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BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
OIL CONSERVATION COMMISSION CONFERENCE ROOM  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO  
April 11, 1973

EXAMINER HEARING

IN THE MATTER OF:

Application of Texaco, Inc. for  
dissolution of a unit and approval  
of another unit, Lea County, New  
Mexico; and application for a  
waterflood project, Lea County,  
New Mexico.

Cases No. 4935 and 4936

BEFORE: Elvis A. Utz  
Examiner

TRANSCRIPT OF HEARING

1 MR. UTZ: Mr. Bateman, is the extent of 4935 and 4936  
2 the same?

3 MR. BATEMAN: Yes, it is, it's identical.

4 MR. UTZ: One is for dissolution and one is for enlarge-  
5 ment of the pool?

6 MR. BATEMAN: One for enlarging the unit and the esta-  
7 blishment of a waterflood project.

8 MR. UTZ: Call Cases 4935 and 4936.

9 MR. CARR: Case 4935, Application of Texaco, Inc. for  
10 dissolution of a unit and approval of another unit, Lea  
11 County, New Mexico. Case 4936, Application of Texaco, Inc.  
12 for a waterflood project, Lea County, New Mexico.

13 MR. UTZ: These cases will be consolidated for purposes  
14 of testimony, separate orders will be written.

15 Let the record show that the witness, Ken Peters, was  
16 sworn in previous cases.

17 MR. BATEMAN: Mr. Examiner, I am Ken Bateman of White,  
18 Koch, Kelly & McCarthy appearing for the Applicant.

19 DIRECT EXAMINATION

20 BY MR. BATEMAN:

21 Q Mr. Peters, would you please state your name and position  
22 for the record?

23 A My name is Kenneth Peters, I am employed by Texaco,  
24 Incorporated, in the Hobbs District Office as District  
25 Production Engineer.

1 O As a part of your employment, are you familiar with the  
2 area in question and the two applications?

3 A Yes, sir, I am.

4 O All right. Would you refer to Exhibit No. 1 which is an  
5 ownership map, and explain in detail what Texaco seeks by  
6 its application?

7 A In this application, Texaco makes the following recommenda-  
8 tions: That it be permitted to initiate secondary recovery  
9 operations of the 520 acres located in portions of Section  
10 21, 27, and 28, Township 26 South, Range 37 East, Lea  
11 County, New Mexico, consisting of both federal and state  
12 lands and the proposed project will consist of a total of  
13 12 wells located in the Rhodes Yates Pool. Texaco seeks  
14 that the State "JD" Unit operated by Texaco and authorized  
15 by Commission Order No. R-3889 on December 2, 1969, be  
16 resolved, and that Texaco be permitted to initiate secondary  
17 recovery operations in the proposed project by converting  
18 six producing wells to injection and drilling one injection  
19 well and one producing well on orthodox locations, and  
20 that Texaco be authorized to include additional lands and  
21 injection wells in the area of the project without hearing,  
22 subject to administrative approval of the Commission. It  
23 would be recommended that the proposed secondary recovery  
24 project be authorized and governed by the provisions of  
25 Rules 701, 702 and 703 of the Commission's rules and

1 regulations.

2 MR. UTZ: Just a moment, Mr. Peters. You stated that  
3 the "JD" Unit Order was 3889, I believe, and our advertisement  
4 shows 3886. Is the advertisement right or are you?

5 THE WITNESS: I will have to double check that, sir.  
6 My figures do show that it is 3889, but this can be verified  
7 and entered into the record.

8 MR. UTZ: You may proceed. We will check it out.

9 Q (By Mr. Bateman) Mr. Peters, you do seek authority to  
10 drill two new wells, is that correct?

11 A Yes, sir, that's correct.

12 Q One producer and one injection well?

13 A Yes, sir.

14 Q All right. Would you continue with Exhibit No. 2, which,  
15 I understand, is the Unit Agreement which has been proposed  
16 and executed in this matter?

17 A Yes, Exhibit No. 2 is the proposed Unit Agreement. The  
18 first page is the table of contents, or index. Of interest  
19 to this case would be Page 2, Section 2, which gives the  
20 legal description of the unit.

21 The entire unit will be in Township 26 South, Range 37  
22 East, and will include 520 acres, more or less, of the  
23 Eastern half of the Southeastern quarter of Section 21,  
24 the Western half of Section 27, and the Northern half  
25 of the Northeastern quarter and the Southeastern quarter

1 of the Northeastern quarter of Section 28. The unit  
2 unitized interval is shown on paragraph 2, section 2,  
3 paragraph (g) and it is as follows: It's defined as a  
4 stratigraphic interval in the Yates-Seven Rivers Formations  
5 encountered between the depths of 2912 feet and 3400 feet  
6 below the derrick floor elevation on the Lane Wells  
7 Radioactivity Log of the Amerada Petroleum Corporation  
8 State "JA" Well Number 2, and the corrected location would  
9 be 1875 from the North line and 765 feet from the West  
10 line of Section 27, Township 26 South, Range 37 East, Lea  
11 County, New Mexico.

12 I would refer to Exhibit 3, which is the reference log,  
13 and this depicts the top of the Yates at 2960 feet and the  
14 top of the Seven Rivers at 3245 feet. At Section 6, Page  
15 4, the Unit Agreement clearly defines that Texaco,  
16 Incorporated will be the unit operator, and I would like  
17 to also call your attention to Exhibit A of the Unit  
18 Agreement, which is in the back of this Unit Agreement.  
19 This shows a plat depicting portions of the proposed  
20 unit by tract number, showing federal and state acreage,  
21 and Exhibit B is a schedule showing the acreage comprising  
22 each tract, and percentage of the ownership, working  
23 interest ownership in each tract, together with the  
24 royalty percentage in each tract, and the ownership thereof.

25 The Commissioner of Public Lands has granted tentative

1 approval as to the form and content of the Unit Agreement  
2 on August 23, 1972, and the USGS has done likewise by  
3 letter dated October 6, 1972. At the present time there  
4 is 100% working interest signed up in the proposed unit  
5 and 100% of the over-riding royalty has been signed up.

6 Q Mr. Peters, for the record, the well referred to in  
7 Exhibit No. 3, which is the Amerada State "JA" Number 3,  
8 is well Number 3 in your State "JD" Unit, is that correct?

9 A Yes, sir, that is correct.

10 Q Which is shown on Exhibit 1?

11 A Yes, sir, and this difference was denoted when the State  
12 "JD" Unit was formed and the wells within the unit were  
13 renumbered.

14 Q All right. Continue with Exhibit No. 4, the structure map.

15 A Exhibit No. 4 is a structure map superimposed upon the  
16 proposed project area. The contour interval is in 25 feet.  
17 With this, I'll give a brief description of the field.  
18 The Rhodes Yates Pool was discovered in 1927 with produc-  
19 tion being derived from the Seven Rivers Formation and the  
20 White Horse Group, Guadalupe Upper Penn Permians, and the  
21 Rhodes is located on the Western slant on the central  
22 basin platform on the Southeastern corner of Lea County,  
23 New Mexico.

24 The Seven Rivers Formation is depicted a gray dolomite  
25 with associated thin beds of sand and the structure is

1 anticlinal trending Northwest to Southeast with oil  
2 accumulations found in stratigraphic traps formed as  
3 the sands wedge out up-dip. The Rhodes Yates Pool pro-  
4 duces by solution gas and a Gas Cap drive, and the oil is  
5 a sweet group with an average gravity of 35.1 api and  
6 the pool is in a late stage of primary depletion with  
7 many wells at or near their economic limit. To amplify  
8 this, as of February 1, 1973, the production records  
9 listed 31 wells producing from the pool. During January,  
10 1973, the pool produced 12,936 barrels of oil and 7,387  
11 barrels of water. The average GOR was 1,702 cubic feet  
12 per barrel of oil and the cumulative production, the  
13 cumulative oil production, to February 1, 1973, was  
14 6,619,568 barrels of oil.

15 Q Continue with Exhibit No. 5, if you will, and describe  
16 the project, that is, the secondary project.

17 A Okay. The proposed project area will consist of both  
18 state and federal lands. The "JD" Unit, operated by  
19 Texaco and, again, this is authorized by Commission Order  
20 R-3889, will be dissolved and included in the proposed  
21 project as can be seen in Exhibit 1. The State "JD" Unit  
22 consists of 160 acres and two producing wells and two  
23 other producing wells that were approved for conversion  
24 to injection but were never converted.

25 Injection will be on an 80-acre 5-spot pattern with an

1 anticipated initial injection rate of 1,000 barrels of  
2 water per day per well at a pressure of approximately  
3 500 psi, and the flood pattern will be completed by drilling  
4 one injection well and one producing well as shown on the  
5 base map in Exhibit 1.

6 For the record, the location of the proposed injection  
7 well, the H. G. Moberly "C", will be located 660 feet from  
8 the South line and 660 feet from the East line of Section  
9 21, Township 26 South, Range 37 East, and the producing  
10 well, the New Mexico "AD" State Well Number 3, will be  
11 located 660 feet from the North line, 660 feet from the  
12 East line, in Section 28, also Township 26 South, Range  
13 37 East.

14 All seven injection wells will be equipped with plastic  
15 coated tubing and a tension-type packer, and by referring  
16 to Exhibit No. 5, we have a typical sketch of an injection  
17 well, and this is the "JD" Unit Well Number 2. The  
18 cement is circulated on the 8 and 5/8 surface pipe and  
19 on the 5 and 1/2 inch casing, the cement top is at 1,008  
20 feet. In all wells, plastic coated tubing will be set  
21 with a tension-type packer. In this particular well, it  
22 will be at 3120 feet, a pressure gauge will be placed on  
23 the annulus of all wells, and all the annuluses will be  
24 filled with inhibited-type fluid.

25 Exhibit No. 6 is a data sheet of the proposed injection

1 wells showing the size, the depth, and the amount of the  
2 cement and cement top used for the surface casing, and  
3 the production casing, and also the injection interval is  
4 shown.

5 Exhibit No. 7 is entered into the record to show the  
6 locations, the legal locations, of the proposed injection  
7 wells. Coke Exploration initialed waterflooding in the  
8 pool, 2 and 1/2 mile, Southeast of the proposed project  
9 in November of 1959 and Texaco completed flooding with the  
10 W. H. Rhodes "B" Lease adjacent to the proposed unit in  
11 November, 1964, by converting two wells to injection.  
12 And, excellent response has been obtained on both of these  
13 waterflood projects. The ten existing wells in the project  
14 area produced 931 barrels of oil and no water with an  
15 average GOR of 3712 during January, 1973. The cumulative  
16 oil production for the project to February 1, 1973, was  
17 1,080,831 barrels of oil, which accounts for 95% of the  
18 alternate primary. Secondary recovery reserves for the  
19 proposed unit are 1,276,000 barrels of oil and a peak  
20 production rate of 900 barrels of oil per day will occur  
21 three years after the start of the injection.

22 Exhibit No. 8 is entered showing the current producing  
23 rates and the allowables for the wells in the proposed  
24 project; and, during January, these wells produced an  
25 average of three barrels of oil and no water, and therefore

1           this project will be a waterflood and not a pressure  
2           maintenance project.

3    O    Mr. Peters, what will be the source of the water?

4    A    Texaco has a private water supply in the Southwestern  
5           quarter of Section 9, Township 26 South, Range 37 East,  
6           located about two miles Northwest of the proposed "JD"  
7           Unit, and Texaco has water rights of 450-acre feet per  
8           annum, which is 9,560 barrels of water per day, held  
9           under State Engineering Permits Numbers CP-452 through  
10          452-X-7, and four of those permits are for alluvial  
11          water to a depth of 150 feet, and for alluvial water to  
12          a depth of 550 feet, and these permits will provide a  
13          total of 450-acre feet of water per annum and any combina-  
14          tion of alluvial or non-alluvial water. And, there are  
15          45-acre feet per annum of Santa Rosa water rights which  
16          are held under Declaration CP-453 and 453-X. There are  
17          wells that are 525 feet deep which furnish injection water  
18          for Texaco's W. H. Rhodes "B" Federal Tract 1 Waterflood  
19          Project.

20   O    All right. Mr. Peters, will the granting of your appli-  
21          cation prevent waste and protect correlative rights?

22   A    Yes, sir, it will.

23   O    Were Exhibits 1 through 8 prepared by you or under your  
24          direction?

25   A    Yes, sir, they were.

1 MR. BATEMAN: I offer Exhibits 1 through 8 at this  
2 time.

3 MR. UTZ: Without objection, Exhibits 1 through 8  
4 will be entered into the record of these cases.

5 CROSS EXAMINATION

6 BY MR. UTZ:

7 Q Mr. Peters, does Exhibit No. 7 correctly state the designa-  
8 tion and location of all seven subject injection wells?

9 A Yes, sir, it does.

10 Q Now, Exhibit 5 is a schematic of the "JD" Number 2. Will  
11 this be the way that all seven wells will be completed  
12 for injection?

13 A Yes, this is just a sketch of this individual well and  
14 it is typical of the way the remaining other six wells  
15 will be completed.

16 MR. UTZ: Are there any other questions of the witness?

17 (No response)

18 MR. UTZ: He may be excused. Are there any statements  
19 in the case?

20 (No response)

21 MR. UTZ: Let's make a correction in regard to the  
22 order number. The order number for the "JD" Unit is 3886, for  
23 the waterflood is 3889, correct the record to show that. The  
24 advertisement, in other words, was correct.

25 THE WITNESS: The number given, R-3889 was for the

1 waterflood portion of that unit?

2 MR. UTZ: Correct.

3 \* \* \* \*

4

5 STATE OF NEW MEXICO )  
6 ) ss.  
7 COUNTY OF BERNALILLO )

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

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14 John De La Rosa  
15 COURT REPORTER

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I do hereby certify that the foregoing is  
a true and correct record of the proceedings in  
the hearing of Case No. 45-35436  
heard by me on April 11, 1973.  
[Signature], Examiner  
New Mexico Oil Conservation Commission

I N D E XWITNESSPAGE

KENNETH PETERS

Direct Examination by Mr. Bateman

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Cross Examination by Mr. Utz

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EXHIBITSOfferedAdmitted

Exhibit No. 1 - ownership map

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Exhibit No. 2 - Unit Agreement

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Exhibit No. 3 - reference log

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Exhibit No. 4 - structure map

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Exhibit No. 5 - secondary project  
description

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Exhibit No. 6 - data sheet

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Exhibit No. 7 - legal locations of  
proposed injection  
wells

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Exhibit No. 8 - rates and allowables  
schedule for proposed  
project

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