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

December 15, 1971

EXAMINER HEARING

IN THE MATTER OF:  
  
Application of Texaco, Inc. for  
a waterflood expansion, Lea County,  
New Mexico.

Case No. 4634

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

1 MR. HATCH: 4634. Application of Texaco, Inc., for  
2 a waterflood expansion, Lea County, New Mexico.  
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4  
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7

8 CURTIS COOK

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

11 EXAMINATION

12 BY MR. KELLY:

13 Q Would you state your name, employer, and occupation.

14 A Curtis Cook with Texaco in Hobbs as district production  
15 engineer.

16 Q And you have previously qualified as an expert witness  
17 in the field of petroleum engineering before this  
18 Commission?

19 A Yes, I have.

20 Q Now, referring to Exhibits 1 and 2, would you briefly  
21 state what Texaco seeks by this application.

22 A Yes. Texaco would like to expand the operations in the  
23 West Vacuum Unit to a five-spot pattern.

24 We would do so by converting the eleven wells  
25 listed in statement one of Exhibit 1.

1                   Secondly, we would like to set up an administrative  
2                   system for future conversions in this unit.

3       Q       Now, as to your second point in your application, what  
4                   you want here is administrative approval for a direct  
5                   injection well prior to response, is that correct?

6       A       That is correct.

7                   Exhibit 2 --

8       Q       Go on with Exhibit 2.

9       A       -- is a plat showing all operators in two directions and  
10                  the wells that we want to convert are circled in red.  
11                  The existing injection wells are indicated with a  
12                  diagonal arrow and they are in an inverted nine-spot  
13                  pattern. Expansion will be a full-scale five-spot  
14                  pattern.

15                  We are not converting at this time along the east  
16                  and west lines because we do not yet have cooperating  
17                  agreements with the other operators.

18                  When the cooperating agreements are in effect, we  
19                  would like to have administrative approval or we will  
20                  request -- would like to be able to request administrative  
21                  approval to convert certain lease line wells.

22       Q       Could you give the Examiner a brief summary of the  
23                  history of this waterflood project?

24       A       Project went into effect in 1965 with an inverted nine-  
25                  spot pilot pattern. We had six wells. The pilot has

1 responded favorably.

2 We know that we can build an oil bank and we are  
3 certain, or fairly confident that the remaining part  
4 of reservoir will waterflood and we are ready at this  
5 time to expand our operations and to waterflood the  
6 entire unit.

7 We are fairly confident that we can expect about  
8 2.8 million additional barrels satisfactorily off the  
9 operations that we are proposing now.

10 Q Exhibit Number 3 is a plat showing the actual five-spot  
11 installation, is that correct?

12 A Yes, sir. This is just a smaller plat than the other  
13 and it does show how the five-spot will set in the unit.

14 Q In the circled well?

15 A Yes, we propose to convert the eleven wells which are  
16 circled.

17 Q Are those eleven injection wells currently producers?

18 A Yes, except well number 48 which is currently shut-in.  
19 The others are producing oil at this time.

20 Q I think Exhibit 1 shows the average daily production,  
21 doesn't it?

22 A This exhibit?

23 Q Exhibit 3.

24 A Yes, shows it under the well. It is the average daily  
25 production of each of the producing wells in the unit.

1 This is test data. This is not monthly production, but  
2 24-hour test data.

3 Q Now, you have prepared a sketch of the proposed  
4 installation for one of the wells, is that correct?

5 A That is correct.

6 Q That is Exhibit Number 4?

7 A Yes.

8 Q Which well is that?

9 A This is well number 32. This is the well you can see  
10 there. It is in the south part of the Section AE 33.

11 It is a typical well. It has an open-hole interval.  
12 It is well-cased and well-cemented. We will inhibit the  
13 annulus and put a pressure gauge on the annulus.

14 Q You are using plastic-coated tubes, is that correct?

15 A That is correct.

16 Q Now, Exhibit Number 5 shows the same casing and cementing  
17 program for each of the other injection wells, is that  
18 correct?

19 A That is correct. They are all well-cased, well-cemented.

20 Q Is this the basic installation you have used in your  
21 pilot project?

22 A Yes.

23 Q What is the water that you are injecting?

24 A It is from the Lea County Water Basin. Texaco has rights  
25 to 2100 acre feet per annum and we have two wells, one

1 of which is supplying water for the pilot.

2 It has the capacity for supplying water for the  
3 entire project.

4 We do not propose at this time to drill an  
5 additional water supply well.

6 Q You are also injecting your produced water?

7 A That is correct.

8 Q In your opinion, does the installation you have shown on  
9 Exhibit 1, and is the information -- I mean, Exhibit 4 --  
10 and the information on Exhibit 5, will it protect other  
11 zones?

12 Will the installation you have shown on Exhibit  
13 Number 4 protect other zones from migration of your  
14 injecting fluids?

15 A Yes, the wells will contain the injecting fluid and  
16 they will go into the desired interval.

17 Q You haven't had any problem with injection in your  
18 other wells?

19 A No, not substantial.

20 Q What volumes do you anticipate injecting into these wells?

21 A About 400 barrels a well.

22 Q How about pressure?

23 A Zero to about 1200 pounds.

24 Q You have an exhibit which shows the performance of the  
25 unit to date?

1 A Yes. It simply shows that we -- when we started  
 2 injecting water and the fact that the pilot response  
 3 has offset the primary decline of the remaining unit;  
 4 pilot response has been encouraging and we are ready to  
 5 expand and we expect a substantial increase in producing  
 6 rate.

7 Q Yes.

8 MR. UTZ: That is shown on Exhibit 6?

9 THE WITNESS: Yes, that is the unit performance.

10 The pilot performance has simply offset primary decline and  
 11 leveled out the performance of the unit.

12 Q (By Mr. Kelly) As I understand, in the original hearing  
 13 in this case back in, I think, December of '65. At  
 14 that time performance and curves and structure maps  
 15 were furnished to the Examiner.

16 A Yes, they were.

17 Q This Exhibit Number 6 would bring it up to date, is that  
 18 correct?

19 A That is correct.

20 Q Your Exhibit Number 7 is a log of the same well that  
 21 you have the diagrammatic sketch on?

22 A That is correct. It shows the 5½ inch casing set and  
 23 well being injected into the open-hole interval below  
 24 that casing.

25 MR. KELLY: Mr. Examiner, I note that the rule

1 call for other log locations if available. This is a  
 2 typical log. We might have some others available, but some  
 3 we don't. Would the Commission want any more information  
 4 on logs?

5 MR. UTZ: I don't think that is necessary.  
 6 The initial case probably has logs to take care of it.

7 Q (By Mr. Kelly) In your opinion, would the granting of  
 8 this application prevent waste and protect the  
 9 correlative rights of all operators in the area?

10 A Yes.

11 Q Were Exhibits 1 through 7 prepared by your office?

12 A Yes.

13 MR. KELLY: I move the introduction of Texaco  
 14 Exhibits 1 through 7.

15 MR. UTZ: Texaco Exhibits 1 through 7 will be  
 16 entered into the record of this case.

17 (Exhibits 1 through 7 admitted.)

18 MR. KELLY: We have no further direct examination  
 19 testimony, Mr. Examiner.

20 EXAMINATION

21 BY MR. UTZ:

22 Q Mr. Cook, on Exhibit Number 3, the chart figures under  
 23 each well indicates what, now?

24 A That is the test data, oil and water.

25 The first number is oil; the second number is

1 water on 24 four-hour tests.

2 It should be indicated on the bottom of your --

3 Q You have given us an Exhibit 1 which listed all of the  
4 wells. Where in your exhibit, or your application, do  
5 you show is the application of these wells?

6 A They are indicated accurately on this plat. We do not  
7 have the legal descriptions of the locations anywhere  
8 in the exhibit, but this plat.

9 Q Can you supply us with the actual footage location  
10 on these wells?

11 A Yes.

12 MR. KELLY: You mean you don't have it now?

13 THE WITNESS: I don't. I will have to provide it  
14 from Hobbs.

15 MR. UTZ: Would you do that right away, please, so  
16 we can go ahead and write an order on this. We have to have  
17 the exact location.

18 THE WITNESS: Yes, I have those numbers available.

19 MR. UTZ: Any other questions of the witness?

20 MR. HATCH: I have one question.

21 Mr. Cook, you asked for provision for administrative  
22 approval. This would be just for to convert wells to  
23 injection?

24 THE WITNESS: Yes, to convert the remaining lease line  
25 wells which will complete the pattern without coming back

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for a third hearing on this unit.

MR. UTZ: Any other questions?

Witness may be excused.

Statements in the case?

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