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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
OIL CONSERVATION COMMISSION CONFERENCE ROOM
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
Wednesday, November 14, 1973

IN THE MATTER OF:

Application of Ann Burnett
Tandy dba Windfohr Oil
Company for two waterflood
projects, Eddy County,
New Mexico.

Case No. 5102

BEFORE: RICHARD L. STAMETS
Examiner

TRANSCRIPT OF EXAMINER HEARING

1 MR. STAMETS: The Hearing will come to order, please.
2 We will call next Case 5102.

3 MR. DERRYBERRY: Case 5102, application of Anne
4 Burnett Tandy dba Windfohr Oil Company for two waterflood
5 projects, Eddy County, New Mexico.

6 MR. STAMETS: Call for appearances in this case.

7 MR. WATSON: Fred Watson of the firm of Watson &
8 Watson, Artesia, New Mexico. I'm representing the
9 Applicant. We have one witness, the Applicant, Mr.
10 Ralph Gray, to be sworn.

11 MR. STAMETS: Are there any other appearances? The
12 witness will be sworn, please.

13 RALPH L. GRAY,

14 a Witness, having been first duly sworn according to law,
15 upon his oath testified as follows:

16 MR. STAMETS: You may proceed.

17 MR. WATSON: All right, sir. This is the application
18 of Anne Burnett Tandy formerly Anne Burnett Windfohr
19 doing business as Windfohr Oil Company for authority
20 to institute waterflood by the injection of water into
21 the Grayburg sands and the Lovington sand of the San
22 Andres formation in three existing wells and at three
23 proposed undrilled locations on the Jackson "B" Lease,
24 NM 2747, and into three wells in the Gissler "B" Lease in
25 NM 2748, in Section 11, 17, 30.

DIRECT EXAMINATION

BY MR. WATSON:

Q Mr. Gray, directing your attention to Applicant's Exhibit Number 1, what does that portray?

A Exhibit Number 1 is a map of this general area; and the outline of the Gissler "B" proposed flood area and the Jackson "B" flood area are shown with the yellow borders.

The proposed water injection wells are indicated by the red circles, and some of the existing water injection wells are shown by the green circles although there are other injection wells that aren't so-indicated.

Q In other words, there will be injection into Section 1 which is the Jackson "B" Lease?

A Yes. The present producing wells that are to be converted to water injection on the Jackson "B" Lease are the Number 4 Well and the Number 15 and the Number 19 Well. There are three additional locations which are presently undrilled, and these are so-indicated on the map.

Q In other words, the undrilled locations are the Southeast of the Northeast of Section 1 and the Southeast of the Southwest of Section 1 and the Northwest of the Southeast of Section 1.

A That's correct.

1 Q And we are asking permission to inject water into the
2 wells if and as they are drilled; is that correct?

3 A Yes.

4 Q And then on the Gissler "B" Lease your injection is
5 in Section 11; is that correct, and there are three
6 wells requested there?

7 A Yes. Wells 7, 8 and 9 are proposed for injection wells.

8 Q Now, these green wells to the West, the ones in the
9 green circles are Anadarko's existing injection wells?

10 A Yes.

11 Q All right, sir. Now, you have before you I guess also
12 Applicant's Exhibit Number 2. Would you please state
13 what that Exhibit portrays?

14 A Exhibit Number 2 is a table showing pertinent well
15 information on each one of these wells. This shows the
16 completion date, elevation, total depth, the size casing,
17 and the casing depth, the producing intervals and
18 pay intervals, the treatments. This indicates the
19 zones producing and the initial potentials.

20 Q And Applicant's Exhibit Number 3 is what, Mr. Gray?

21 A Exhibit Number 3 is a table showing monthly oil production
22 by wells for 1972 and for 1973 through the month of
23 August. Also, this table shows cumulative oil production
24 for each one of these wells.

25 Q What would this Exhibit indicate as to the present status

1 of the wells?

2 A Well, this shows that the wells are presently near their
3 economic limit. They are essentially depleted, and
4 that's mainly what this would portray.

5 Q In other words, they are approaching or at being
6 marginal wells?

7 A Yes.

8 Q All right, sir. And I'll refer you then to Exhibit
9 Number 4 and ask you to state to the ~~Examiner~~ what
10 Exhibit Number 4 is.

11 A Exhibit Number 4 shows a portion of the electric log
12 on the Gissler "B" Number 7 Well. This shows the
13 top of the Grayburg and the top of the San Andres,
14 the Lovington Sand; and the pay intervals are shown
15 by the green blocks.

16 There are two sands in the Grayburg Section which
17 on the original drillers logs were indicated to be pay.
18 One of these is at approximately 2930 to 40 feet, and
19 the second one was about 3040 feet in there close.

20 Q It's proposed, and in this application it's proposed
21 to inject water into the Grayburg sands and into the
22 Lovington sand of the San Andres?

23 A Yes, that's correct.

24 Q Now, Exhibit Number 5 I believe is also a well log?

25 A Yes. Exhibit Number 5 is a similar log on the Gissler

"B" Number 9 Well. This is very similar to the previous Exhibit with the exception that this well was not drilled down into the Lovington Sand. In some areas the Lovington Sand is productive; and in other areas, it's not productive.

Q Well, is it proposed to take this well into that sand?

A Not at the moment.

Q All right, sir. Then Exhibit Number 6 is again --

A Exhibit Number 6 is a similar log on our Jackson "B" Well Number 19. This well penetrated the Grayburg and the San Andres down to the Lovington Sand.

Here again, the pay intervals are indicated by the green coloring.

Q All right, sir. Now, then, I believe Exhibit Number 7 is a cross section. Would you please state what that Exhibit is about?

A Well, this cross section shows the correlation of the Grayburg formation, the zones present in this formation and also the San Andres. Also, this indicates that structurally there is very little relief.

The structure is really not important for oil accumulation in this area. This does show that these zones can be correlated over the area.

Q In other words, there is continuity in the formations?

A Yes.

1 Q In the formations that the Applicant proposes to flood;
2 is that correct?

3 A That's correct.

4 Q All right, sir. Now, then, would you please tell the
5 Examiner what Applicant's Exhibit 8 shows?

6 A All right. Exhibit 8 is a diagrammatic sketch of
7 Gissler "B" Number 7. The surface casing is 8-5/8 set at
8 566 feet cemented with 50 sacks; and the well records
9 indicated that cement was circulated to the surface.

10 The production string is 5-1/2 casing set at 2840
11 feet with 100 sacks. We have estimated the top of
12 cement at 2290 feet. The total depth is 3209.

13 The proposed method of injection is to run a
14 string of 2-3/8 OD tubing internally coated with either
15 cement or plastic; and a packer will be set inside the
16 5-1/2 casing near the bottom. Then injection will be
17 below the packer.

18 Q All right. Now, would you refer to Exhibit Number 8
19 and explain that?

20 A This was Exhibit 8 (indicating).

21 Q I'm sorry. Exhibit Number 9. I'm sorry.

22 A All right. Exhibit Number 9, 10, 11, and 12 are
23 almost identical. These are all very similar, and they
24 show essentially the same information that is shown
25 on Exhibit 8.

1 Q I see. And they refer to the proposed or the
2 diagrammatic sketches of the Gissler "B" Number 8,
3 9, and the Jackson "B" Number 4 and 15; is that right?

4 A Yes, that's correct.

5 Q And the diagrammatic sketch shows approximately the
6 same kind of well construction or equipping to be
7 done?

8 A Yes, sir.

9 Q All right, sir. Would you then refer to Exhibit Number
10 13?

11 A Exhibit 13 shows a diagrammatic sketch for Jackson "B"
12 Number 19; and this well is completed differently in
13 that the oil production string was cemented to the bottom
14 and the casing was perforated opposite the pay zone.

15 The tubing and packer would be set above the
16 casing perforations, and injection would be then below
17 the packer.

18 Q All right. That's essentially the difference on that
19 well?

20 A Yes, sir.

21 Q Now, as to the undrilled locations which the Applicant
22 seeks authority to inject into, will those wells be
23 completed essentially, I mean, equipped essentially
24 the same as the other wells?

25 A Yes, sir.

1 Q And the existing wells?

2 A Yes.

3 Q What fluid will be injected into these projects?

4 A Well, Windfohr Oil Company is presently in the process
5 of signing a line agreement with Anadarko Production
6 Company whom operates a flood in Section 2 offsetting
7 both of these leases.

8 A part of the agreement will provide that Anadarko
9 will furnish Windfohr with a certain amount of
10 pressured water.

11 MR. STAMETS: Just a second. Owen, I'm having
12 a hard time concentrating on both of these things. So
13 if you gentlemen would please --

14 A So, this water can be either fresh or salt water, but
15 it's anticipated that at least it will probably be
16 fresh water.

17 Q And it will be what kind of volume and pressure?

18 A We expect the volumes to be within the range of 200 to
19 300 barrels per day per well, and the pressures will
20 ultimately reach as high as 2,000 psi; but that's
21 probably late in the life of the flood. We hopefully
22 will be able to inject water at much lower pressures
23 than that at the start.

24 Q Do you have a suggested name for these? They are not
25 units or anything. Would you have a suggested name for

1 these projects?

2 A Well, it's suggested that the project in Section 1 be
3 designated the Jackson "B" Number 1 Project inasmuch as
4 this is located in Section 1. It's also suggested that
5 the project in Section 11 be designated as the
6 Gissler "B" Number 11 Project.

7 Q All right, sir. Now, let's see. I'm afraid we forgot
8 one. You have testified before this Commission a
9 number of times; have you not?

10 A Yes.

11 Q And you have made your qualifications a matter of
12 record?

13 A Yes.

14 MR. WATSON: Is the Examiner satisfied with the
15 qualifications?

16 MR. STAMETS: The witness is qualified, yes.

17 Q All right, sir. Do you have an opinion as to whether
18 this project will protect correlative rights?

19 A Yes. The agreement which we will ultimately sign with
20 Anadarko Production Company will provide for
21 compensating injection wells along the lease line so
22 that all parties will be protected.

23 Q All right, sir. Will these projects in your opinion
24 result in the recovery of oil which otherwise would
25 not be recovered?

1 A Yes, sir.

2 Q You prepared, either you prepared or there were prepared
3 under your immediate supervision Applicant's Exhibits
4 Numbers 1 through 13; is that correct?

5 A Yes, sir.

6 MR. WATSON: We tender Applicant's Exhibits Numbers
7 1 through 13.

8 MR. STAMETS: They will be admitted into evidence.

9 MR. WATSON: I believe that concludes the Applicant's
10 case.

11 CROSS-EXAMINATION

12 BY MR. STAMETS:

13 Q Mr. Gray, you said you would buy treated water either
14 fresh or salt water. Who was that from?

15 A Anadarko Production Company.

16 Q And I presume that in your current existing injection
17 wells and in the proposed wells that you will need all
18 the usual requirements of the USGS and the Oil
19 Conservation Commission?

20 A Yes, sir.

21 Q To assist the Commission in its responsibility to protect
22 the fresh waters, will the Applicant have any objection
23 to notifying the Oil Conservation Commission District
24 Office of the leakage of the tubing packer, casing,
25 any plugging of abandoned wells in this area?

1 A I'm sure the operator would be willing to do that.

2 Q I don't believe you specified a tubing size on your
3 exhibits 8 through 13. Is there a particular size
4 that you would use?

5 A Yes. This will be 2-3/8 OD or 2 inch nominal tubing.

6 Q How about the annulus in these wells? Have you alplan
7 for loading that, putting a gauge on it or installing
8 another device?

9 A The casing annulus will be filled with a fluid that will
10 be suitable for casing protection, and we usually don't
11 leave a gauge on the casing permanently.

12 We usually just go around periodically and check
13 the pressures on the casing annulus to see if there is
14 any build-up. That's kind of common practice with us
15 to just periodically to do this.

16 Q In other cases in this area, operators have testified
17 that they were able to leave the valve on the casing
18 tubing annulus cracked just a bit and any leakage could
19 be detected by the water flowing from this valve
20 detecting system?

21 A Yes, sir.

22 Q The three new wells that you propose here, these may
23 either be openhole completions or drilled through and
24 perforated?

25 A Yes. I would expect that they probably would all be

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1 completed by setting the casing to total depth, but
2 I wouldn't want to close the door on an open-type
3 if the operator saw fit at the time to do this.

4 MR. STAMETS: Are there any other questions of
5 the witness? He may be excused. Do you have anything
6 further in this case, Mr. Watson?

7 MR. WATSON: No, sir. That's the essence of the
8 case.

9 MR. STAMETS: Nothing further in the case? We will
10 take the case under advisement.

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C E R T I F I C A T E

I, JANET RUSSELL, a Court 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.

Janet Russell
 COURT REPORTER

I do hereby certify that the foregoing is
 a complete and correct transcript of the proceedings in
 the hearing of Case No. 5702
 heard November 14, 1973
Richard F. Lamm, Examiner
 New Mexico Oil Conservation Commission

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I N D E X

WITNESS:

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RALPH L. GRAY

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E X H I B I T S

Applicant's Exhibits 1 through 13

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