

BEFORE THE  
 NEW MEXICO OIL CONSERVATION COMMISSION  
 OIL CONSERVATION COMMISSION CONFERENCE ROOM  
 STATE LAND OFFICE BUILDING  
 SANTA FE, NEW MEXICO  
 Wednesday, May 9, 1973

EXAMINER HEARING

IN THE MATTER OF:

Application of Texaco Inc. for a unit  
 agreement, Eddy County, New Mexico.

Case No. 4963

and

IN THE MATTER OF:

Application of Texaco Inc. for a  
 waterflood project, Eddy County,  
 New Mexico.

Case No. 4964

BEFORE: Daniel S. Nutter,  
 Examiner

TRANSCRIPT OF HEARING

dearnley, meier & mc cormick

1 MR. NUTTER: We will call next Cases Numbers 4963  
2 and 4964.

3 MR. CARR: Case 4963, application of Texaco Inc.  
4 for a unit agreement, Eddy County, New Mexico. Case 4964,  
5 application of Texaco Inc. for a waterflood project, Eddy  
6 County, New Mexico.

7 MR. KELLY: Mr. Examiner, I am Booker Kelly of  
8 White, Koch, Kelly and McCarthy, appearing on behalf of the  
9 applicant, and we have marked our exhibits, Mr. Examiner, and  
10 consolidated them for purposes of testimony. I have one  
11 witness and ask that he be sworn.

12 KENNETH L. PETERS,  
13 a witness, having been first duly sworn according to law, upon  
14 his oath, testified as follows:

15 DIRECT EXAMINATION

16 BY MR. KELLY:

17 Q Would you please state your name, position, and employer?

18 A My name is Kenneth Peters, I am employed with Texaco,  
19 Incorporated, in Hobbs, New Mexico, as District  
20 Production Engineer.

21 Q And you have previously qualified as an expert witness  
22 in your field before this Commission?

23 A Yes, sir, I have.

24 Q What does Texaco seek by these two applications?

25 A Texaco seeks permission to unitize 1,800 acres located

1 in portions of Sections 27, 26, 29, 31, 32, 33, and 34,  
2 all in Township 18 South, Range 30 East, Eddy County,  
3 New Mexico, consisting both of State and Federal lands;  
4 and the proposed unit will consist of a total of 45  
5 acres located in the Benson Queen Grayburg North Field,  
6 and that Texaco seeks to initiate secondary recovery  
7 operations in the subject unit by converting 21 producing  
8 wells to injection, and also Texaco seeks authority to  
9 expand the unit area and to drill and/or convert  
10 additional wells in the proposed unit prior to response  
11 without hearing and notice, subject to administrative  
12 approval of the Commission, and that the requested  
13 proposed secondary recovery project be authorized and  
14 governed by provisions of Rules 701, 702, and 703, the  
15 Oil Commission's directives.

16 Q All right. First, going to the Unit Agreement, is  
17 Exhibit Number 1 a copy of the proposed Unit Agreement?

18 A Yes, sir, it is.

19 Q Would you show the Examiner where the unit area is  
20 defined by a plat and by legal description?

21 A Exhibit A of the proposed Unit Agreement is in the rear  
22 of this Unit Agreement and it defines the proposed unit  
23 by 15 individual tracts; and, on Page 2 of the Unit  
24 Agreement, Section 2, the unit area is defined,  
25 containing 1,800 acres, more or less, in Eddy County,

1 New Mexico, both of State and Federal lands.

2 Q There is no fee land here, is that right?

3 A That is correct.

4 Q What is the unitized formation?

5 A The unitized formation is in Section 2, Paragraph G,  
6 Page 2, and it's defined as the stratigraphic interval  
7 of the Guadalupian series of the Permians, known as the  
8 Queen Formation, and that's on the PGAC Acoustic Gamma  
9 Ray Log dated 9/29/63, in Texaco's L.A. Fanning "B" Well  
10 Number 7, and that's located 980 feet from the south and  
11 west lines, Township 18 South, Range 30 East, and this is  
12 found between the depths of 2,250 feet and 2,339 feet,  
13 an interval of 589 feet.

14 Q Will Texaco be the unit operator?

15 A Yes, sir, they will.

16 Q What percentage does Texaco own of this unit?

17 A Texaco will operate the unit with 75 percent working  
18 interest in this unit. Exhibit B defines the 15  
19 individual tracts and the summary at the last page of  
20 Exhibit B clearly defines the working interest owners.

21 Q Have all the working interest owners agreed to this Unit  
22 Agreement?

23 A To date, there is 100 percent interest owner working  
24 interest signed up and 99.15 percent of the overriding  
25 royalty interest has been signed up.

1 Q How do you stand with your basic royalty estate and the  
2 Federal Government?

3 A The Federal Government has tentatively approved the Unit  
4 Agreement, as well as the Commissioner of Public Lands,  
5 by letters dated October 4, 1972, and October 16, 1972,  
6 respectively. And, this subject agreement is similar to  
7 others that have previously been approved by the  
8 Commission.

9 Q Now, going to the waterflood aspects of the case, you  
10 have a plat marked Exhibit 2 which defines both the unit  
11 and the waterflood area?

12 A Yes, sir, in Exhibit 2, the 1,800-acre proposed unit is  
13 outlined in the dashed line and the proposed injection  
14 wells are shown with a triangle around them. There will  
15 be 21 injection wells and 24 producing wells. The  
16 pattern will be an 80-acre 5-spot, and secondary recovery  
17 will recover an additional 1,669,000 barrels of  
18 secondary oil. And, this unit will reach a peak rate of  
19 2,800 barrels of oil per day, which will occur 18 months  
20 after commencing injection; and there are no other  
21 waterfloods in this field.

22 Q Is there any other producing zone in this field?

23 A No, sir, there are not.

24 Q These are all single completions?

25 A Yes, sir, that's correct.

1 Q And all of the proposed injection wells and producing  
2 wells are now drilled?

3 A Yes. There is no tentative development drilling plan.

4 Q Now, going to Exhibit 3, your structure map, would you  
5 explain that project?

6 A The structure map is a structural contour on the top of  
7 the Queen sand and it is in 20-foot intervals. Basically,  
8 the first commercial production in the Benson Queen  
9 North Field was from the Simms and Reece McClay Well  
10 Number 1, and that was completed September 1, 1954, and  
11 production was derived from the Upper Queen Formation of  
12 Guadalupian series of the Permian Age. The Benson Queen  
13 North Field is located in the back-field reef area of  
14 the Capitan Reef Front. Locally, the field is a  
15 stratigraphic trap, limited by an up-dip porosity and  
16 permeability pinch-out towards the northwest, and the  
17 structure is monoclinal feature dipping to the southeast,  
18 and the producing formation itself is composed of fine  
19 to medium grained dolomitic and anhydritic, and  
20 development has been on a 40-acre spacing of an average  
21 producing depth of 2,950 feet and producing mechanism is  
22 solution gas dry.

23 As of March 1, 1973, the production records listed  
24 of 47 wells producing from the Benson Queen North Field,  
25 and the cumulative oil production to March 1, 1973, was

1 1,418,718 barrels of oil, which amounts to 93 percent  
2 of the ultimate primary. The estimated remaining  
3 primary reserves as of September 19 to March 1, 1972,  
4 or 1973, is 98,000 barrels; and during February 1973,  
5 the field produced 143 barrels of oil per day and 76  
6 barrels of water per day, with an average GOR of 1136.

7 MR. NUTTER: Average approximate was 143?

8 THE WITNESS: Yes, sir, that's correct, barrels of  
9 oil per day.

10 Q (By Mr. Kelly) You've got all of the wells in this Queen  
11 Pool, then, except two, is that right?

12 A Yes, sir, that is correct.

13 Q Where are the wells located?

14 A Those other two wells are located on properties to the  
15 east of the proposed unit.

16 Q And have all the offset operators been notified of this  
17 application?

18 A Yes, sir, they have.

19 Q Who are they, do you know?

20 A The offset operators are Owen F. Featherston, and  
21 Franklin, Astin and Faire, Incorporated; both of Roswell,  
22 New Mexico.

23 Q Now, you have Exhibit Number 4, which is your current  
24 pro-well production figures?

25 A Yes, Exhibit Number 4 lists the current producing rate

allowables for the North Benson Queen Grayburg for the month of February 1973, and this is a list of the 47 wells giving the allowable, the oil, the water, and the GOR on a monthly basis; and during this month, the average per well rate was 5 barrels of oil per day, 3 barrels of water per day, with the same GOR of 1136. This indicates that the production has reached an advanced stripper state.

Q Now, Exhibit Number 5 is a typical diagrammatic sketch for one of your injection wells, is that correct?

A Yes, this depicts the casing program with the surface casing, the amount of cement used, the cement being either circulated. This is circulated on both strings. The perforated interval and also the injection interval. On all of the 21 proposed injection wells, plastic-coated tubing with a Packer will be set above the interval. The tubing casing annulus will be loaded with inhibited water and a pressure gauge will be placed on the surface to monitor the injection.

Q Is there any fresh water near the surface?

A No, there is no fresh water in the area.

Q And there is no other production zones up structure, as I understand it?

A That is correct.

Q Do you feel that this installation will prevent migration



1 of any fluids to any other zone?

2 A Yes, sir.

3 Q What is the source of your water that you will be  
4 injecting?

5 A Texaco will seek commercial sources of water in the  
6 area. Negotiations are currently under way with two  
7 commercial firms.

8 Q How about your injection rate?

9 A The initial injection rate will be 385 barrels of water  
10 per day per well at approximately 2,500 psi.

11 Q Now, Exhibit Number 6 is the tabulation of all of the  
12 characteristics that you have shown on the diagramatic  
13 form for each well, is that correct?

14 A Yes, sir, that is correct, for all 21 wells, giving the  
15 surface casing, the depth, the cement used, and the  
16 production casing, and also the total depth and the  
17 injection interval of each well.

18 Q And Exhibit Number 7 is the actual footage location of  
19 each proposed injection well?

20 A Yes, sir, Exhibit Number 7 depicts the exact legal  
21 location of these 21 proposed injection wells.

22 Q Do you feel that the granting of these applications will  
23 allow you to recover oil that would otherwise be left in  
24 place, Mr. Peters?

25 A Yes, sir, that's true.

1 Q Do you think that the application will have any adverse  
2 effects on the correlative rights of others?

3 A No, sir, it will not.

4 Q Were Exhibits 1 through 7 prepared by you or under your  
5 supervision?

6 A Yes, sir, they were.

7 MR. KELLY: We would move the introduction of those  
8 exhibits at this time, and that concludes our Direct Examination.

9 MR. NUTTER: Texaco's Exhibits 1 through 7 will be  
10 admitted in evidence.

11 CROSS-EXAMINATION

12 BY MR. NUTTER:

13 Q Mr. Peters, all of these wells are equipped with casing  
14 throughout the pay, is this correct?

15 A Yes, sir, that is correct.

16 Q And in each instance, the Packer will be set immediately  
17 above the uppermost perforation in the well?

18 A Yes, sir, that is correct, and one joint of tubing, as  
19 close as possible.

20 Q Have you calculated your total water needs initially?  
21 It would be 21 times 380, but I thought you might have  
22 the figure.

23 A 8,000.

24 Q What was that?

25 A 8,000 barrels of water per day.

1 Q This will come from a commercial source?

2 A Yes, sir, that is correct.

3 Q Of course, when you start producing water, you will  
4 reinject that?

5 A Yes, sir, we will.

6 Q Now, I think you said that the unit contained all of the  
7 wells except two. Aren't there three wells out at the  
8 east end there, or are those producing from another pool?

9 A The proration records indicate that there are only two  
10 other wells outside of our proposed unit. Proration  
11 records as of February '73 show that there were a total  
12 of 47 wells.

13 Q Which two wells were the ones that --

14 A I don't have those designated. I can check that and  
15 furnish the information.

16 Q Apparently, one of those three wells must be shut-in and  
17 isn't indicated on the map.

18 A Yes, sir, that is correct.

19 Q At any rate, you've essentially got all of the North  
20 Benson Queen Pool under a unit here?

21 A Yes, sir.

22 Q And will be flooding the entire pool, almost?

23 A Yes, sir, that's correct.

24 Q Were those people given an opportunity to come into the  
25 unit and chose not to do so?

1 A Yes, sir, that is correct.

2 MR. NUTTER: Are there further questions of the  
3 witness?

4 (No response.)

5 MR. NUTTER: He may be excused. Do you have  
6 anything further, Mr. Kelly?

7 MR. KELLY: Nothing, Mr. Examiner.

8 MR. NUTTER: Does anyone have anything they wish to  
9 offer in Case 4963 or 4964?

10 (No response.)

11 MR. NUTTER: We will take the case under advisement.

12

13 R E P O R T E R ' S C E R T I F I C A T E

14 I, JOHN DE LA ROSA, a Court Reporter, do hereby certify  
15 that the foregoing and attached Transcript of Hearing before the  
16 New Mexico Oil Conservation Commission was reported by me; and  
17 that the same is a true and correct record of the said  
18 proceedings to the best of my knowledge, skill and ability.

19

20

John De La Rosa  
COURT REPORTER

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5/9 4963-4964  
73  
*John De La Rosa*

I N D E XWITNESSPAGE

KENNETH L. PETERS

Direct Examination by Mr. Kelly

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Cross-Examination by Mr. Nutter

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E X H I B I T SOFFEREDADMITTED

Texaco's Exhibits 1 - 7

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