

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

April 14, 1971

EXAMINER HEARING

IN THE MATTER OF:

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

Case No. 4521

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

1 MR. NUTTER: Call Case 4521.

2 MR. HATCH: Case 4521. Application of Shenandoah
3 Oil Corporation for a waterflood project, Eddy County, New
4 Mexico.

5 MR. JENNINGS: Would you show the same appearances
6 on behalf of Shenandoah Oil Corporation.

7 MR. NUTTER: And the witness is still sworn.

8 MR. JENNINGS: And his qualifications are accepted
9 in this case?

10 MR. NUTTER: They are accepted.

11 NEIL F. TOLER

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

14 DIRECT EXAMINATION

15 BY MR. JENNINGS:

16 Q Mr. Toler, are you familiar with application filed on
17 behalf of Shenandoah Oil Corporation for waterflood
18 project number 8 for three injection wells in Sections
19 15 and 22, Township 17 South, Range 30 East, in the
20 Grayburg-Jackson San Andres field?

21 A Yes, I am.

22 Q What zones do you propose to inject into the three wells?

23 A We propose to inject into the two wells on the west side
24 of Section 22 and Section 15, into the premier zone, and
25 into the Grayburg-Jackson zone. In other words, two

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1 dual injections. The third well that we're proposing
2 at the present time will be in Section 15, will only be
3 in the Grayburg-Jackson zone.

4 Q Now, that well is the well, Part B well number four,
5 it is just going to be injected from one zone, the well
6 located in the Southeast Northeast Quarter of Section 15?

7 A Right.

8 Q Are you familiar with the current production from these
9 wells at this time?

10 A They are depleted, in the depleted stage, and referred
11 to as stripper production at the present time.

12 Q Do you feel that waterflooding of the premier zone of
13 the Grayburg formation and the Grayburg-Jackson zone
14 of the San Andres formation is feasible and will result
15 in ultimate increased recovery of oil?

16 A I do. There are three successful floods currently being
17 carried on offsetting our property, within Forest Grayburg-
18 Jackson San Andres unit to the east, and Anadarko
19 Grayburg-Jackson unit to the southeast, and the general
20 American Grayburg-Jackson premier sand unit to the west.

21 Q Mr. Toler, I hand you what has been marked as
22 Applicant's Exhibit A, and ask you if you will identify
23 that, please.

24 A Exhibit A is a plat showing the location of our property,
25 our project, and the land that we propose to put under

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1 injection.

2 Q Do you contemplate converting additional wells to the
3 future into injection wells?

4 A Yes. Depending on production, performance, and from
5 the waterflood, we will possibly convert four additional
6 wells. All those wells are within the project area.
7 They are within the project area shown on Exhibit A.

8 Q I hand you what has been marked Exhibit B, and ask you
9 to identify that.

10 A It is a plat showing the location of our property that
11 we plan to put under waterflood, and all other wells
12 within a two-mile radius from our proposed property,
13 injection wells.

14 Q I hand you what has been marked as Exhibit C1 to 3, and
15 ask you if you will identify those and tell what they
16 are, please.

17 A Exhibit C are diagrammatic sketches of the proposed
18 injection wells showing the estimated tops of cement
19 perforations in the depth drill tube.

20 Q In each of the three wells?

21 A In each of the three wells.

22 Q And it shows the casing currently in the wells and where
23 the perforations will be?

24 A It shows the casing, and it shows the top of the Grayburg
25 formations, the top of the San Andres. Most of these

1 wells are completed open hole, and the San Andres is in
2 the open hole. Grayburg formation is behind the casing
3 at the present time, and will be perforated.

4 Q What would be your source of water, Mr. Toler?

5 A We'll purchase fresh water from a local company, and
6 as produced water becomes available, we will reinject it.

7 Q I hand you what has been marked as Exhibit D, and ask
8 you if you will identify that.

9 A This is a diagrammatical sketch showing typical downhill
10 equipment to be installed in each injection well. Again,
11 this is a typical installation that we currently have
12 on our Shugart area floods, which is very successful.

13 Q How much water do you contemplate injecting into each
14 of the zones?

15 A Approximately -- I'm sorry. A hundred and fifty barrels
16 per day per zone, or three hundred barrels per well,
17 except in the single injection well, where we'll inject
18 two hundred fifty barrels of water a day.

19 Q I hand you --

20 A I'm sorry. I forgot to add for a total of approximately
21 seven hundred fifty barrels, initially.

22 Q When do you contemplate getting into operations or
23 starting your injections if this is approved?

24 A On our project eight and our project seven, we are
25 scheduled to start this by July the 1st.

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1 Q I hand you what has been marked as Exhibit E1 and 2 and
2 ask you if you will identify those, please and --

3 A These are radioactive logs of two wells that we are to
4 put on injection. We do not have a log on the Barkey
5 B4. However, when completing this well as an injection
6 well, we will run a radioactive log, and will submit it
7 to the Commission.

8 Q Have you obtained the approval of the United States
9 Geological Survey for this project?

10 A Yes.

11 Q I hand you what has been marked Exhibit F and ask if
12 that is the letter you received approving the project?

13 A This is the letter we received from the U.S.G.S. on the
14 6th, approving our proposed flood plan.

15 Q Mr. Toler, are you entered into any agreement with any
16 offset operators in connection with your cooperative?

17 A Yes. We have entered into a cooperative waterflood
18 agreement involving two wells, one belonging to Winfer
19 and one belonging to Shenandoah. The one belonging to
20 Shenandoah being the Barkey B in 6 and 15.

21 Q Where is the Winfer well?

22 A The Winfer well is located on the Gissler lease in
23 Section 14.

24 MR. JENNINGS: That's all. We would at this time
25 like to offer Exhibits A through F.

1 MR. NUTTER: Shenandoah Exhibits A through F will
2 be admitted in evidence.

3 (Whereupon, Applicant's Exhibits
4 A through F were duly admitted
into evidence.)

5 MR. JENNINGS: I believe that's all.

6 CROSS EXAMINATION

7 BY MR. NUTTER:

8 Q Mr. Toler, as I understand it, the one well, Shenandoah
9 Bark B4 or Barkey B4 --

10 A Yes, yes.

11 Q -- will be a single zone injection well?

12 A That's right.

13 Q And injection will be confined to the Grayburg-Jackson
14 zone only?

15 A Right, sir.

16 Q And the other two wells over in Sections 15 and 22 will
17 be dual zone wells into the premier and Grayburg?

18 A That's right.

19 Q Now, C1 through C3 show the casing and cementing of these
20 wells. Will tubing be also installed in each of these?

21 A Tubing will be installed. Also a liner will be run to
22 TD in two of the wells at the present time, and will be
23 cemented.

24 Q Which of those will be the ones with the liner?

25 A The four and a half inch liner will be run in a track one

1 well number six, B, track B, well number one.

2 Q Totaled up?

3 A Total depth, I'm sorry.

4 Q And then a packer would be installed?

5 A And a packer will be installed.

6 Q Do you have a tentative setting depth for the packer?

7 A The packer will be installed in the liner -- I'm sorry,
8 it will be installed in the seven inch casing above the
9 liner, tubing will be extended down into the liner.

10 Q Do you have a tentative setting depth for your packer?

11 A Tentative setting depth for -- well, it will be
12 approximately 2900 feet.

13 Q What will be the top of the liner in the two wells you're
14 going to run the liner in?

15 A The top of the liner will be above the casing tube,
16 in each well, the seven inch casing tube.

17 Q In other words, all you're trying to do is get away from
18 this open hole?

19 A Just get away from the open hole, right. From the
20 injection down to the Grayburg-Jackson zone.

21 Q I see. And then the casing tubing annulus? How will
22 that be handled, Mr. Toler?

23 A Casing tubing annulus will be loaded with inert fluid.
24 It will have pressure gauge, another casing tubing
25 annulus to monitor the pressure.

1 Q If there is an increase in it?

2 MR. NUTTER: Are there any further questions of
3 the witness? You may be excused.

4 (Witness excused.)

5 MR. NUTTER: Does anyone have anything they wish
6 to offer in Case Number 4521? We'll take the case under
7 advisement.

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I N D E X

WITNESS:

Page

NEIL F. TOLER

Direct Examination by Mr. Jennings

2

Cross Examination by Mr. Nutter

7

EXHIBIT

MARKED

OFFERED AND
ADMITTED

Applicant's Exhibits A through f

7

1 STATE OF NEW MEXICO)
 2) SS
 3 COUNTY OF BERNALILLO)

4 I, LINDA MALONE, Court Reporter in and for the County
 5 of Bernalillo, State of New Mexico, do hereby certify that
 6 the foregoing and attached Transcript of Hearing before the
 7 New Mexico Oil Conservation Commission was reported by me
 8 and that the same is a true and correct record of the said
 9 proceedings, to the best of my knowledge, skill and ability.

10 Linda Malone
 11 Court Reporter

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[Signature]
 New Mexico Oil Conservation Commission