

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING )  
CALLED BY THE OIL CONSERVATION )  
DIVISION FOR THE PURPOSE OF )  
CONSIDERING: ) CASE NO. 10879  
APPLICATION OF TEXACO EXPLORATION AND PRODUCTION INC.  
-----

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: David R. Catanach, Hearing Examiner  
Jim Morrow, Hearing Examiner

December 2, 1993

Santa Fe, New Mexico

This matter came on for hearing before the  
Oil Conservation Division on December 2, 1993, at  
Morgan Hall, State Land Office Building, 310 Old Santa  
Fe Trail, Santa Fe, New Mexico, before Deborah O'Bine,  
RPR, Certified Court Reporter No. 63, for the State of  
New Mexico.

**ORIGINAL**

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A P P E A R A N C E S

FOR THE APPLICANT: CAMPBELL, CARR, BERGE &  
SHERIDAN, P.A.  
P.O. Box 2208  
Santa Fe, New Mexico 87504  
BY: WILLIAM F. CARR, ESQ.

I N D E X

December 2, 1993  
Examiner Hearing  
CASE NO. 10879

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<u>JIM H. OHLMS</u>	
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1 EXAMINER MORROW: We'll call Case 10879,  
2 Application of Texaco Exploration and Production Inc.  
3 for downhole commingling, Lea County, New Mexico.

4 Call for appearances.

5 MR. CARR: May it please the examiner, my  
6 name is William F. Carr with the Santa Fe law firm,  
7 Campbell, Carr, Berge & Sheridan. We represent Texaco  
8 Exploration and Production Inc.

9 I have one witness, Mr. Jim Ohlms. He  
10 needs to be sworn.

11 (Witness sworn.)

12 JIM H. OHLMS,  
13 the witness herein, after having been first duly sworn  
14 upon his oath, was examined and testified as follows:

15 EXAMINATION

16 BY MR. CARR:

17 Q. Will you state your name for the record,  
18 please.

19 A. My name is Jim Ohlms.

20 Q. Where do you reside?

21 A. Midland, Texas.

22 Q. By whom are you employed?

23 A. Texaco.

24 Q. And what is your current position with  
25 Texaco?

1 A. My position, I'm petroleum engineer.

2 Q. Have you previously testified before this  
3 Division?

4 A. Yes, I have.

5 Q. At the time of that prior testimony, were  
6 your credentials as a petroleum engineer accepted and  
7 made a matter of record?

8 A. Yes, they were.

9 Q. Does your geographic area of responsibility  
10 for Texaco include the portions of southeastern New  
11 Mexico involved in this case?

12 A. Yes, it does.

13 Q. In fact, your responsibilities include  
14 supervision of the Cooper Jal Unit, do they not?

15 A. Yes, specifically, yes.

16 Q. You're familiar with the application filed  
17 in this case?

18 A. Yes, I am.

19 Q. Are you familiar with each of the seven  
20 wells that are involved in this application?

21 A. Yes, I am.

22 MR. CARR: Are the witness's qualifications  
23 acceptable?

24 EXAMINER MORROW: Yes, sir, but I didn't  
25 get your name.

1 THE WITNESS: First name is Jim, last name  
2 is Ohlms, O-H-L-M-S.

3 Q. (BY MR. CARR) Mr. Ohlms, would you briefly  
4 state what Texaco seeks to accomplish with this  
5 application?

6 A. Yes. Texaco is seeking an order from the  
7 Division authorizing the downhole commingling of  
8 production from the Jalmat and Langlie-Mattix oil  
9 pools located in Lea County. And we're specifically  
10 asking for seven wells within that unit.

11 Q. Was this application originally filed for  
12 administrative approval?

13 A. Yes. This application was originally filed  
14 for administrative approval, and it is my  
15 understanding it was brought to hearing because of the  
16 amount of water that we expect to produce from each  
17 zone.

18 Q. Have you prepared or has there been  
19 prepared under your direction and supervision certain  
20 exhibits for presentation in this case?

21 A. Yes, there has.

22 Q. Let's go to what has been marked as Texaco  
23 Exhibit No. 1. Would you identify that and review it  
24 for Mr. Morrow?

25 A. Yes. Exhibit 1 is a general orientation

1 map. It's a portion of the southeast half of Lea  
2 County. The Cooper Jal Unit is highlighted in  
3 yellow. It's operated by Texaco. And on this map is  
4 Langlie-Mattix and Jalmat producers, as well as deeper  
5 producers. The unit is located about midway between  
6 Eunice and Jal, New Mexico.

7 Q. Let's go to Exhibit No. 2, the unit plat.  
8 I'd ask you to review for Mr. Morrow the status of the  
9 wells that are involved in this application.

10 A. Okay. That is the unit plat showing the  
11 current unit producers and injectors. The seven wells  
12 under this hearing are indicated in red. There's a  
13 total of seven wells. Two of the wells are currently  
14 producing. They are Well 113, and they're indicated  
15 by the open red circles. Well 113 is located at the  
16 south central portion of Section 13. And Well 208 is  
17 located in the north or in the central portion of  
18 Section 19.

19 Each one of those wells is currently  
20 producing from the Langlie-Mattix or from the Jalmat,  
21 and we're asking to commingle those two existing  
22 wells.

23 Q. They currently are single completions?

24 A. Yes, sir, they are.

25 Q. What do the other circles indicate?

1           A.     The other five circles, four are located in  
2     Section 19 and the fifth located in the north central  
3     portion of Section 24, those five wells are new wells  
4     that we're drilling. They're in the progress of being  
5     drilled, and we plan to commingle production from both  
6     of those zones in all five wells.

7           Q.     Those are indicated with an X or a plus in  
8     the center of the circle?

9           A.     Yes.

10          Q.     Some of those wells have been drilled?

11          A.     Yes. All five wells have been drilled, and  
12     we are in the <sup>Process JAM</sup>~~progress~~ of testing the Langlie-Mattix  
13     in about three of those wells.

14          Q.     So the wells then will remain shut in until  
15     you receive approval to commingle from the Division?

16          A.     Yes. Until we get approval, we, more than  
17     likely, will shut in the Langlie-Mattix zone, which is  
18     the lower zone, and we will produce from the Jalmat  
19     exclusively until we have a decision on the order.

20          Q.     There are other well symbols on this  
21     exhibit. The black circles with the black dot in the  
22     center, what do those indicate, Mr. Ohlms?

23          A.     Those wells, the open circle with the black  
24     dot in the centers, are currently commingled producing  
25     wells. There's approximately 15 of these wells active

1 on the lease or on the unit. And from the time around  
2 1978 until currently, we have an active program of  
3 commingling existing producing wells, and currently we  
4 have about 15 of these wells.

5 Q. And in those wells, you're commingling  
6 Jalmat and Langlie-Mattix production?

7 A. Yes, we are. We're commingling both  
8 downhole, and also have surface commingling.

9 One other thing I would like to note. The  
10 ownership is common in both pools. Both pools are  
11 unitized and have common ownership and royalty.

12 Q. Let's move to Texaco Exhibit No. 3. Would  
13 you identify that for Mr. Morrow?

14 A. Exhibit 3 is a series of five C-102's,  
15 showing the surveyed locations of the five new  
16 producing wells that we are drilling, and it just  
17 shows the detailed location and their proximity to  
18 existing wells.

19 Q. It shows some injection and producing wells  
20 that immediately offset these tracts as well, does it  
21 not?

22 A. Yes. This is a -- earlier this year, we  
23 had the unit certified as an enhanced recovery  
24 project, and this is our first phase of redeveloping  
25 the waterflood in this unit.



1 Q. Would you identify and review Texaco  
2 Exhibit No. 4?

3 A. No. 4 is a series of seven data sheets, one  
4 for each well. The first one should be for Well No.  
5 113. It shows the upper pool, which is the Jalmat,  
6 and the lower pool, which is the Langlie-Mattix. And  
7 we have information for each pool.

8 As you can see, the bottomhole pressures  
9 are very similar. The completion intervals for the  
10 Jalmat are anticipated from 3000 feet to approximately  
11 3250. Our completion intervals in the Langlie-Mattix  
12 range from 3350 down to 3650.

13 And currently, as you can see, 113 is  
14 producing from the Langlie-Mattix, and it's producing  
15 at a low rate of 3-1/2 barrels of oil and 7 Mcf a day  
16 with quite a bit of water.

17 The water or the unit has been under active  
18 waterflood since 1972, and that is the source of the  
19 water production. Before that time, the Jalmat and  
20 Langlie-Mattix had to play the primary production and  
21 produced very little water before unitization.

22 Q. Do you have a data sheet for each of the  
23 seven wells that are involved in this case?

24 A. Yes. Each of the seven wells, and we  
25 calculated the bottomhole pressures from static fluid

1 level shots, either in the existing well or a nearby  
2 offset well.

3 We also have data sheets for the new five  
4 proposed wells with the anticipated completion  
5 intervals and similar bottomhole pressures. All  
6 bottomhole pressures are within -- or the upper pool  
7 is within 50 percent of the bottom pool at a common  
8 datum.

9 Q. In these new wells will you be stimulating  
10 the zones?

11 A. Yes, we will. In our plan we will fracture  
12 stimulate the Langlie-Mattix. We will put that on  
13 pump and test it until we get an adequate test. Then  
14 we will plug back, frac the Jalmat, and pump that.  
15 And until we have an order, we will produce the Jalmat  
16 exclusively. And then if we have an order, we will go  
17 down and get the Langlie-Mattix production.

18 Q. Based on the pressures that you show on  
19 this exhibit, do you anticipate any cross-flow between  
20 the commingled zones?

21 A. We anticipate no cross-flow basically for  
22 two reasons. One, the two oil pools are waterflooded  
23 with a single injection system. So we're injecting  
24 water at approximately the same pressures. So as we  
25 repressure the reservoir, we anticipate to have common

1 pressures in both zones.

2 And, secondly, we have designed artificial  
3 lift to keep the fluid levels pumped into the perfs,  
4 preventing cross-flows, further preventing cross-  
5 flows.

6 Q. Let's go now to your Exhibit No. 5.

7 A. Exhibit No. 5 shows an anticipated  
8 estimated production from a single downhole commingled  
9 well. The Jalmat is our primary target. We feel like  
10 it offers a higher initial oil rate than the  
11 Langlie-Mattix at around 30 barrels per day, the  
12 Langlie-Mattix at around approximately 20 barrels a  
13 day, with a commingled production of approximately 50  
14 barrels per day.

15 In the middle of this sheet, we show the  
16 estimated value of the produced hydrocarbons, and we  
17 see no net difference between downhole commingling or  
18 producing these from separate strings or wellbores.

19 We're asking for a downhole commingling  
20 because the single well pools will not support a well  
21 or a single string of tubing with artificial means by  
22 themselves. So we feel like we're preventing waste,  
23 we'll be able to complete wells through downhole  
24 commingling where we would not be able to complete  
25 them if we drilled them separately or produced them

1 from separate strings in the wellbore.

2 EXAMINER MORROW: Say that again.

3 THE WITNESS: Each pool, I think, has such  
4 a low rate that we cannot economically drill a well  
5 that would target each single pool, but if we  
6 commingle the production, we have sufficient reserves  
7 and rates to justify drilling and recompletions.

8 Q. (BY MR. CARR) All right, Mr. Ohlms, let's  
9 go to Exhibit No. 6, the schematic drawings. Would  
10 you refer to these and review the proposed completions  
11 for Mr. Morrow?

12 A. In Well 113, the top well, it's currently  
13 completed openhole in the Langlie-Mattix pool,  
14 approximately interval of 3436 to 3615. We anticipate  
15 stimulating that zone and testing the Langlie-Mattix  
16 after stimulation. We will then plug back, perforate  
17 the Jalmat from 3000 to 3200 feet, fracture stimulate  
18 the Jalmat, test the Jalmat, and then we will downhole  
19 commingle both zones and produce up a common tubing  
20 string.

21 Well 208 is very similar except that it is  
22 cased. It is cased to the bottom of the Jalmat  
23 currently. So we anticipate deepening the well,  
24 running a liner. We will then go in and perforate the  
25 Langlie-Mattix and stimulate it. We will plug back

1 with a bridge plug, perforate, stimulate the Jalmat,  
2 and then we will downhole commingle both zones.

3 Similarly, we don't have schematics for the  
4 five new wells, but they will be very similar to Well  
5 208. They will be cased to the bottom of the  
6 Langlie-Mattix, and both zones will be perforated and  
7 stimulated and tested separately.

8 Q. Let's go to Exhibit No. 8. Could you  
9 identify that, please -- I'm sorry, Exhibit No. 7.

10 A. Exhibit No. 7 is an application to drill  
11 for three wells that are located -- for the four wells  
12 that are located in Section 19. These are the permits  
13 with the BLM. They are located on federal land.

14 Q. Now let's go to Exhibit No. 8.

15 A. Okay.

16 Q. Would you identify each of these charts or  
17 graphs and review them, please.

18 A. Exhibit No. 8 is a series of production  
19 curves. The top one shows the production from the  
20 Langlie-Mattix Pool. We currently have 51 total  
21 wells, and of those wells 28 are currently active  
22 producing wells.

23 As you can see, the production from these  
24 28 wells is shown by the dark green line, and we  
25 currently average about 180 to 200 barrels per day

1 from the Langlie-Mattix. The wells are very low  
2 producers.

3 One other thing I would like to note.  
4 There was very little water production before the  
5 waterflood was initiated. So all the water we are  
6 producing is as a result of the injection project for  
7 secondary recovery. There is very little natural  
8 water production existing in the reservoirs beyond  
9 that.

10 On the second page is a similar curve for  
11 the Jalmat production. We have 57 total wells, 34 of  
12 these being producers. The Jalmat is a little more  
13 productive than the Langlie-Mattix. It produces just  
14 under 300 barrels a day right now. You can see, we do  
15 have an active recompletion program going on in the  
16 field, and we have seen some results of our project.

17 The next curve is a single curve for the  
18 Well No. 113. It's the current Langlie-Mattix  
19 producing well that we're asking to commingle with the  
20 Jalmat. It has a current low rate of 3 barrels per  
21 day with about 250 barrels of water per day.

22 The last curve is a similar curve for Well  
23 208. It's currently completed in the Jalmat, and  
24 we're asking to complete the Langlie-Mattix in this  
25 well.

1 Q. Mr. Ohlms, you're producing a substantial  
2 amount of water as a result of this waterflood  
3 project?

4 A. Correct.

5 Q. Are you aware of what the limits are on  
6 water production in this unit?

7 A. It is my understanding for a commingled  
8 well at this depth, that each zone is allowed 20  
9 barrels of oil and 40 barrels of water to be  
10 commingled.

11 Q. Are you exceeding that?

12 A. Yes, we are exceeding that, and we  
13 anticipate to exceed that in these commingled wells.

14 Q. Could you explain how water from the unit  
15 is currently being handled?

16 A. Right now in the wells that are commingled,  
17 we are keeping the fluid levels pumped off, and each  
18 zone is at a near or a common pressure. So we don't  
19 believe we are encountering cross-flows. We have not  
20 seen any compatibility problems in the water in the  
21 existing wells. The water that we are injecting into  
22 the injection wells is compatible, and this is the  
23 water that we're seeing in the producing wells.

24 So we have seen no problems of commingling  
25 in the existing 15 wells that we are producing in the

1 unit.

2 Q. In your opinion, will approval of this  
3 application and the commingling of Langlie-Mattix and  
4 Jalmat production in these wells result in the  
5 recovery of hydrocarbons that you otherwise simply  
6 couldn't afford to produce?

7 A. Yes. I think we will recover additional  
8 hydrocarbons, and we have seen that recovery in the  
9 wells that we have commingled in the past, and we  
10 anticipate to see similar recoveries in these wells.

11 Q. Has notice of this application been  
12 provided in accordance with OCD rules?

13 A. Yes. We have provided notice when we sent  
14 the original application in for administrative  
15 approval. And that is shown in the final exhibit,  
16 Exhibit 9. And we sent a second notice when the  
17 application was sent for hearing.

18 Q. Does Texaco request that the order be  
19 expedited to the extent possible?

20 A. Yes, to the extent possible, we ask for  
21 expedition because we are currently drilling the wells  
22 and we will have to shut in the Langlie-Mattix  
23 production in our new wells until we receive the  
24 order.

25 Q. In your opinion, will approval of this



1 application be in the best interest of conservation,  
2 the prevention of waste, and the protection of  
3 correlative rights?

4 A. Yes. The ownership is common, and we don't  
5 see any harm in the current commingled wells, and we  
6 are able to produce zones which would not be able to  
7 produce by themselves. So I think we will be able to  
8 do that.

9 Q. Were Exhibits 1 through 9 either prepared  
10 by you or compiled under your direction?

11 A. Yes, they were.

12 MR. CARR: At this time, Mr. Morrow, we  
13 would move the admission of Texaco Exhibits 1 through  
14 9.

15 EXAMINER MORROW: 1 through 9 are admitted  
16 into the record.

17 MR. CARR: That concludes my direct  
18 examination of Mr. Ohlms.

19 EXAMINATION

20 BY EXAMINER MORROW:

21 Q. Mr. Ohlms, the other 15 wells, the current  
22 15 wells which are being commingled, I believe you  
23 said part of that was downhole commingling, and part  
24 of it was surface commingling; is that correct?

25 A. All 15 are downhole commingled, and we

1 produce in a common type battery. The oil in both  
2 zones is around 38 degrees, it's sour crude, it's a  
3 similar oil for both zones.

4 Q. So all 15 are downhole commingled?

5 A. Correct.

6 Q. On those, how do you allocate the  
7 production?

8 A. When the wells were initially downhole  
9 commingled, we pump-tested each zone separately, and  
10 we used that production split for our monthly well  
11 test.

12 Q. The same as you're proposing for these  
13 wells?

14 A. Yes.

15 Q. You talk about redevelopment due to the  
16 enhanced oil recovery tax break?

17 A. Yes, sir.

18 Q. I guess your curves indicated you -- your  
19 production had at least declined. How much more  
20 development do you plan?

21 A. Early this year we presented a three-phase  
22 program, and this is Phase 1, which is drilling five  
23 wells plus 16 recompletions of existing wells. And we  
24 have planned two more phases, one next year and one in  
25 1995. And in those two phases, we plan on drilling

1 ten more wells. And that's with the assumption that  
2 we can downhole commingle those wells also.

3 And we have workovers in order to go to a  
4 40-acre, five-spot pattern. The intent of our  
5 redevelopment is to go to a 20-acre spacing with a 40-  
6 acre five spot.

7 Q. Are these current commingled wells, are  
8 they producing water in substantial amounts?

9 A. Yes, they are. I think our average oil cut  
10 is probably 10 percent, and that is, I think, fairly  
11 common for a waterflood in the Yates-Seven Rivers-  
12 Queen. It's been under waterflood since 1972. So we  
13 anticipate quite a bit of similar water in these, and  
14 we have designed our artificial lift to handle the  
15 water.

16 Q. Did you testify that all injection wells  
17 have both intervals open?

18 A. No, sir. Currently, some wells, injection  
19 wells inject into the Langlie-Mattix, and some  
20 injection wells inject into the Jalmat, and we have  
21 some wells that inject into both.

22 As part of our redevelopment, we're going  
23 back into those injection wells that inject into a  
24 single zone, and we're opening up the other zone. So  
25 at the end of our redevelopment, all of the injection

1 wells will be open in both zones. So that is kind of  
2 the intent of our redevelopment is to have all  
3 injectors and all producers open in both zones. We  
4 feel like it's the most economic way to produce these  
5 reserves and most efficient way to recover what's  
6 available.

7 Q. Assuming that both -- or I'll ask you if  
8 both pools are unitized within this yellow boundary  
9 you have outlined on your first exhibit, Exhibit No.  
10 3?

11 A. Yes, sir. They were both unitized. I  
12 believe it was in 1971 when the wells were unitized at  
13 that time. The interest in both units is identical.

14 Q. Queen sand, you indicate it's a part of  
15 each of the pools; is that correct?

16 A. The Seven Rivers is a part of both. The  
17 Jalmat --

18 Q. The Seven Rivers?

19 A. Yes. The Jalmat includes the Tansil, the  
20 Yates, the upper portion of the Seven Rivers. And the  
21 Langlie-Mattix includes the lower portion of the Seven  
22 Rivers and the Queen. I have a type curve right here  
23 if it would help to explain it.

24 EXAMINER MORROW: Okay, I'll take that.

25 MR. CARR: With your permission, Mr.

1   Morrow, we'll mark this as Texaco Exhibit No. 10.

2               EXAMINER MORROW:   Fine.

3               THE WITNESS:   There's not a good, distinct  
4 geological boundary between the two pools. They both  
5 produce from sandstones with dense dolomites between  
6 the sandstones. And it's just a breaking point in the  
7 Seven Rivers that distinguishes one pool from the  
8 next, but it's not a geological break, by any means.

9               On the right is the pool designations and  
10 on the left is the formation designations.

11              EXAMINER MORROW:   Thank you.

12              We're through, Mr. Carr.

13              MR. CARR:   I'd like to move the admission  
14 of Texaco No. 10, and then I'm through.

15              EXAMINER MORROW:   We accept Exhibit No. 10  
16 into the record.

17              MR. CARR:   That concludes our presentation  
18 in this case.

19              EXAMINER MORROW:   We'll take case 10879  
20 under advisement.

21

22

23

24

25

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO )

) ss.

COUNTY OF SANTA FE )

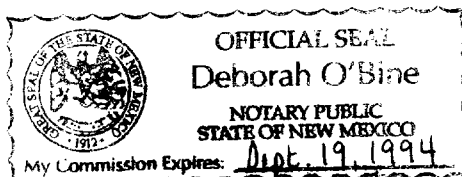
I, Deborah O'Bine, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that I caused my notes to be transcribed under my personal supervision, and that the foregoing transcript is a true and accurate record of the proceedings of said hearing.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL, January 5, 1994.

*Deborah O'Bine*

DEBORAH O'BINE  
CCR No. 63



I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10879, heard by me on Dec 2 1993.

*Jim Morrow*  
Jim Morrow Examiner  
Oil Conservation Division

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