

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. 11,105
	)	
APPLICATION OF UNION OIL COMPANY	)	
OF CALIFORNIA d/b/a UNOCAL	)	
_____	)	

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

September 29th, 1994

NOV 7

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on Thursday, September 29th, 1994, 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**

\* \* \*

## I N D E X

September 29th, 1994  
 Examiner Hearing  
 CASE NO. 11,105

	PAGE
APPEARANCES	3
APPLICANT'S WITNESSES:	
<u>RICHARD TEAGUE</u>	
Direct Examination by Mr. Carr	6
Examination by Mr. Kellahin	19
Examination by Examiner Catanach	25
REPORTER'S CERTIFICATE	30

\* \* \*

## E X H I B I T S

	Identified	Admitted
Exhibit 1	8	19
Exhibit 2	9	19
Exhibit 3	11	19
Exhibit 4	18	19

\* \* \*

## A P P E A R A N C E S

## FOR THE DIVISION:

RAND L. CARROLL  
Attorney at Law  
Legal Counsel to the Division  
State Land Office Building  
Santa Fe, New Mexico 87504

## FOR THE APPLICANT:

CAMPBELL, CARR, BERGE & SHERIDAN, P.A.  
Suite 1 - 110 N. Guadalupe  
P.O. Box 2208  
Santa Fe, New Mexico 87504-2208  
By: WILLIAM F. CARR

## FOR KAISER-FRANCIS OIL COMPANY:

KELLAHIN & KELLAHIN  
117 N. Guadalupe  
P.O. Box 2265  
Santa Fe, New Mexico 87504-2265  
By: W. THOMAS KELLAHIN

\* \* \*

1 EXAMINER CATANACH: At this time we'll call Case  
2 11,105.

3  
4  
5  
6 MR. CARROLL: Application of Union Oil Company of  
7 California, doing business as UNOCAL, for an infill gas  
8 well and simultaneous dedication, Lea County, New Mexico.

9 EXAMINER CATANACH: Are there appearances in this  
10 case?

11 MR. CARR: May it please the Examiner, my name is  
12 William F. Carr with the Santa Fe law firm Campbell, Carr,  
13 Berge and Sheridan.

14 I represent Union Oil Company of California in  
15 this case, and I have one witness.

16 EXAMINER CATANACH: Additional appearances?

17 MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of  
18 the Santa Fe law firm of Kellahin and Kellahin, appearing  
19 on behalf of Kaiser-Francis Oil Company.

20 EXAMINER CATANACH: Will the witness please stand  
21 and be sworn in?

22 MR. CARR: May it please the Examiner, UNOCAL is  
23 proposing to complete a second well in the Wolfcamp  
24 formation on Section 5, Township 26 South, Range 33 East.  
25 This property is offset to the west by a 640-acre tract

1 operated by Kaiser-Francis Oil Company.

2 Yesterday we discovered that the notice letter we  
3 provided to Kaiser Francis had been returned, and it was  
4 returned because it had been misaddressed, and the post  
5 office box, a couple of the digits had been transposed.  
6 Since that time, we've contacted Mr. Kellahin, and Mr.  
7 Kellahin has visited with Kaiser-Francis.

8 We've been advised this morning by Unocal's  
9 landman that an agreement has been reached. It's my  
10 understanding that Mr. Kellahin has not yet had an  
11 opportunity to confirm this with Kaiser-Francis.

12 Our understanding of the agreement is that we  
13 will provide copies of the exhibits we present here today  
14 to Kaiser-Francis, that we will share the information we  
15 gain from our work on the Number 3 well with Kaiser-  
16 Francis, and that should Kaiser-Francis desire to also  
17 attempt a completion in the upper Wolfcamp at a standard  
18 setback from our common lease line, that we would waive any  
19 objection to that.

20 If that is not a correct statement of our  
21 agreement, I want you to know that Unocal will move to  
22 reopen this case.

23 But our intention here is not to gain an advantage  
24 on Kaiser-Francis; it was a good-faith in term of the  
25 notice and we believe we have resolved it.

1                                RICHARD TEAGUE,  
2     the witness herein, after having been first duly sworn upon  
3     his oath, was examined and testified as follows:

4                                DIRECT EXAMINATION

5     BY MR. CARR:

6                Q.     Would you state your name for the record, please?

7                A.     Richard Teague.

8                Q.     Mr. Teague, where do you reside?

9                A.     Midland, Texas.

10              Q.     By whom are you employed?

11              A.     UNOCAL.

12              Q.     And what is your current position with UNOCAL?

13              A.     Petroleum geologist.

14              Q.     Have you previously testified before the New  
15     Mexico Oil Conservation Division?

16              A.     No, sir.

17              Q.     Would you briefly summarize your educational  
18     background and then review your work experience?

19              A.     Yes, sir. I got a bachelor's and master's in  
20     geology from Oklahoma State University. I have since 1985,  
21     approximately ten years, worked for Union Oil as a  
22     petroleum geologist. I have testified before the Oklahoma  
23     Oil Commission.

24              Q.     Does the geographic area of your responsibility  
25     with UNOCAL include the portion of southeastern New Mexico

1 involved in this case?

2 A. Yes, sir.

3 Q. Are you familiar with the Application filed in  
4 this case on behalf of UNOCAL?

5 A. Yes, sir.

6 Q. And have you made a geologic study of the area  
7 surrounding the Red Hills Wolfcamp pool?

8 A. Yes, sir.

9 MR. CARR: At this time we tender Mr. Teague as  
10 an expert witness in petroleum geology.

11 EXAMINER CATANACH: Mr. Teague is so qualified.

12 Q. (By Mr. Carr) Mr. Teague, could you briefly  
13 summarize for Mr. Catanach what it is that UNOCAL seeks in  
14 this case?

15 A. We are requesting authorization to recomplete the  
16 Red Hills Unit Number 3 in the Upper Wolfcamp formation,  
17 simultaneously dedicate those Wolfcamp reserves with the  
18 Wolfcamp, which is -- the lower Wolfcamp, which is being  
19 produced currently in the Red Hills Number 2 in the same  
20 section, Section 5 of Township 26 South, 33 East.

21 Q. What is current spacing for the Red Hills  
22 Wolfcamp Pool?

23 A. 640 acres.

24 Q. And do you know when that was approved?

25 A. Yes. 1966, Order R-3073.

1 Q. And what you have dedicated to the Number 2 and  
2 now hope to simultaneously dedicate to the 2 and 3 is the  
3 standard spacing unit in this pool?

4 A. Yes, sir.

5 Q. Okay. Let's go to what has been marked UNOCAL  
6 Exhibit Number 1. Could you identify that for Mr. Catanach  
7 and then review it?

8 A. Yes, sir. This is land plat that shows the Red  
9 Hills federal unit outlined in red. The shaded area is the  
10 area in which UNOCAL owns acreage. It has the offset  
11 operators and landowners shown in all sections around it.

12 I would like to make a comment on -- You see  
13 Freda Schumann in Section 8, and UNOCAL, et al., is shown  
14 in Section 5. Now, the Schumanns are also in Section 5,  
15 and they never joined the unit. Therefore, the interests  
16 in Section 5 are slightly different than the interests in  
17 the rest of the unit.

18 Q. Now, the Red Hills Unit is a voluntary unit?

19 A. Yes.

20 Q. And it is operated by UNOCAL?

21 A. Yes, it is.

22 Q. And what formations are unitized?

23 A. All formations.

24 Q. What is the current status of the Red Hills  
25 united well Number 3, the subject well of this hearing?



1           A.    The well was originally completed as a Devonian  
2 producer.  It subsequently watered out.  It was recompleted  
3 uphole into the Atoka formation.  It is currently an  
4 uneconomic producer from the Atoka, producing approximately  
5 20 MCF per week.

6           Q.    That's the Number 3 well.  What does the Number 2  
7 well in the northeast of the northeast of 5 -- what does it  
8 produce from?

9           A.    Okay, the Reds Hills Number 2 produces from what  
10 we term the lower Wolfcamp.  It is currently producing  
11 approximately a million cubic feet a day.

12          Q.    Okay.  Let's go to what has been marked as UNOCAL  
13 Exhibit Number 2, your stratigraphic cross-section, A-A',  
14 and I'd ask you to review the line of cross-section and  
15 then the data depicted on this exhibit.

16          A.    Yes, sir.  To the left you will see a land plat.  
17 Again, you can see the unit is outlined just in the yellow  
18 box with Union's acreage to the north, 100-percent acreage,  
19 shaded in the yellow.  That was not 18 included on the land  
20 plat.  That is not part of the unit.

21                The section A-A' goes basically west to east.

22                The Red Hills Number 3, which is the well we are  
23 proposing the recompletion in, is shown by a large red gas  
24 symbol on both the map and the cross-section.

25                What you see in the wellbores is -- I have shown

1 all perforations by red boxes with small circled  
2 perforation symbols within them.

3 The proposed completion is shown on the Red Hills  
4 Number 3 by a blue box. I have got some markers shown in  
5 that by blue and red lines.

6 This cross-section is a stratigraphic  
7 cross-section hung on the Wolfcamp shale. The Wolfcamp  
8 shale is shown in red. This is a semi-regional correlation  
9 marker. I can correlate this shale approximately in the  
10 surrounding two townships. It's very easy to pick. It is  
11 one of the hottest gamma ray responses.

12 And as you can see, the wells, Red Hills Number 2  
13 and the Mesa well -- Now, that well comes up Mesa because  
14 it was originally drilled 13 by Mesa Petroleum. It is the  
15 Kaiser-Francis well in Section 6.

16 Q. That's the third well from the right?

17 A. Yes, the third well from the right. -- are both  
18 completed in what I term the lower Wolfcamp pay, below the  
19 Wolfcamp shale.

20 Q. So what we're doing is, we're proposing to  
21 complete above the Wolfcamp shale?

22 A. That is correct.

23 Q. That zone is open in one other well in the area?

24 A. That is correct. It is open in the BTA Well Mesa  
25 B 8105JBT. It is the furthest to the left on the

1 cross-section. It is in Section 7; it is the diagonal  
2 offset.

3 Q. And the two wells, you propose to simultaneously  
4 dedicate in Section 5 are the two wells on the right of  
5 this cross-section?

6 A. That is correct.

7 Q. Examine Number 2 would be completed in the lower  
8 Wolfcamp, and the Number 3 in the upper Wolfcamp above the  
9 Wolfcamp shale?

10 A. That is correct.

11 Q. All right. Let's go to what has been marked as  
12 UNOCAL Exhibit Number 3. Would you identify and review  
13 that?

14 A. Again, this is a cross-section, stratigraphic,  
15 hung on the Wolfcamp shale. Again, I have the Red Hills  
16 Number 3 marked by large gas symbols. Those stand out.  
17 It, again, is a west-to-east cross-section.

18 The one well that is included on this  
19 cross-section that was not on the last is the Red Hills  
20 Unit Number 1, which is just across the line in Section 32  
21 of Township 25 South, 33 East.

22 This cross-section shows the main reason we feel  
23 like there's no vertical communication between these zone.  
24 I have posted on this cross-section mud weights that were  
25 used when drilling these wells.

1           The Red Hills Number 1, the furthest well on the  
2 right, is the very first well drilled. It was the  
3 discovery well for this field, and it was drilled in  
4 approximately 1960.

5           As you can see, the mud weights that they were  
6 drilling with when they entered what we term as the upper  
7 Wolfcamp were 9.2 pounds per gallon. They cross that  
8 Wolfcamp shale marker in red. When they hit the first  
9 reservoir rock below that, they took a gas kick. It took  
10 19 pounds per gallon to kill this gas kick. And from that  
11 point on, they had to drill with mud weights 16 pounds or  
12 above to hold the pressures back.

13           The Red Hills Number 2, the next well to the  
14 left, was the next well drilled. It was drilled in  
15 response to this well because it was an off-pattern  
16 location, and because of the differing interest in the  
17 unit, between the unit as a whole and the Schumanns, we had  
18 to drill this well.

19           As you can see, when they came out from under  
20 casing at approximately 12,900 feet -- or excuse me, 13,000  
21 feet, they mudded up to 12,200 in anticipation of catching  
22 a gas kick in this Wolfcamp zone.

23           Once they got below the Wolfcamp shale, the  
24 pressure started hitting them again. They had to mud up to  
25 weights in excess of 15 pounds per gallon. You can see mud

1 weights at 16, 15.6, and 15.7.

2 The Mesa well on the far left side of the  
3 cross-section, again you can see as they drilled through  
4 the upper Wolfcamp zones, they were carrying mud weights of  
5 9.1 pounds per gallon. Once they cross that Wolfcamp zone,  
6 Wolfcamp shale, they had to mud up to weights of 14 pounds  
7 or above.

8 The Red Hills Number 3 is the only well in the  
9 field that did not have to mud up while drilling the lower  
10 Wolfcamp. You can see the mud weights stayed from 9 to 10  
11 pounds per gallon as they drilled that. The reason for  
12 this is, this well was drilled approximately 20 years after  
13 the Red Hills Number 1 and 2, and they both have produced  
14 approximately 20 BCF or more together, and those zones were  
15 depleted by that time.

16 Q. Do you have an opinion as to whether or not the  
17 zone you are proposing to complete in is in a completely  
18 different pressure regime than the offsetting wells in the  
19 lower Wolfcamp?

20 A. Yes, I feel there's no question about that.

21 Q. And the answer is, no question. What is the  
22 answer?

23 A. Oh there's no question the upper Wolfcamp is in a  
24 completely different pressure regime than the lower  
25 Wolfcamp.

1           Q.   Mr. Teague let's go to the Number 2 well, the  
2 existing well on the spacing unit.

3           A.   Yes, sir.

4           Q.   What is the current produces go capability of  
5 that well?

6           A.   It is currently producing approximately a million  
7 cubic feet of gas per day. It has cum'd to this point  
8 approximately 17 BCF of gas. It should cum over 20 BCF of  
9 gas. It has in excess of ten years of production left.

10          Q.   In your opinion, would it be prudent to attempt  
11 to complete in the upper Wolfcamp in this well at this  
12 time?

13          A.   It would not be prudent. Number 1, we might --  
14 With the did draw down on this, we could have two separate  
15 pressure zones, and you know, you never like to kill a well  
16 that is currently producing.

17          Q.   Are you familiar with the Division memorandum  
18 dated August 3rd, 1990, which provides that when there are  
19 applications to produce two wells on a spacing unit, the  
20 application will be approved only after notice and hearing  
21 and upon compelling evidence that the applicant's  
22 correlative rights will be impaired unless both wells are  
23 produced?

24          A.   Yes.

25          Q.   And in your opinion, are there compelling

1 circumstances which dictate that the Red Hills wells 2 and  
2 3 be simultaneously dedicated to Section 5 to protect the  
3 correlative rights of the interest owners in the Red Hills  
4 unit?

5 A. Yes.

6 Q. Could you summarize for Mr. Catanach what those  
7 circumstances are?

8 A. The main circumstance is the well in Section 7 is  
9 currently open in this zone. If it does drain its 640-acre  
10 spacing, which the Commission has said is legal spacing for  
11 the Wolfcamp, we would not be able to offset this with  
12 counter drainage for more than ten years in the Red Hills  
13 Number 2.

14 Q. Does UNOCAL in fact have experience with wells in  
15 the Red Hills Wolfcamp pool actually draining these very  
16 large areas?

17 A. Yes, sir. If you will look back at cross-section  
18 B-B', and then look over at the map, if you see up in  
19 Section 28, the gas well in Section 28 of 25 South, 33  
20 East, that is the Red Hills unit -- or, excuse me, the Red  
21 Hills Federal Com 28-1.

22 We originally drilled that well in the mid-1980s.  
23 When we entered the zones that you can see by the upper  
24 perforations in the Red Hills Number 1 well, the right well  
25 on that screen, or on the cross-section, we didn't take any

1 substantial gas kicks.

2 When we got down into the lower zones, which  
3 would be stratigraphically correlative to those lower  
4 perfs, we took a gas kick which differentially stuck us in  
5 those upper zones. And the assumption we have to make from  
6 that is that those upper stringers of the Wolfcamp in that  
7 lower Wolfcamp zone had been depleted by production from  
8 the Red Hills Number 1 and Number 2.

9 Q. Are there other reasons why UNOCAL must seek  
10 authorization to simultaneously dedicate these wells?

11 A. Yes. We feel we need to do that for efficient  
12 development of the Wolfcamp reserves underneath Section 5.  
13 It is -- As operator, it is our responsibility to not only  
14 produce the reserves in a timely manner, but it is also our  
15 responsibility to economically produce those reserves for  
16 all partners.

17 It would just not be prudent with this wellbore  
18 out there to wait ten years, economically, for ourselves  
19 and all partners.

20 Another reason that we feel is, the Red Hills  
21 Number 2 is an off-pattern well, and, again, there are  
22 differing interests in Section 5 and the rest of the unit.  
23 We have been approved to produce the lower Wolfcamp  
24 reserves in the Number 2; however, it is not my  
25 understanding that we have been approved to produce those



1 upper Wolfcamp reserves at an off-pattern location.

2 Q. And why is that? Because of the differing  
3 ownership across --

4 A. The differing ownership across the lines. The  
5 Number 2 was drilled as a response well to the Number 1  
6 brought by Schumann since they didn't join the unit.

7 Q. And if you were to go up the hole and start  
8 producing the upper zones, then you would still have an  
9 obligation to Schumann across the line.

10 A. We would have a responsibility to the other unit  
11 owners across the line.

12 Q. Will UNOCAL commit to only produce the upper  
13 Wolfcamp in the Red Hills well Number 3, unit well Number  
14 3?

15 A. Yes, sir.

16 Q. That's all you're seeking authority to do?

17 A. That's all we're seeking.

18 Q. And in your opinion, is this a separate zone that  
19 simply cannot now otherwise be produced in Section 5?

20 A. Yes, sir.

21 Q. If this Application is denied, in your opinion,  
22 would UNOCAL's correlative rights be impaired?

23 A. Yes, they would.

24 Q. And why is that?

25 A. We would not have the opportunity to produce

1 reserves from the upper Wolfcamp for at least ten years.

2 This zone could be drained by offsets during this time.

3 Q. In your opinion, if this Application is approved,  
4 would the correlative rights of other operators be  
5 impaired?

6 A. No, this is a standard location.

7 Q. And UNOCAL would not object to Kaiser-Francis  
8 doing the same at a standard location, or any other  
9 offsetting operator; is that fair?

10 A. That is correct.

11 Q. Is UNOCAL Exhibit Number 4, an affidavit that  
12 confirms that notice of this hearing was provided in  
13 accordance with OCD rules?

14 A. Yes, sir.

15 Q. And with the exception of the error we discovered  
16 in the address to Kaiser-Francis, is it your belief that  
17 those addresses are correct and accurate?

18 A. Yes, sir.

19 Q. In your opinion, will approval of this  
20 Application otherwise be in the best interest of  
21 conservation and the prevention of waste?

22 A. Yes, sir.

23 Q. Were Exhibits 1 through 3 prepared by you?

24 A. Yes, they were.

25 Q. And Exhibit 4 is the notice affidavit?

1 A. Yes, sir.

2 MR. CARR: At this time, Mr. Catanach, we move  
3 the admission of UNOCAL's exhibits 1 through 4.

4 EXAMINER CATANACH: Exhibits 1 through 4 will be  
5 admitted as evidence.

6 MR. CARR: And that concludes my direct  
7 examination of Mr. Teague.

8 EXAMINER CATANACH: Mr. Kellahin?

9 MR. KELLAHIN: Thank you, Mr. Examiner.

10 EXAMINATION

11 BY MR. KELLAHIN:

12 Q. Mr. Teague, let me ask you some points to clarify  
13 my understanding of your presentation. Perhaps we could  
14 use your Exhibit 3 --

15 A. Yes, sir.

16 Q. -- which is your B-B' cross-section.

17 When you start on the far left with what is now  
18 the Kaiser-Francis well --

19 A. Yes.

20 Q. -- you've got a log section below the Wolfcamp  
21 shale, but above that interval there is no log indication.  
22 What's the reason?

23 A. The reason for that is, this well was -- it had  
24 two log runs on it, and we just never had the upper zone  
25 digitized. And this is a computer-generated cross-section,

1 and I just don't have the data available in the computer.

2 Q. All right. Have you examined the logs from the  
3 Kaiser-Francis well to see what the log characteristics are  
4 when you compare the upper Wolfcamp to the Red Hills Unit  
5 Number 3 logs?

6 A. Yes, sir.

7 Q. And what's the conclusion?

8 A. They're very similar. If you will look, you can  
9 see that very hot shale at the Wolfcamp shale in the Mesa  
10 well. That's why I didn't go ahead and try it get anything  
11 drafted in on this, because this cross-section was used  
12 basically for correlation purpose, and you can make that  
13 correlation there.

14 The upper Wolfcamp looks very similar to the Red  
15 Hills Number 3 and Red Hills Number 2.

16 Q. Okay. When you look at the log for the Red Hills  
17 Unit Number 3 well, the proposed well --

18 A. Yes, sir.

19 Q. -- it has never been completed in either the  
20 upper or lower Wolfcamp?

21 A. No, it has not.

22 Q. It originally was drilled for what purpose?

23 A. It was drilled as a Devonian test, it was  
24 completed in the Devonian, it produced for approximately  
25 five, six years in the Devonian, watered out, and we

1 subsequently brought it uphole, tried to produce it in the  
2 Wolfcamp -- I mean, excuse me, the Atoka, and it is  
3 currently an uneconomic producer in the Atoka zone.

4 Q. Was this drilled as a UNOCAL well?

5 A. Yes, sir.

6 Q. What is it about the log characteristics that  
7 distinguish the Wolfcamp interval for upper and lower? Is  
8 there an appreciable difference to you as a geologist as to  
9 why you selected the upper Wolfcamp in the Number 3 well in  
10 which to put perforations, as opposed to the lower?

11 A. The lower is currently produced.

12 Q. In another well?

13 A. In another well.

14 Q. Yeah. Within this wellbore, though, independent  
15 of any other well, what has caused you to select the upper  
16 Wolfcamp? Is there any basis for selecting the upper  
17 versus the lower in this wellbore, independent of any other  
18 well?

19 A. No, if the Red Hills Number 2 were not there --

20 Q. Yes, sir.

21 A. -- if it were not there, we would try to produce  
22 the lower Wolfcamp in the Red Hills Number 3.

23 Q. Now, why would you do that?

24 A. It's a productive reservoir. You can see from  
25 the mud weights that it is depleted in the lower Wolfcamp

1 when this well was drilled in the mid-Eighties; it was  
2 already depleted at that time. The upper Wolfcamp -- This  
3 is a legal location for the Wolfcamp. The upper Wolfcamp,  
4 we feel, could be productive here, and we would like to --

5 Q. No, I understand all that. My question is, is  
6 there anything on the log character that gives you a  
7 preference as to whether in this wellbore independent of  
8 what's happening with the rest of the wells --

9 A. Oh.

10 Q. -- why you've selected the upper versus the  
11 lower?

12 A. No.

13 Q. All right. Do you see any potential for Wolfcamp  
14 production in the lower Wolfcamp in this wellbore?

15 A. No.

16 Q. And that is because it's been, what, depleted?

17 A. It's been depleted.

18 Q. When we look over at the Red Hills Number 2,  
19 which is the companion well in the section that's currently  
20 producing in the lower Wolfcamp, when you look at the upper  
21 Wolfcamp in that log, describe for us your conclusions  
22 geologically about the character of that portion of the  
23 Wolfcamp in that well.

24 A. Geologically, the upper Wolfcamp in the Red Hills  
25 Number 2 is very similar to the upper Wolfcamp in the Red

1 Hills Number 3.

2 Q. All right. And then continuing to the Red Hills  
3 Number 1, how do you characterize and compare the upper  
4 Wolfcamp in the Number 1 well as you see it in the Number 2  
5 and 3?

6 A. The Red Hills Number 1 -- I have to make a few  
7 assumptions on the Red Hills Number 1 because of the log  
8 sweep that was run.

9 As you can see, when we took this 19-pound gas  
10 kick down here, they had to run a string of pipe without  
11 running logs across that. So the only logs I have are  
12 three casing --

13 Q. Cased-hole log?

14 A. -- cased hole logs, and they are not of the  
15 quality which the Red Hills Number 2 and 3 are.

16 From sample descriptions and just from basic  
17 correlations across the entire field, I would not expect  
18 the upper Wolfcamp to be significantly different in the Red  
19 Hills Number 1 than it is in the Red Hills Number 2, 3, or  
20 the Kaiser-Francis well.

21 Q. All right. And the ownership between Red Hills 1  
22 and 2 is different, and therefore you want to continue to  
23 produce both of those wells in the lower Wolfcamp --

24 A. That is correct.

25 Q. -- because of the difference in ownership?

1           A.    Yes, sir.

2           Q.    Is there anything other than the Number -- I  
3 think it's the BTA well, I've lost track of it. It's the  
4 BTA well down in Section 7, and that's the well on the A-A'  
5 cross-section which apparently has perforations in the  
6 upper Wolfcamp?

7           A.    That is correct.

8           Q.    All right. Do you have any production or other  
9 information from the BTA well to tell us whether or not the  
10 upper Wolfcamp is giving up gas?

11          A.    The BTA well is produced in a number of zones, as  
12 you can see on this cross-section.

13                We do not know where the gas from that well is  
14 actually coming from. They have not run any separate tests  
15 to know.

16          Q.    No spinner surveys?

17          A.    No, sir.

18          Q.    Nothing --

19          A.    Nothing that we have.

20          Q.    Nothing in the way that they've reported  
21 production so you can get some kind of indication of which  
22 portion of the Wolfcamp is giving up how much gas?

23          A.    No, sir.

24          Q.    All right. And that is the competition for your  
25 section that you're trying to meet by opening up the upper



1 Wolfcamp in the Number 3 well?

2 A. That is correct.

3 MR. KELLAHIN: All right. Thank you, Mr.

4 Examiner.

5 EXAMINATION

6 BY EXAMINER CATANACH:

7 Q. Mr. Teague, in your opinion, is the Wolfcamp  
8 shale that you've got marked, is that the barrier to the  
9 low between these two zones?

10 A. Yes. I would have said that it was the barrier  
11 to the pressure. Two months ago I would have told you  
12 that, that that shale was probably the barrier. However,  
13 in the last month's *AAP Journal*, they came out with an  
14 article on this pressure system over the entire North  
15 Delaware Basin. It covers portions of Eddie and Lea  
16 County, and also approximately six counties in Texas.

17 And their findings were that this pressure system  
18 has a very flat top, and that it does cut stratigraphic  
19 intervals. However, the structure in here is not severe  
20 enough that -- You know, in this local area, it just  
21 happens to coincide with where that Wolfcamp shale is. And  
22 it could be that that Wolfcamp shale is the seal in this  
23 area.

24 Q. Now, you did say that in the Number 2 well, there  
25 is potential for upper production?

1           A.    Yes, there is.

2           Q.    Explain to me the dangers, again, of trying to  
3 recomplete that well to the upper formation.

4           A.    Okay. Well, as an operator, if we were to kill  
5 this well, to go in and recomplete it in the upper -- If we  
6 were to lose the wellbore for any reasons, we would be  
7 liable to the other interest owners for the reserves that  
8 we lost in the lower Wolfcamp, which is a significant  
9 amount.

10                   Again, we're at an off-pattern location, and what  
11 we could end up doing would be setting ourselves up to a  
12 required well within the unit in Section 32.

13           Q.    Do you know whether or not the well in Section 7  
14 is in fact draining any of your acreage in Section 5?

15           A.    I do not know.

16           Q.    Are there any other wells surrounding Section 5  
17 that may be draining your acreage from that upper Wolfcamp?

18           A.    Not at this time.

19           Q.    Under the current situation, is it entirely  
20 possible that those reserves in the upper Wolfcamp would be  
21 there in ten years?

22           A.    I can't say that for sure.

23           Q.    Explain to me -- You said there was different  
24 ownership between Section 5 and the rest of the units; is  
25 that correct?

1           A.    That was correct.

2           Q.    You were citing some obligations and some -- some  
3 various --

4           A.    Right, this -- The Red Hills federal unit was a  
5 voluntary unit. The Schumanns did not join the unit.  
6 Therefore, the interest in Section 5 is different from the  
7 interests in Section 32, 33, and Section 4.

8           Q.    Okay. Now, you mentioned something about you had  
9 gotten approval to produce the Number 2 or Number 3 from  
10 the upper or something?

11          A.    The Number 2 from the lower. Okay. They drilled  
12 the Red Hills Number 1 at an off-pattern location. Okay,  
13 when they made it a producer in the Wolfcamp, the Schumanns  
14 basically brought UNOCAL before the Commission, requiring  
15 them to drill the Red Hills Number 2.

16                We drilled the Red Hills Number 2 at the  
17 unorthodox location, which it is, and -- to satisfy their  
18 need for drainage of reserves from underneath their  
19 acreage.

20          Q.    Would producing the upper Wolfcamp in the Number  
21 3 well have any adverse effect on any interest owners  
22 within the remainder of that Section 5?

23          A.    No it would not.

24          Q.    And UNOCAL has no plans to produce the lower  
25 Wolfcamp in the Number 3?

1           A.    No, sir.

2                   EXAMINER CATANACH:  I don't have anything further  
3 of the witness, Mr. Carr.

4                   MR. CARR:  Mr. Catanach, if I could wrap up  
5 briefly, what UNOCAL is before you today seeking is  
6 authority to undertake additional development in the  
7 Wolfcamp formation in the Red Hills area, and this is an  
8 area where it is generally recognized Wolfcamp wells drain  
9 very large acres.  The Division has recognized that by  
10 adapting 640-acre spacing for the pool.

11                   At the present time this 640-acre tract has a  
12 well in the lower Wolfcamp, and it produces from the lower  
13 Wolfcamp to protect this from drainage from the well  
14 located across the boundary line for the north.

15                   We're here today seeking authority to  
16 simultaneously dedicate two wells on the unit.

17                   This case is very much like Case 10,775, a case  
18 presented to you in October of 1993.  That is a case where  
19 you may recall Santa Fe Energy Operating Partners was  
20 seeking authorization to simultaneously dedicate two wells  
21 in the Atoka gas pool because they were concerned about  
22 drainage from a Texaco well offsetting the property to the  
23 east.  In that case, the application was granted because  
24 the potential for drainage was considered a compelling  
25 circumstance.

1           Here we believe the potential for drainage in  
2 this area where wells drain very large areas and other  
3 economic considerations presented today are compelling  
4 considerations that dictate that this tract be developed  
5 with two wells, as long as one is in the lower Wolfcamp and  
6 one is in the upper Wolfcamp.

7           And if the application is approved, we submit  
8 that UNOCAL will then be afforded an opportunity to produce  
9 its fair share of the reserves from this acreage, and its  
10 correlative rights will thereby be protected.

11           EXAMINER CATANACH: Thank you, Mr. Carr.

12           There being nothing further in this case, Case  
13 11,105 will be taken under advisement.

14                           \* \* \*

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.

Abraham 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. 11165,  
heard by me on September 29, 1965.

Daniel R. Caland, Examiner  
Oil Conservation Division