

OIL CONSERVATION DIV.

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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. 12,262  
 )  
 APPLICATION OF BURK ROYALTY COMPANY FOR )  
 APPROVAL OF A WATERFLOOD PROJECT AND TO )  
 QUALIFY THE PROJECT FOR THE RECOVERED ) ORIGINAL  
 OIL TAX RATE PURSUANT TO THE ENHANCED )  
 OIL RECOVERY ACT, LEA COUNTY, NEW MEXICO )  
 )

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

October 7th, 1999

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, October 7th, 1999, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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## I N D E X

October 7th, 1999  
 Examiner Hearing  
 CASE NO. 12,262

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

## FOR THE DIVISION:

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## FOR THE APPLICANT:

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\* \* \*

1           WHEREUPON, the following proceedings were had at  
2 11:46 a.m.:

3           EXAMINER STOGNER: Hearing will come to order.  
4 Call Case Number 12,262.

5           MR. CARROLL: Application of Burk Royalty Company  
6 for approval of a waterflood project and to qualify the  
7 project for the Recovered Oil Tax Rate pursuant to the  
8 Enhanced Oil Recovery Act, Lea County, New Mexico.

9           EXAMINER STOGNER: Call for appearances.

10          MR. BRUCE: Mr. Examiner, Jim Bruce of Santa Fe,  
11 representing the Applicant. I have one witness to be  
12 sworn.

13          EXAMINER STOGNER: Any other appearances?  
14 Will the witness please stand to be sworn?  
15 (Thereupon, the witness was sworn.)

16                         CHARLES GIBSON,  
17 the witness herein, after having been first duly sworn upon  
18 his oath, was examined and testified as follows:

19                                 DIRECT EXAMINATION

20 BY MR. BRUCE:

21           Q.    Would you please state your name and city of  
22 residence?

23           A.    My name is Charles Gibson, I live in Wichita  
24 Falls, Texas.

25           Q.    Who do you work for and in what capacity?

1 A. I work for Burk Royalty as a petroleum engineer.

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

4 A. I have.

5 Q. And were your credentials as an expert petroleum  
6 engineer accepted as a matter of record?

7 A. They were.

8 Q. And are you familiar with the engineering matters  
9 related to this Application?

10 A. Yes, I am.

11 Q. Briefly, Mr. Gibson, what does Burk seek in this  
12 Application?

13 A. We seek authority to institute a waterflood  
14 project in the Lynch Yates-Seven Rivers Pool on our Neal  
15 lease, which covers the northeast quarter of Section 35,  
16 Township 20 South, Range 34 East. We also seek  
17 certification of the project for the recovered oil tax  
18 rate.

19 Q. Referring to Exhibit 1, would you identify that  
20 for the Examiner and identify the initial injection and  
21 producing wells for this waterflood?

22 A. Exhibit 1 is a land plat of the area surrounding  
23 the Neal lease. Highlighted in green is the lease, and  
24 highlighted in orange is the proposed injection well, which  
25 is currently a disposal well. In yellow are the producing

1 wells on the lease, two of which are active, Number 1 and  
2 Number 4. Number 2 is shut in for mechanical reasons.

3 Q. Okay. So initially -- I believe the Application  
4 stated there would be three producing wells initially, but  
5 initially there will just be the Number 1 and 4 wells as  
6 producers?

7 A. Yes.

8 Q. Okay. Before we leave this exhibit -- I intended  
9 to bring this up later, but attached as page 2 of this  
10 exhibit is some information on freshwater wells; is that  
11 correct?

12 A. Yes, it is. We, with a record search, obtained  
13 the freshwater wells in the area of review. The closest  
14 one is in Section 24, Township 20 South, Range 34 East,  
15 which is approximately a mile and a half from the proposed  
16 injection well.

17 Q. And this information was obtained from the State  
18 Engineer Office, I believe?

19 A. Yes, it was.

20 Q. Okay. Do you know what is the producing water  
21 formation in this area?

22 A. The freshwater?

23 Q. Yeah, the freshwater.

24 A. You know, I'm not sure.

25 Q. Okay. Now, in this Neal lease, is Burk the only

1 working interest owner?

2 A. That's correct, we have 100 percent of the  
3 working interest.

4 Q. Okay. Now, you already mentioned the injection  
5 well. It's already a disposal well. What is Exhibit 2?

6 A. Exhibit 2 is the Order of the Commission granting  
7 authority to dispose of water in the Neal Number 3, in the  
8 Yates-Seven Rivers Pool.

9 Q. And that's the same formation you will be  
10 injecting water into for the waterflood project; is that  
11 correct?

12 A. Yes, it is, but we propose to add additional  
13 perfs in the Number 3 for this project.

14 Q. Okay, we'll get to that in a minute, but could  
15 you identify Exhibit 3 for the Examiner and discuss briefly  
16 the geology of the Yates-Seven Rivers in this area?

17 A. Exhibit 3 is a structure map on the top of the  
18 Yates. It shows, stippled, Burk's lease position.  
19 Specifically on the Neal lease, it shows that the Number 3  
20 is the lowest well structurally on the lease, at a  
21 structural subsea of plus 162 feet above sea level, with  
22 the Number 1 being 226 feet above sea level, the Number 2  
23 being 176 feet and the Number 4 169 feet.

24 The field dip is generally to the east. The  
25 Yates sand is a back-reef deposit of sand, on the back side

1 of the Capitan Reef, and it produces across the area shown  
2 on the map. It's a solution gas drive/pressure depletion  
3 kind of primary recovery.

4 Q. Okay, before we move off of this exhibit, doesn't  
5 Burk have another small waterflood project in this area?

6 A. We do, to the north in Section 23 on our Hanson C  
7 lease.

8 Q. And that was approved what? Six or seven years  
9 ago?

10 A. Yes.

11 Q. And it is in the same Lynch Yates --

12 A. It's in the Yates sand, in the Yates-Seven Rivers  
13 Pool.

14 Q. Okay. What is Exhibit 3A?

15 A. 3A is a cross-section of the well on the Neal  
16 lease, with a porosity log and an SP log, showing that  
17 currently the wells are completed in the lower Yates, and  
18 the continuity of the sand across the lease.

19 Q. So the injection zone is continuous across your  
20 proposed injection project area?

21 A. Yes.

22 Q. Okay. Now, let's move on to your proposed  
23 injection operations. Could you identify Exhibit 4 for the  
24 Examiner?

25 A. Exhibit 4 is our Form C-108 for the Neal Number

1 3. It was prepared by me with the help of people in my  
2 office, my secretary, our landman, has information about  
3 the well, how we propose to isolate the injection zone from  
4 other formations. We're going to use tubing with a packer,  
5 using coated tubing, showing the perforations we plan to  
6 use, a map of the area with the half-mile area of review  
7 with the wells highlighted that are in that half-mile area.

8 Q. And the pages are numbered at the right-hand  
9 corner --

10 A. Yes.

11 Q. -- if you need to refer to any of it for the  
12 Examiner, Mr. Gibson.

13 What does page 4 show?

14 A. Page 4 is a listing of the wells in the area of  
15 review, showing the well name, the well type, when it was  
16 drilled, its location, its depth and its record of  
17 completion.

18 Q. Now, is additional data on each of these wells  
19 submitted as Exhibit 5?

20 A. It is, which is more detailed information about  
21 the well and the operator and the completion data and its  
22 initial potential.

23 Q. Okay. Based on your review of this well data,  
24 are the producing wells in this area of review properly  
25 completed or plugged and abandoned?

1 A. Yes, they are.

2 Q. And will they prevent the movement of fluids to  
3 other zones?

4 A. They are all cased through the Yates sand and  
5 cemented above the Yates to prevent migration.

6 Q. Okay. Let's get back to your Exhibit 4. Is page  
7 8 a wellbore sketch of your proposed injection well?

8 A. It is. It shows the well has 8-5/8 casing to 190  
9 feet cemented back to the surface, 5-1/2 casing cemented at  
10 3804 feet with 200 sacks. The top of the cement was  
11 determined by a temperature log after the well was  
12 cemented. It shows that we have tubing to 3532 with a  
13 tension packer at 3532.

14 Q. Now, the current perforations in this well are  
15 what? 3703 to 3717 feet?

16 A. That's correct.

17 Q. And you will be adding perforations to the well?

18 A. We will.

19 Q. At what depth?

20 A. Those are on page 2. They're from 3590 to 3610.

21 Q. What is the reason for adding the additional  
22 perforations?

23 A. We propose to add the perms to produce and  
24 waterflood a sand that has not been waterflooded yet.

25 Q. Okay. Is the injection well properly cased and

1 cemented so that no injected water can escape to other  
2 zones?

3 A. That's correct, with the casing, the cement and  
4 the packer and the tubing, the only place it can go is in  
5 the Yates. If the packer, the tubing or the casing leaks,  
6 we'll see that with communication to the back side that we  
7 monitor daily.

8 Q. Now, at page 5 of the C-104, Mr. Gibson, you set  
9 forth the proposed project operations.

10 A. Our proposal is to inject 250 barrels per day  
11 with a maximum rate of 750. The system is closed. Our  
12 proposed average pressure will be 1000 pounds, with a  
13 maximum of 1500 pounds. The source of injection fluid will  
14 be the Yates sand from our Neal lease and the Seven Rivers  
15 sand from our adjacent Milner lease.

16 The Seven Rivers is a water drive formation, it  
17 has adequate water supply for all of our waterflood needs.  
18 And an analysis of that water is attached.

19 Q. Looking at this, your maximum daily rate is 750  
20 barrels of water per day, and the average daily rate is  
21 250. Is this a significant increase from what is currently  
22 being disposed of in the Number 1 well -- or Number 3 well,  
23 excuse me.

24 A. It is. And the increase in the rate will allow  
25 us to increase the pressure in the formation and reduce the

1 pressure depletion that's currently happening.

2 Q. Okay. And you mentioned the top injection  
3 pressures. Now, under the Division's regulations there is  
4 a maximum of 0.2 p.s.i. per foot of depth, and you will be  
5 exceeding that, will you not?

6 A. We will.

7 Q. Could you identify your Exhibit 6 and discuss the  
8 reasons why you need to exceed the Division allowable?

9 A. Exhibit 6 is a step-rate test that I performed on  
10 the Neal Number 3 last week. We are including it with our  
11 Application because we want to receive permission from the  
12 Division to inject over the .2 p.s.i. per foot allowed  
13 without a step-rate test. Twenty-seven years of disposal  
14 operations have pressured the area around the Neal Number 3  
15 up, and we are injecting at a pressure above that now.

16 We ran the step-rate test at different rates and  
17 stabilized those rates, and then calculated the friction  
18 pressure at each rate to get a corrected tubing pressure.  
19 And on the second page of that graphed the rate versus the  
20 pressure. And it shows that up to approximately 1965  
21 pounds the pressure was linear and we were injecting into  
22 it at a matrix rate. At above that pressure, we started  
23 fracturing the rock, and it showed that up -- we can inject  
24 at matrix rates and pressures up to 1965 pounds.

25 Q. So injecting at 1000 or 1000 to 1500, which you

1 propose, should not cause any problems?

2 A. It should not cause any fracturing of formation.

3 Q. Okay. What are the producing rates in the two  
4 producing wells currently, the Number 2 and Number 4? Or  
5 Number 1 and Number 4?

6 A. Number 1 and Number 4 are currently making 20  
7 barrels per day between them, an average of 10 barrels per  
8 day per well. Exhibit 7 is a production curve, and  
9 attached to it is a tabulation of the production history  
10 for the lease since the lease inception. It shows that the  
11 lease actually peaked in 1994 at 1000 barrels per month and  
12 has been declining at approximately a 10-percent yearly  
13 rate since.

14 Q. Have you calculated the potential increase in  
15 reserves you will obtain by instituting the waterflood  
16 project?

17 A. The lease to date has made approximately 15  
18 percent of the oil in place. The cum through July -- or  
19 through June, was 409,582 barrels. With adding the sands  
20 and the increase in the rate in the Neal Number 3, we  
21 should increase the reserves at least 50,000 barrels.

22 Q. Are there any costs for this project?

23 A. The costs are going to be to add the perforations  
24 in the Neal Number 3 and in the corresponding Number 1 and  
25 Number 4. It's going to be approximately \$10,000 per well

1 to pull the rods and tubing in the producing wells and the  
2 tubing and packer in the injection well and to add the  
3 perforations.

4 We already have the injection equipment in place  
5 in terms of an injection pump, and then the injection  
6 string and injection packer in the Number 3.

7 Q. So it will be very inexpensive to institute this  
8 project?

9 A. That's correct.

10 Q. In your opinion, is it prudent to apply enhanced  
11 oil recovery techniques to maximize recovery of oil from  
12 this pool?

13 A. By economically producing more reserves, yes.

14 Q. Okay. And in your opinion is the waterflood  
15 project economically and technically feasible at this time?

16 A. Yes. We have analogous floods, and there have  
17 been other floods in the Yates -- in the area, that have  
18 been very productive.

19 Q. In your opinion, is the granting of this  
20 Application in the interests of conservation and the  
21 prevention of waste?

22 A. Yes, it is.

23 Q. Now, referring back to Exhibit 1, Mr. Gibson,  
24 does that exhibit also show the offset operators in this  
25 area, in the Yates formation?



1 Number 1 was. I'm not sure at what point the Neal Number 2  
2 was shut in.

3 Q. Okay, which leads me back to Exhibit Number 7,  
4 and this is production from this lease?

5 A. Yes, sir.

6 Q. But you don't know when one well or the other  
7 well was shut in? And I'm assuming that probably early on  
8 the Number 3's production was indicated; is that correct?

9 A. It was included in the early days, yes. All four  
10 wells were productive when they were drilled.

11 Q. Now, how about today? Is the Number 1 producing?

12 A. Yes.

13 Q. How about Number 2?

14 A. No, it's not.

15 Q. Okay, that's shut in.

16 A. Yes.

17 Q. Or is it abandoned?

18 A. It's just shut in.

19 Q. Just shut in. And the Number 4?

20 A. It's producing.

21 Q. Now, when I look at Exhibit Number 3A, these are  
22 the current perforations on all four of these wells?

23 A. Yes, sir, the ones marked on the map in the lower  
24 Yates.

25 Q. How was this thing approved in 1972 as a disposal

1 and not a waterflood?

2 A. I don't know.

3 Q. Taxation and Revenue is going to want to know.

4 But they were producing; is that correct?

5 A. Yes, sir.

6 Q. Have you had a chance to review Case Number 4679

7 in its entirety, or were you around at that point?

8 A. No, sir, I didn't graduate from college until

9 1979 and went to work for Burk in 1990.

10 Q. Okay. Have you had a chance or an opportunity to

11 review this record?

12 A. No, sir.

13 Q. Well, is this injection affecting production?

14 A. I believe that it has over the years. I think

15 that by adding perfs and increasing the rate, we can

16 increase the production higher.

17 Q. So it's really not a disposal operation, is it?

18 It was a waterflood?

19 A. Yes, sir.

20 Q. Okay. Now, with the new perforations, the Wells

21 1, 2 and 4, will they have like perforations up there in

22 the upper interval?

23 A. Yes, the cross-section, Exhibit 3-A, shows the

24 sands in the upper Yates in all four wells, and actually

25 it's noted on the logs on 3 and 4, there are perforations

1 to be added at a later date. And the sands, you can see  
2 it's a porosity log, so the higher porosity is to the left.  
3 The upper sands exist in all four wells.

4 Q. Okay. How will those producing wells be  
5 completed? Will they be recompleted as a dual completion,  
6 or do you plan to plug or squeeze the lower perms?

7 A. We were going to leave those perforations open  
8 and produce the whole interval.

9 Q. Okay.

10 A. As we would in the Number 3, we would leave the  
11 existing perforations open as well.

12 Q. Okay. Now, was there a pressure limitation on  
13 that Number 3 whenever it was originally approved?

14 MR. BRUCE: It would have just been the Division  
15 guideline, Mr. Examiner.

16 EXAMINER STOGNER: And what was the guideline?

17 MR. BRUCE: There is nothing set forth in the  
18 order, Mr. Examiner, I did look at that.

19 Q. (By Examiner Stogner) Well, Mr. Bruce is right,  
20 there is no pressure limitation in the order.

21 What pressure has this well been injecting?

22 A. Our current pressure is 1200 pounds.

23 Q. 1200 pounds. Is that the way it has been since  
24 1972, is at 1200?

25 A. I have not examined all the records since 1972.

1 I only have the records for the last few years.

2 Q. Is that record available, on that well?

3 A. I'm not sure. I will find out.

4 Q. Okay, yeah, that's going to be important.

5 Do you know, by chance, what the initial  
6 injection pressure was on this particular well back in  
7 1972, at least?

8 A. No.

9 Q. Nothing on that?

10 MR. BRUCE: We will check Burk's records, Mr.  
11 Examiner.

12 EXAMINER STOGNER: Okay. I'm going to have to  
13 take administrative notice of Case 4679 and incorporate  
14 that into this record.

15 Q. (By Examiner Stogner) Okay. Now, what pressure  
16 limit are you requesting at this time? ~~Are you going to~~  
17 keep it at 1200, or did I hear something about 1500?

18 A. We're asking for 1500.

19 Q. 1500 max. Okay, do we have any indication of  
20 just that upper zone? Is that going to be affected by this  
21 pressure limit, or do you know at this point?

22 A. Without it being open, I don't know.

23 Q. Is there any indication that these zones or the  
24 lower perfs and the upper perfs are communicating?

25 A. There appear to be shale breaks on the logs that

1 would prevent it from communicating.

2 Q. So the information on Exhibit Number 6 was just  
3 for that lower perforated interval, which has had at least,  
4 we know, 1200 p.s.i., or at the most 1200 p.s.i.; is that  
5 correct? Injection?

6 A. Yes.

7 Q. Do you know what the initial virgin pressure of  
8 that zone was?

9 A. No.

10 Q. Do you think it might be higher or lower?

11 A. It would probably be in the range of 1000, 1200  
12 pounds initially.

13 Q. Okay. Let's look at the wells within the area of  
14 review. How many P-and-A'd wells, plugged and abandoned  
15 wells, are within that area?

16 A. Would you repeat the question?

17 Q. How many actual wells within that area of review  
18 have been plugged and abandoned?

19 A. One was plugged and abandoned, four were drilled  
20 and abandoned.

21 Q. Okay, so essentially five drilled and abandoned  
22 or plugged and abandoned?

23 A. Yes.

24 Q. Okay, and which ones were they? Identify on  
25 Exhibit Number 5.

1 A. Okay, the Cruces Number 5 --

2 Q. Okay, that's on page 1?

3 A. -- which is Well Number 3 on the area of  
4 review --

5 Q. Okay.

6 A. -- on the first page.

7 Q. Okay, let's look at this one for a while. How  
8 was that plugged and abandoned. Was any of the casing  
9 zones pulled, or casing -- any of the casing pulled on  
10 that?

11 A. The top of the cement is at 741, so none of the  
12 cement below 741 would have been pulled.

13 Q. Okay, do you have the record of the plugs that  
14 were put in that well?

15 A. Not with me at this time.

16 Q. Okay. Portion 6 of the 102 requires a schematic  
17 of a well that's been plugged and abandoned. Has that not  
18 been provided or -- Or actually, that's going to be a  
19 requirement. I don't see it in here, so I'm going to need  
20 that.

21 A. We need to provide those for those five wells.

22 Q. Yes. Okay, back to that Cruces Number 5, you  
23 show the top of cement. How was that determined?

24 A. I'd have to review the records to answer that.

25 Q. Okay. If you would include that on that

1 schematic, if it was calculated or shown with the  
2 temperature survey.

3 On page 2, how many P-and-A'd or TA'd wells -- or  
4 D-and-A'd wells, I should say?

5 A. The first one, the Hanson Federal Number 1, is.

6 Q. Okay, so we're going to need information and a  
7 schematic on that well.

8 A. Yes.

9 Q. And do you know when it was -- Well, it was  
10 drilled and abandoned, so that would have been in 1959,  
11 would it not?

12 A. Yes. The next well in the area of review, the  
13 Arlen Edgar Federal C Number 1, was plugged and abandoned  
14 in 1974.

15 Q. Okay, which corresponding number would that be?

16 A. That is Number 5 on your area of review list.

17 Q. Now, that's a deep well, is it not?

18 A. Yes, it is.

19 Q. Okay.

20 A. It was drilled to 15,080 feet.

21 Q. So you show that the 9-5/8 intermediate would be  
22 the zone -- or the casing that was protecting that Yates  
23 Seven Rivers zone; is that correct?

24 A. That's correct.

25 Q. Okay. So we don't know how the 2000 top of

1 cement was determined?

2 A. I'll review the records to see.

3 Q. Okay. Let's go on through here, the next wells.

4 A. None on the next page are abandoned, and on the  
5 last page the wells 11 and 12 were drilled and abandoned,  
6 Phillips Neal, et al., Number 2 and the Lynch State Number  
7 1.

8 Q. Okay. So to satisfy Requirement Number 6, we're  
9 going to need a little bit more information on that.

10 A. Yes.

11 Q. Now, from this data, it would appear that the  
12 Burk wells -- I'm sorry, the Neal wells, were initially  
13 completed and started producing in 1959; is that correct?

14 A. That is correct.

15 EXAMINER STOGNER: Okay. Mr. Bruce, I don't have  
16 those requirements or rules in front of me on the enhanced  
17 oil recovery. If I remember right, there's something there  
18 about an existing --

19 MR. BRUCE: If there is a -- Mr. Examiner, I've  
20 gone through this before, I think, with Mr. Catanach.  
21 There is a provision in there that if it is a significant  
22 or substantial increase in an existing project, it can  
23 qualify as an enhanced oil recovery project under that Act.  
24 I will provide that language to you.

25 EXAMINER STOGNER: Okay. Of course in this

1 situation, we've got something that was approved as a  
2 saltwater disposal. But this was back in 1972, and things  
3 may have been looked at a little different.

4 MR. BRUCE: I was kind of surprised myself that  
5 this was an existing injection well, Mr. Examiner.

6 Q. (By Examiner Stogner) Let's talk about the cost.  
7 So we're looking at \$10,000 per well, so you're looking at  
8 essentially what? A \$40,000 out-of-pocket expenses; is  
9 that correct?

10 A. Yes.

11 Q. And there's really no way of predicting because  
12 none of those upper zones have ever produced in any four of  
13 these wells; is that correct?

14 A. That's correct.

15 Q. How about any nearby wells? Are any of those  
16 producing from that upper interval?

17 A. Our wells are not. As to offset operators, I'm  
18 not sure.

19 Q. Okay. Have you tested any of those zones in your  
20 other leases?

21 A. I don't believe so, not that I'm aware of.

22 Q. Okay, on Exhibit Number 3 I show a hatched area.  
23 Is this just the Burk leases or leases that's controlled  
24 and operated by Burk?

25 A. Yes.

1 Q. Okay. Now, the Neal, that's all confined just to  
2 that northeast quarter of Section what? Thirty- --  
3 whatever section --

4 A. Section 35.

5 Q. Okay. Now, this Hansen C lease up above here,  
6 this waterflood, it looks almost identical to what you're  
7 proposing here, and I don't have anything in front of me.  
8 Was this a similar instance, there was saltwater disposal  
9 or injection existing prior?

10 A. It had been a disposal well at one time, but they  
11 had ceased using it at the time that we made the  
12 application for a waterflood for it.

13 Q. Now, does that one get the tax credit, that  
14 waterflood?

15 A. It qualified, yes.

16 EXAMINER STOGNER: Okay. Do you by chance have  
17 that number, Mr. Bruce?

18 MR. BRUCE: I do, I will get the number for you.

19 EXAMINER STOGNER: Okay.

20 MR. BRUCE: It's in my files somewhere, but I  
21 don't remember.

22 Q. (By Examiner Stogner) Okay, now where's the  
23 Seven Rivers interval, because this pool takes in both the  
24 Yates and the Seven Rivers formations?

25 A. It is below.

1 Q. It's below. Has any of the Seven Rivers from any  
2 of these wells, have they actually perforated or produced  
3 from the lower Seven Rivers?

4 A. On the Neal, it has not. On the Milner lease to  
5 the west that Burk acquired approximately five years ago,  
6 it does produce.

7 Q. Okay. Do you know which well -- the discovery  
8 well or where the discovery well for this pool was?

9 A. I've got that back in my office.

10 Q. That will be in the record. I was just trying to  
11 get some idea of how many other injections or waterfloods  
12 are out there in this particular pool. Do you have any --  
13 Is the Hanson C the only waterflood that Burk operates in  
14 this pool?

15 A. The Cruces 3 --

16 Q. The Cruces 3 --

17 A. -- is an injection well, but I'm not sure if it  
18 is classified as a disposal or injection.

19 Q. Do you know how long it's been injecting?

20 A. Since before we acquired it from Phillips.

21 Q. Okay.

22 A. Which was in the early 1990s.

23 Q. Okay, how about any other operators in this pool?  
24 Are you aware of any other waterfloods or injections?

25 A. I've not done a field study to determine that.

1 EXAMINER STOGNER: Okay. Mr. Bruce, do you have  
2 anything further?

3 MR. BRUCE: Just one follow-up question.

4 FURTHER EXAMINATION

5 BY MR. BRUCE:

6 Q. Looking at your Exhibit 7, Mr. Gibson, you did  
7 say that production peaked in -- what? 1994?

8 A. Yes.

9 Q. And it has been declining since then?

10 A. Yes, it peaked at 1000 barrels per month, and  
11 it's now currently 600 barrels per month.

12 Q. Okay. So with your injection proposal you do  
13 hope to increase production at -- from the current level?

14 A. Yes.

15 MR. BRUCE: Okay. Other than that, Mr. Examiner,  
16 I just want to verify a couple of things.

17 I will give you the number from the other Burk  
18 waterflood case. I do have that, I think, back in my  
19 office.

20 Mr. Gibson will provide you the plugged and  
21 abandoned charts, together with calculations or actual tops  
22 of cement measurements, plus information on the injection  
23 pressures currently in the Neal 3 well.

24 EXAMINER STOGNER: Well, you brought up something  
25 up. Let's go ahead and review this a little bit more.

## FURTHER EXAMINATION

1  
2 BY EXAMINER STOGNER:

3 Q. Why did production start decreasing in 1994? Was  
4 there one of the wells that went bad or shut in or anything  
5 that you know of?

6 A. I think what happened -- and I'd have to go back  
7 and study it to verify -- is that that is close to the time  
8 that we acquired the Milner lease that is adjacent to the  
9 west, and we bought the Milner lease to supplement our  
10 water injection. And we increased the injection in the  
11 Neal Number 3 at that time, and I think the increase in the  
12 first part of 1994 is the result of increasing the water  
13 rate into the Neal Number 3. And the subsequent decline  
14 since is the normal decline associated with a steady  
15 injection rate.

16 Q. Is there any plans to unitize this large area, to  
17 maybe put in an infill program or a larger injection  
18 profile or anything?

19 A. We have talked about drilling some wells on 20-  
20 acre spacing, but we have not talked about unitizing.

21 EXAMINER STOGNER: Okay, Mr. Bruce, I don't have  
22 any other questions of this witness.

23 MR. BRUCE: Other than the items I listed, is  
24 there anything else we need to get for you? I think I got  
25 them all.

1 EXAMINER STOGNER: Well, since you're offering,  
2 yeah. Exhibit Number 5 --

3 MR. BRUCE: Yes.

4 EXAMINER STOGNER: -- on the existing wells, I'd  
5 like to have the tops of cement shown.

6 MR. BRUCE: Yeah, we will supplement that with  
7 sketches and with the --

8 EXAMINER STOGNER: Well, you offered us some  
9 additional stuff. I'm talking about the producing wells.  
10 They don't show the tops of cement on those cased  
11 intervals, but that would be nice to have. Okay, I don't  
12 need sketches on all of those, I just need sketches on the  
13 abandoned ones.

14 MR. BRUCE: On the abandoned wells, yes.

15 EXAMINER STOGNER: And then show how those tops  
16 of cements -- that they were calculated or shown in the  
17 record as temperature surveys. And if you do calculate  
18 them, put in the calculation.

19 Okay. Also, I'd welcome a draft order in this.  
20 Anything further in this matter?

21 MR. BRUCE: No, Mr. Examiner, I'd just ask that  
22 the record will be held open for, oh, I don't know, a  
23 couple of weeks to allow Mr. Gibson to make the  
24 calculations and provide the additional data.

25 EXAMINER STOGNER: Okay, I'll hold it for a

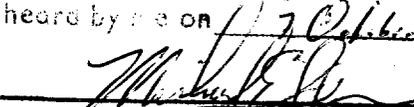
1 couple of -- If you could step it up a little bit quicker,  
2 that would be appreciative.

3 MR. BRUCE: And I will provide the order together  
4 with that data.

5 EXAMINER STOGNER: Okay. If there's nothing else  
6 further in this matter, then once I receive that  
7 supplemental information, this matter will be taken under  
8 advisement.

9 (Thereupon, these proceedings were concluded at  
10 12:30 p.m.)

11 \* \* \*

12  
13  
14  
15 I do hereby certify that the foregoing is  
16 a correct and true report of the proceedings in  
17 the hearing of Case No. 12262,  
18 heard by me on 17 October 1999.  
19  Examiner  
20 Mark E. Stogner  
21 **Off Conservation Division**  
22  
23  
24  
25

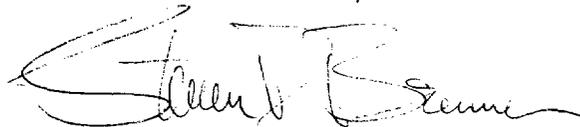
## CERTIFICATE OF REPORTER

STATE OF NEW MEXICO    )  
                                   )    ss.  
 COUNTY OF SANTA FE    )

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

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 October 27th, 1999.



STEVEN T. BRENNER  
 CCR No. 7

My commission expires: October 14, 2002