cooperative waterflood agreement with Mr. Kersey, the operator.

MR. UTZ: This will not be a part of his waterflood -- in a legal sense you are not going to share allowances?

MR. JENNINGS: No, sir.

MR. UTZ: You are going to have a waterflood.

MR. JENNINGS: All right, so unless it goes in our basic -- we just want permission to inject water in his wells. It will be a separate project as I consider it.

MR. UTZ: You may proceed.

(Exhibit marked, Exhibit 6)

Q Mr. Bates, referring to what has been marked as Exhibit 6, is Shenandoah currently injecting water in or concurrently conducting waterflood operations in the area covered by this plat?

A Yes. It is Section 29, 30.

Q How many injection wells do you have in that area?

A We have 11, a total of 11 injection wells and injecting about 6200 barrels a day.

Q Just for the Commission's information, how has that

flood responded?

A It is responding very well. It is producing over 300 barrels a day -- still increasing.

Q Now, do you propose entering -- have you entered into an agreement with Harold Kersey to flood the area or the wells in Sections 33, 18, 31?

A Yes. We have. That is affective the 9th of April this year.

Q And you entered into the cooperative agreement for waterflooding, a copy of which was attached to your application as Exhibit 1?

A Right, yes.

Q What zones do you propose to inject water into?

A We plan on injecting water in the Queen's Formation.

Q Where are you going to get the water?

A We will get the water from our plant we have set up now in Section 29 on the Shugart "A" Lease and we will furnish water to Kersey. He will, in turn, sell us pressured water for our well.

Q Has Mr. Kersey heretofor filed an application to convert two of his wells located in Section 4 to water injection wells?

A Yes. He has. Well No. 2 and 4.

Q This was filed in connection with Case No. 4251?

A Yes.

Q Do you know if the Commission granted authority for him to inject water into these two wells?

A Yes. They did.

Q What is the current status of the Kersey Project, if you know?

A Well, to date I believe Kersey has completed installation of a supply line from our plant over to the site near his No. 4 Well. I think he plans on setting his plant up in the near future.

Q What is the nature of acreage upon which your well is located, your proposed injection well?

A What do you mean?

Q Is it Federal acreage?

A It is Federal.

Q Did you ask and obtain the approval of the United States Geological Survey for the conversion of this well?

A Yes. We did. We received approval.

Q I asked you if this was the approval you received?

A Yes. It is.

MR. JENNINGS: We'd like it marked Exhibit 7.

(Whereupon, Applicant's Exhibit No. 7 was marked for identification)

Q Referring to Exhibit 7, Mr. Bates, where are the Kersey



wells with reference to your well -- where are they located?

A Well, they are south of our well.

Q And how many producing wells do you have in the area?

A We only have another additional producing well other than this No. 1 that we are going to convert.

Q Is that the number Shugart "B" No. 3?

A yes.

Q That is located in the SE/4 of Section 33?

A Yes.

Q Now, Mr. Bates, what is the production history of the two wells in question, the Shugart No. 1 and the Shugart No. 3?

A Well, currently, up to June 1, this year, both wells have produced 57,000 barrels.

Q What is the current production at this time?

A Just one barrel or less a day per well.

Q Mr. Bates, referring to your application and exhibit, referring to what has been marked Exhibit 3 to the application, would you briefly explain what this reflects?

A Well, Exhibit 3 reflects this agreement we had with -- no, it doesn't -- excuse me. This just shows the field pattern, injection pattern that we have the present time and then it shows the one well here that we would like to convert to injection.

Q That is basically the same as Exhibit 7 which we have heretofore introduced, but on a larger scale?

A Yes.

Q Now, I believe that you stated you entered into a cooperative agreement with Mr. Kersey. What is generally the nature of that agreement?

A Well, it just outlines certain conditions that we have for us selling him water for his plant and then actually the main part of it is that in this agreement we have stated that we would like 300 barrels per day injected in each one of the wells and not over 2,000 pounds pressure.

Q Now, referring to what has been attached to the application and marked as an exhibit, that is your casing program of the conversion for the well which you propose to use for waterflood for injection purposes, would you explain that to the Commission?

A Yes. This diagram indicates that the 8 1/2 inch casing is set at 875 feet and the top of the cement was back to 403 feet from the surface and has 5 1/2 inch casing set 3420 feet; the top cement being at 733. Now, this well is completed both in the Yates and Queen sections. The Yates section is perforated from 2739 to 2785 and the Queen section from 3356 to 3366. Now, we propose to go in with two inch plastic-coated tubing with tension type packer set just above the Queen's

perforation, below the Yates section. We will not inject into that section at the present time.

Q You do contemplate injecting into the Yates section at a later date?

A Later on I think that we would possibly do that.

MR. HATCH: Excuse me. The USGS letter speaks of injection in the Yates, Seven Rivers, Queen and Grayburg formations, but you are only seeking, in this hearing, for the Yates and Queen formations?

THE WITNESS: Just the Yates and Queen formation. That is all that is down there actually that is productive in that area.

Q (By Mr. Jennings) I might clarify it, Mr. Hatch. That was the formation that was allowed in Case 3779, the original one.

A Yes. That is the field designation.

Q Do you have a log of the well in question, Mr. Bates?

A Yes. I have.

Q That log was attached to the original application as Exhibit No. 5, is that right?

A Right.

Q And that shows the formation where you propose to inject?

A Yes. It does.

Q That is from the depth of 2739 to 2985?

A Well, let me come back. That zone will not be injected into at the present time. That is the Yates section.

Q It is the Queen's that you propose to?

A That is right.

Q 3356 to 3366?

A Yes.

Q Mr. Bates, do you feel that the injection of water in this well will insure the protection of correlative rights and result in the ultimate increase in production?

A Yes. I do.

Q And prevent waste?

A Yes.

Q Were the Exhibits No. 1 to 5 which were attached to the original application and Exhibit No. 6 prepared by you or under your supervision and direction, other than the log?

A Yes. It was prepared by me.

MR. JENNINGS: We'd like to offer these exhibits as Exhibit 7 which is an original letter from the United States Geological Survey and we would also request the Commission to incorporate in this case the testimony offered in Cases No. 3779 and 4251 which are the 4251 being the Kersey flood immediately adjacent to the well in question and 3379 being the Shenandoah-Shugart waterflood located to the north and west

of this area which actually included this acreage.

MR. UTZ: What was the number on Kersey?

MR. JENNINGS: 4251. In connection with the Kersey, I might say the Commission entered the order in that case on November 5, 1969 authorizing the conversion of two wells to water injection wells.

MR. UTZ: You wish to mark these exhibits that you filed with your application?

MR. JENNINGS: Yes, sir. We would like to.

MR. UTZ: As exhibits in this case?

MR. JENNINGS: Yes. We have nothing further.

MR. UTZ: Exhibits No. 1 through 7 will be entered into the record in this case.

(Whereupon, Applicant's Exhibits 1-7  
were entered into the case)

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Bates, referring to your Exhibit No. 4 which is your diagram of your completion, how old is that casing on the well

A I really don't have that date. I have to get it.

Q Is it pretty old casing?

A It is not any older than these in the initial water-flood project. They were drilled in 1959, I believe -- pretty close.

Q Now, it is your intention to inject down the casing.

A No, sir. We will inject plastic-coated tubing underneath a packer, the packer being set just above the Queen's perforation. It will be new plastic-coated tubing.

Q The packer will be set within what -- 10 feet or so?

A I'd say on that diagram -- approximately 3340, I think -- pretty close to that, yes.

Q It is fresh water you are going to use?

A It is going to be fresh to brackish water. We will co-mingle water later on.

Q But you will reinject produced water?

A Yes.

Q When it is available?

A Yes, sir.

Q Do you intend to coat the annulus with inert fluid?

A We sure do. Yes, sir.

Q Are you going to leave the annulus open?

A We will have a valve and a gauge on it where we can check it.

Q Do you intend to test this casing before you inject water?

A Well, we could. I hadn't planned on it. It will be loaded -- the hole will be loaded. We didn't test the casing so far as the other wells were concerned. We loaded the hole and they held water, so that is what is in there.

Q And this well is on the same basic lease as your waterflood in Section 29 and 30, is that correct?

A Yes, sir.

Q However, this is an expansion of over a mile from the other project?

A Yes, sir.

Q So I am quite sure that the Commission will create another flood project in this area. In that case, what do you wish to call this -- Shugart "B" Lease, is it?

A That would probably be the best way to designate it.

MR. UTZ: Any other questions of the witness?

If not, the witness may be excused.

Any statements in this case?

The case will be taken under advisement.

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STATE OF NEW MEXICO )  
 ) ss  
COUNTY OF BERNALILLO )

I Peter A. Lumia, Certified Shorthand Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Peter A. Lumia  
Certified Shorthand Reporter

I do hereby certify that the foregoing is a complete record of the proceedings at the Director's hearing of Case No. 4380 held on July 1, 1970.  
[Signature]  
New Mexico Oil Conservation Commission