

## 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. 9253

IN THE MATTER OF CASE NO. 9253 )  
BEING REOPENED PURSUANT TO THE )  
PROVISIONS OF DIVISION ORDER )  
NO. R-8546 )

**ORIGINAL**REPORTER'S TRANSCRIPT OF PROCEEDINGSEXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

AUGUST 18, 1994

Santa Fe, New Mexico

This matter came on for hearing before the Oil  
Conservation Division on Thursday, August 18, 1994, at  
Morgan Hall, State Land Office Building, 310 Old Santa Fe  
Trail, Santa Fe, New Mexico, before Steven T. Brenner,  
Certified Court Reporter No. 7 for the State of New Mexico.

\* \* \*

## I N D E X

August 18, 1994  
 Examiner Hearing  
 CASE NO. 9253

## PAGE

## APPEARANCES

3

## APPLICANT'S WITNESSES:

DAVID SHATZER

Direct Examination by Mr. Carr

4

Examination by Examiner Catanach

12

DAN WILKIRSON

Direct Examination by Mr. Carr

14

Examination by Examiner Catanach

24

## REPORTER'S CERTIFICATE

27

\* \* \*

## E X H I B I T S

## Identified

## Admitted

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\* \* \*

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

FOR MEWBOURNE OIL COMPANY:

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

\* \* \*

1           WHEREUPON, the following proceedings were had at  
2   8:17 a.m.:

3           EXAMINER CATANACH: At this time we'll call first  
4   case, 9253, In the matter of Case Number 9253 being  
5   reopened pursuant to the provisions of Division Order  
6   Number R-8546, which order created the Santo Nino-Bone  
7   Spring Pool in Eddy County, New Mexico.

8           Are there appearances in this case?

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

12           I represent Mewbourne Oil Company in this case  
13   and I have two witnesses.

14           EXAMINER CATANACH: Are there additional  
15   appearances?

16           Will the two witnesses please stand to be sworn  
17   at this time.

18           (Thereupon, the witnesses were sworn.)

19                   DAVID SHATZER,  
20   the witness herein, after having been first duly sworn upon  
21   his oath, was examined and testified as follows:

22                   DIRECT EXAMINATION

23   BY MR. CARR:

24           Q. Will you state your name for the record, please?

25           A. My name is David Shatzer.

1 Q. And where do you reside?

2 A. Midland, Texas.

3 Q. Mr. Shatzer, by whom are you employed and in what  
4 capacity?

5 A. I'm a petroleum geologist for Mewbourne Oil  
6 Company.

7 Q. Have you previously testified before the New  
8 Mexico Oil Conservation Division?

9 A. Yes, I have.

10 Q. At the time of that prior testimony, were your  
11 credentials as a petroleum geologist accepted and made a  
12 matter of record?

13 A. Yes, they were.

14 Q. Are you familiar with the Santo Nino-Bone Springs  
15 Pool?

16 A. Yes.

17 Q. And have you prepared certain exhibits for  
18 presentation here today?

19 A. Yes, I have.

20 MR. CARR: Are the witness's qualifications  
21 acceptable?

22 EXAMINER CATANACH: They are.

23 Q. (By Mr. Carr) Mr. Shatzer, would you first  
24 briefly summarize for Mr. Catanach what Mewbourne seeks in  
25 this case?

1           A.    We seek to get permanent 80-acre spacing pool  
2 rules for the Santo Nino-Bone Spring Pool.

3           Q.    And who was the original Applicant in this case?

4           A.    The original Applicant was Manzano Oil, based on  
5 their three wells, the Elliott Federals Number 1, 2 and 3.

6           MR. CARR: Mr. Catanach, this case was originally  
7 heard in November of, I believe, 1987. At that time, Order  
8 R-8546 was entered -- it was entered, actually, on November  
9 the 17th of that year -- adopting temporary rules for an  
10 18-month period of time.

11           Mewbourne has plans for additional development,  
12 and it was discovered that the case had never been re-  
13 opened to adopt those pool rules on a permanent basis, and  
14 that's the reason we are here before you today, instead of  
15 Manzano, the original Applicant in this case.

16           Q.    (By Mr. Carr) Mr. Shatzer, could you refer to  
17 what has been marked as Mewbourne Exhibit Number 1, please?

18           A.    Yes, Exhibit Number 1 is a support letter from  
19 the only operator of the wells in the pool, Manzano Oil.  
20 It states their support of our Application to get the 80-  
21 acre pool rules made permanent and their support of our  
22 position.

23           Q.    And Manzano, in fact, is the operator of all  
24 three wells currently producing from the pool?

25           A.    Yes, they are.

1           Q.    Let's go to what has been marked as Mewbourne  
2 Exhibit Number 2.  Would you first identify this and then  
3 review it for the Examiner?

4           A.    This is a land plat of the acreage involved in  
5 the Santo Nino Pool area.  It's on a 1-inch-to-2000-foot  
6 scale.

7                   The present pool outline for the Santo Nino-Bone  
8 Spring Pool is shown in the green outline, and it contains  
9 three standup 80-acre spacing units for the Elliott  
10 Federals Number 1, Number 2, Number 3, operated by Manzano  
11 Oil, and that's the only acreage dedicated at this time to  
12 the Santo Nino Pool.

13                   And the outline in dark red-orange outlines the  
14 Mewbourne partial interest that we have obtained in this  
15 area.

16                   And then the solid yellow colors are 100-percent  
17 Mewbourne Oil Company leases.

18                   Our initial proposed location is shown in the  
19 southwest of the northwest of Section 29 for our Mewbourne  
20 Oil Company Santo Nino 29 Federal Number 1.

21           Q.    This exhibit also contains a trace for a cross-  
22 section; is that right?

23           A.    Yes.

24           Q.    Let's go now to that cross-section, Mewbourne  
25 Exhibit Number 3, and I'd ask you to review the information

1 on that exhibit for Mr. Catanach.

2 A. Exhibit Number 3 is cross-section G-G', showing  
3 generally the first Bone Spring and second Bone Spring  
4 producing -- first and second Bone Spring sand producing  
5 intervals in the three Manzano wells in the Santo Nino  
6 Pool.

7 The cross-section runs from the Elliott Federal  
8 Number 3 on the left, and runs through Number 2 to the  
9 Elliott Federal Number 1, which was the initial well for  
10 the pool, on the right.

11 The upper portion is the first Bone Spring sand,  
12 and on the cross-section, lower, is the second Bone Spring  
13 sand.

14 Of the three wells, the best producer was the  
15 Elliott Federal Number 1. It has made 82,732 barrels of  
16 oil, 278 million to date.

17 The Elliott Federal Number 2 has made 43,786  
18 barrels of oil and 247 million to date.

19 And the Elliott Federal Number 3 is the poorest  
20 producer at 20,099 barrels and 103 million. And the Number  
21 3 represents an uneconomic well for this area.

22 Q. Now, from this exhibit you have determined net  
23 pay and water saturation, have you not?

24 A. Yes, I have.

25 Q. And could you review how you have done that for



1 Mr. Catanach?

2 A. Okay, the net pay -- The net pay is shown as the  
3 line at 12 percent log porosity, drawn in pink across the  
4 pay portions of each of these producing sections.

5 And we've arrived at a 12-percent cutoff for the  
6 Bone Spring sand through our work in other first Bone  
7 Spring sand fields where we've had core data that tells us,  
8 you know, exact relationship to permeability and  
9 producibility.

10 And also, we've been able to make some relative  
11 judgments as to which zones contributed most as these wells  
12 were completed from the detailed well files. So that's how  
13 we arrived at the 12-percent cutoff. It's something we've  
14 used for quite a long time.

15 And that -- Basically, I've gone down through and  
16 added up the amount of total feet in each of the zones that  
17 are greater than this 12-percent cutoff, and that's how  
18 I've come up with the net pay totals for the first sand and  
19 also the second sand.

20 And since these wells are produced in a  
21 commingled completion where the second Bone Spring sand is  
22 produced with the first Bone Spring sand, then these two  
23 numbers need to be added together, and they'll be input  
24 into the data that our engineer will produce in just a few  
25 minutes.

1 Q. Now, as to the water cut, how is that determined?

2 A. Water-saturation calculations were developed --  
3 just basic, the log calculations, using an RW of .035 for  
4 the area, and that we just have an average of the water  
5 saturation calculations over the intervals that are  
6 perforated, and producing.

7 And in some of the areas that have the  
8 perforations a little more spread out, why, the water-  
9 saturation calculations are just from those intervals that  
10 are perforated and producing.

11 So that as far as net pay goes, the Number 1 well  
12 had a total of 53 feet of net pay, and the Number 2 well  
13 had a total of 58 feet of net pay, and the Number 3, the  
14 Elliott Federal Number 3 Well, had a total of only six feet  
15 of net pay.

16 And in the case of water saturations, it shows  
17 pretty much what we'd expect. We believe that the first  
18 Bone Spring sand is the dominant producer in these three  
19 wells, producing more of the oil and gas that's coming out  
20 of the first Bone Spring sand. Therefore, it has better  
21 net pay numbers, and also it has better water saturations.

22 The water saturation calculation averages for the  
23 first sand are in the range of 48- to 52-percent, whereas  
24 the second Bone Spring sand are more in the range of 52- to  
25 58-percent water-saturation calculations, and therefore we

1 don't think the contribution of the second sand is as  
2 great.

3 But these numbers are averaged and totaled and  
4 will be used by our engineer in the calculations for  
5 drainage for this pool.

6 Q. Would you identify Mewbourne Exhibit Number 4,  
7 please?

8 A. Exhibit Number 4 is a structure map on the top of  
9 the first Bone Spring sand. It's also on a contour  
10 interval of 50 feet on a 1-inch-to-2000-foot scale.

11 And the pool outline for the Santo Nino field is  
12 again shown in the green outline.

13 Q. Is structure a significant factor in the drainage  
14 calculations that will be utilized in this case?

15 A. No, not really. The structure is gently dipping  
16 to the southeast, on a fairly consistent basis in this  
17 area, but it's not really relevant to our drainage  
18 calculations, really.

19 The data derived from the logs from the previous  
20 cross-section, G-G', is really where the basis for our  
21 calculations --

22 Q. And in that regard, you're talking about net pay,  
23 porosity and water saturation?

24 A. Yes.

25 Q. Will Mewbourne also be calling an engineering

1 witness to present drainage calculations to the Examiner?

2 A. Yes.

3 Q. Were Exhibits 1 through 4 prepared by you or  
4 compiled at your direction?

5 A. Yes, they were.

6 MR. CARR: At this time, Mr. Catanach, we move  
7 the admission of Mewbourne Exhibits 1 through 4.

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

10 MR. CARR: And that concludes my direct  
11 examination of Mr. Shatzer.

12 EXAMINATION

13 BY EXAMINER CATANACH:

14 Q. Mr. Shatzer, tell me again how you arrived at  
15 your 12-percent porosity cutoff.

16 A. We've used that in other Bone Spring sand fields  
17 for which we have core data. The core data shows that --  
18 in general, below log porosity. But we don't have core  
19 data -- none of these Manzano wells were cored -- and so we  
20 don't really have a good handle on permeability and what  
21 would be contributing to actual pay.

22 Because Bone Spring completions are large  
23 intervals that are perforated and then massive frac jobs,  
24 you have to make some estimate as to -- rough estimate as  
25 to net pay, because you're putting in large fracture

1 treatments over a large interval.

2 But in these fields that we're familiar with that  
3 are -- For instance, Walters Lake, that's only five miles  
4 away, we've got core data that tells us that at generally  
5 less than 12 percent on the log of porosity, the  
6 corresponding permeabilities that we've seen in core data  
7 are insufficient to add much to net pay and that we need  
8 greater than that.

9 And also -- Manzano completed these wells in  
10 stages. We have seen the well reports and that the  
11 intervals that were most porous in the first Bone Spring  
12 sand came on a lot stronger when they were completed,  
13 rather than the second Bone Spring sand.

14 But 12 percent is something that we've worked  
15 with in basically Eddy and Lea County through several Bone  
16 Spring sand fields. And we -- In the absence of core data  
17 from these three wells, the relative contributions seem to  
18 be consistent with what we've seen in the past.

19 Q. How comfortable are you comparing the core data  
20 from the field five miles away with this field?

21 A. I think we're pretty -- I'm fairly confident,  
22 because we see the same zones. The Bone Spring is a  
23 submarine fan shelf slope sand that is rather widespread,  
24 and so some of these units can be correlated for literally  
25 townships; 20, 25 miles, you can correlate these same sand

1 packages.

2 Their reservoir continuity isn't that great, but  
3 their genetic relationships are -- they're fairly  
4 correlative.

5 EXAMINER CATANACH: That's all I have.

6 MR. CARR: At this time we would call Dan M.  
7 Wilkirson.

8 DAN WILKIRSON,

9 the witness herein, after having been first duly sworn upon  
10 his oath, was examined and testified as follows:

11 DIRECT EXAMINATION

12 BY MR. CARR:

13 Q. Will you state your name for the record, please?

14 A. My name is Dan M. Wilkirson.

15 Q. Would you spell your last name, please?

16 A. W-i-l-k-i-r-s-o-n.

17 Q. Where do you reside?

18 A. I reside in Tyler, Texas.

19 Q. By whom are you employed and in what capacity?

20 A. I work for Mewbourne Oil Company as their chief  
21 reservoir engineer.

22 Q. Have you previously testified before the New  
23 Mexico Oil Conservation Division?

24 A. Yes, I have.

25 Q. At the time of that prior testimony, were your

1 credentials as a petroleum engineer accepted and made a  
2 matter of record?

3 A. Yes, they were.

4 Q. In fact, you're a registered petroleum engineer  
5 in the State of Texas, are you not?

6 A. Yes, I am.

7 Q. Mr. Wilkirson, how many years' experience have  
8 you had as a reservoir engineer?

9 A. Seventeen years.

10 Q. Have you reviewed the available data on the Santo  
11 Nino-Bone Spring Pool?

12 A. Yes, I have.

13 Q. And have you conducted a study of this pool to  
14 estimate the area being drained by each of the existing  
15 wells in that pool?

16 A. Yes, I have.

17 MR. CARR: Mr. Catanach, are the witness's  
18 qualifications acceptable?

19 EXAMINER CATANACH: They are.

20 Q. (By Mr. Carr) Mr. Wilkirson, you've prepared  
21 exhibits for presentation here today?

22 A. Yes, I have.

23 Q. Would you refer to what has been marked as  
24 Mewbourne Exhibit Number 5, identify this exhibit and  
25 review the information thereon for the Examiner?

1           A.     Exhibit Number 5 is a production history graph  
2     from the Elliott Federal Number 1, located in Section 30,  
3     Unit H, in the Santo Nino-Bone Spring. This was the  
4     discovery well for the pool.

5           This well was originally drilled in 1977 as a  
6     Morrow test and then re-entered in 1987 by Manzano and  
7     completed in the Bone Spring sand, the first and the second  
8     sand.

9           The initial potential test for this well was 245  
10    barrels of oil per day, 180 barrels of water per day and  
11    459 MCF per day.

12           As you can see, this well is, from most of our  
13    Bone Spring experience, is a fairly typical production  
14    profile: a rather rapid initial decline in a hyperbolic  
15    shape and then breaking over and reaching a more stable  
16    production rate.

17           I also used this well and the daily data from the  
18    original completion to estimate that the original gas-oil  
19    ratio in the pool was about 1100 standard cubic feet per  
20    barrel to use for estimating fluid properties for the pool.

21           Using that, I estimated that the -- and the  
22    gravities of the oil and the gas -- that the original  
23    volume factor for the pool was about 1.57.

24           Q.     What was the estimated saturation pressure?

25           A.     I estimated that the original saturation pressure



1 was probably around 3000 pounds, and that was probably very  
2 close to the original pressure in the pool.

3 Almost all the Bone Spring wells that we see  
4 exhibit very high gas-oil ratios very early in their  
5 completion life, within a matter of days, normally, of  
6 being put on production. The gas-oil ratio climbs very  
7 rapidly.

8 That's associated with the very low permeability  
9 that we normally see in the Bone Spring, on the order of 1  
10 to 10 millidarcies. And this is an 11 -- 1000 to 1200 gas-  
11 oil ratios are fairly common for other Bone Spring pools in  
12 the area.

13 Q. Mr. Wilkirson, let's move on to Mewbourne Exhibit  
14 Number 6. Would you identify that?

15 A. Exhibit 6 is a similar graph for the Elliott  
16 Federal Number 2. This well was drilled in February, 1988,  
17 about six months after the Elliott Federal Number 1.

18 Its initial potential test was 125 barrels of oil  
19 per day, 30 barrels of water per day and 150 MCF per day.  
20 It also shows that characteristic hyperbolic decline in  
21 oil.

22 I forgot the mention, the oil is shown in green,  
23 the gas is shown in red, and the blue line is the gas-oil  
24 ratio.

25 Q. And now let's go to the last of these three

1 plots, Exhibit Number 7. Identify and review that.

2 A. Exhibit Number 7 is a similar graph for the  
3 Elliott Federal Number 3.

4 This well was drilled in July, 1988, or completed  
5 in July, 1988, four or five months after the Elliott  
6 Federal Number 2. Its initial potential was only -- was  
7 160 barrels of oil per day, 180 barrels of water per day  
8 and 345 MCF per day.

9 It was put on pump immediately after it was  
10 frac'd. The initial potential test was on pump where the  
11 other two wells were flowing. And this well shows a very  
12 rapid decline, and you can -- The single lines projecting  
13 out is my forecast of the ultimate recovery. This well is  
14 very near its economic limit and will be a very marginal  
15 well.

16 Q. On each of these wells you have current  
17 production information?

18 A. Yes.

19 Q. And for what month is the most recent --

20 A. The most recent data we had was for April, 1994.

21 Q. Could you explain to the Examiner what each of  
22 the wells is currently producing?

23 A. Yeah, the Elliott Number 1 in April averaged 19  
24 barrels of oil a day, 14 barrels of water a day, and 68 MCF  
25 a day, which comes to a gas-oil ratio of 3600 cubic feet

1 per barrel.

2 The Elliott Number 2 in April averaged 9 barrels  
3 of oil a day, 6 1/2 barrels of water, and 62 MCF, which is  
4 a gas-oil ratio of 6900.

5 And the Elliott Number 3 averaged 5 barrels of  
6 oil a day, 14 barrels of water, and 24 MCF, which is a gas-  
7 oil ratio of 4600.

8 Q. All right, let's go now to Exhibit Number 8.  
9 Would you identify that and review that for Mr. Catanach?

10 A. Exhibit 7?

11 Q. Exhibit Number -- I think Exhibit 7 was the  
12 plot --

13 A. Oh, I'm sorry, I've got different --

14 Q. -- on the Number 3, Exhibit 8 being an  
15 engineering calculation.

16 A. I'm sorry. All right. Exhibit 8 is a  
17 calculation to estimate how many acres are being drained by  
18 each of these wells in the pool.

19 For each of the three wells, it shows the  
20 geologic parameters per Mr. Shatzer's work for the first  
21 Bone Spring sand and the second Bone Spring sand. It shows  
22 the number of net feet, the porosity and the water  
23 saturation for each of those.

24 I then calculated an original oil in place, based  
25 on a one-acre area, using the fluid properties that were

1 estimated from the performance of the Elliott Number 1.

2 I also estimated the gas in place for each of  
3 those two zones, and then I totaled those two zones to give  
4 the amount of oil in place per acre for each well.

5 The column labeled Projected Ultimate Recovery is  
6 based on the decline curves shown on the previous three  
7 exhibits for each of the wells. Elliott Number 1, ultimate  
8 oil projected to be about 138,000 barrels; the Number 2,  
9 about 90,000 barrels; and the Number 3, about 25,000  
10 barrels.

11 I then took this ultimate oil and divided it by  
12 an oil in place and an assumed recovery factor to get a  
13 guess on how many acres are being drained by each of the  
14 wells. The results of that is based on oil.

15 The Elliott Federal Number 1 would be draining  
16 about 65 acres; the Number 2, 40 acres; and the Number 3,  
17 116 acres.

18 I used a recovery factor for oil of 12 percent,  
19 which, based on some of our other Bone Spring pools, may be  
20 a little high, but I wanted to try to make this a somewhat  
21 conservative estimate.

22 I also used 60-percent recovery for gas and did  
23 the same kind of estimate for how much is being drained by  
24 the gas -- on gas.

25 For some reason, this pool seems to be providing

1 less gas than some of the other Bone Spring pools. They  
2 typically have 6000 to 8000 average GORs, and this pool  
3 looks like over the life it may have an average of only  
4 4000.

5 Q. What is the average drainage area for oil in this  
6 pool?

7 A. The average of those three is 73 acres per well.

8 Q. Are there other Bone Spring pools in the area  
9 that are, in fact, being developed on 80-acre spacing?

10 A. Yes, we identified three other Bone Spring pools  
11 that are currently on 80-acre spacing. One is the Culebra  
12 Bluff-Bone Spring Pool in Eddy County, one is the EK-Bone  
13 Spring Pool in Lea County, and the third is the Old  
14 McMillan Ranch Bone Spring Pool, which is an oil with  
15 associated gas pool. The oil is on 80-acre spacing.

16 Q. Mr. Wilkirson, these wells were fracture-  
17 stimulated when they were completed, were they not?

18 A. Yes, Manzano's standard completion was to  
19 fracture-stimulate each of these wells with at least  
20 300,000 pounds of sand. Two of the wells were done in a  
21 stage frac, one of the wells was done in a single frac.  
22 And based on our experience with fracs in the area, I would  
23 estimate that these fractures should extend at least 400  
24 feet on either side of the well, with that size of fracture  
25 job.

1           Q.    Now, if you're on 40-acre spacing, what does this  
2   mean in terms of the potential for interconnection between  
3   the fractures?

4           A.    It means that the fracs are oriented in the same  
5   direction that your wells are aligned.

6                    You have a potential of getting two fractures  
7   very close together and the wells interfering with the  
8   production or drainage for each one.

9                    You'd end up with a less efficient drainage  
10   pattern than you would if the wells were spaced farther  
11   apart.

12           Q.    Let's go now to Mewbourne Exhibit Number 8.  
13   Would you identify and review that, please? I'm sorry, now  
14   we are to Exhibit Number 9.

15           A.    Exhibit Number 9 is just some rough economics for  
16   our proposed Bone Spring well, with the estimated costs to  
17   drill the well through the second Bone Spring sand, and  
18   estimated operating costs based on 20 years, which is taken  
19   from the life of these other wells in the field. So we get  
20   a very rough total cost of the well over the life of the  
21   well.

22                    And then I took average prices for oil and gas,  
23   reduced them by royalty and production taxes, and divided  
24   the cost of the well by these average revenues in constant  
25   dollars to get some estimate of what it takes for a break-

1 even well in the Bone Spring.

2 And the results of that are that it would take a  
3 60,000- to 65,000-barrel well to make a real economic  
4 producer in the Bone Spring.

5 On 40-acre spacing, you -- if you get wells with  
6 as good a pay as the Elliott 1 and 2, you would only expect  
7 80,000 to 90,000 barrels a well on a 40-acre spacing.

8 So if you then risk-adjust that, you reach a  
9 point where the wells -- the economics, from an exploration  
10 standpoint of drilling the wells, becomes kind of weak.

11 Q. Is it your recommendation that 80-acre well  
12 spacing be adopted in this pool on a permanent basis?

13 A. Yes, I believe that 80-acre well spacing should  
14 be adopted on a permanent basis, because that will  
15 encourage the drilling of wells which would result in the  
16 conservation of natural resources, the prevention of waste  
17 and the protection of correlative rights.

18 Q. Were Exhibits 5 through 9 prepared by you?

19 A. Yes, they were.

20 Q. At this time, Mr. Catanach, we move the admission  
21 of Mewbourne Oil Company Exhibits 5 through 9.

22 EXAMINER CATANACH: Exhibits 5 through 9 will be  
23 admitted as evidence.

24 MR. CARR: That concludes my direct examination  
25 of this witness.

## EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Wilkirson, the three wells that are being produced, have you seen any evidence of any kind of interference between these wells?

A. I haven't really seen -- I can honestly say that the Number 3 doesn't, and it's an 80-acre spacing.

The Number 2 and the Number 1 are very close together. They are essentially sitting side by side like a typical 40 acres.

But the decline on the wells are so rapid it's real hard to say whether they're truly interfering or not.

The sum of the -- I think that one of the reasons that recovery from the Number 2 appears to be low, based on the amount of net pay in it, is possibly because the Number 1 is interfering, but I can't point to any direct evidence that says that's occurring.

But you may be able to tell from the graph, the Number 2 declined quite a bit more rapidly than the Number 1 when it was initially completed.

Q. In your opinion, it would be uneconomic to drill these wells on a 40-acre spacing?

A. I don't work in our exploration department. I'd be real hard-pressed to state that as a matter of record. But when you start risk-adjusting the wells, it starts



1 making the economics look not nearly as attractive as it  
2 does on an 80 acres.

3 Obviously, the Number 3 well was uneconomic for  
4 Manzano at 25,000 barrels. It will never pay out. I'm  
5 sure that's why they ceased development.

6 Q. What did you use as your economic limit in these  
7 decline curves?

8 A. I used 100 barrels a month -- these were monthly  
9 rates -- which would equate to about 3 barrels a day. And  
10 I use that through most of New Mexico as a kind of a rough  
11 rule of thumb on a pumping well.

12 Q. How did you come up with your 12-percent recovery  
13 factor?

14 A. I looked at other Bone Spring pools that we have  
15 significant development in.

16 The most direct example would be Walter Lake,  
17 which is about five miles away, and that field is currently  
18 developed on 40s, but it's estimated the -- My estimated  
19 recovery factor followed that field as less than 11  
20 percent. So I thought 12 percent was a fairly conservative  
21 estimate.

22 Q. Did you look at any other Bone Spring pools?

23 A. Well, I have experience in Querecho Plains-Bone  
24 Spring where we're currently starting waterflood  
25 operations, and it looked like that field would probably be

1 maybe 14 percent. But it tended to have a little bit  
2 better permeability than Walter Lake does, so far, from  
3 what we've seen.

4 Q. Do you expect a well in Section 29 to be  
5 comparable to the Number 1 well in Section 30?

6 A. That would -- I'm sure that's our hope. I didn't  
7 pick that location, nor have I really seen the maps that  
8 the exploration prospect were developed from.

9 And we have filed for a permit for that location.  
10 As far as I know, we have every intention of drilling it.

11 EXAMINER CATANACH: Okay, I have nothing further  
12 of the witness. He may be excused.

13 Anything further, Mr. Carr?

14 MR. CARR: Nothing further in this case, Mr.  
15 Catanach.

16 EXAMINER CATANACH: There being nothing further,  
17 Case 9253 will be taken under advisement.

18 (Thereupon, these proceedings were concluded at  
19 8:51 a.m.)

20 \* \* \*

21  
22 I do hereby certify that the foregoing is  
23 a complete record of the proceedings in  
the Examiner hearing of Case No. 9253,  
24 heard by me on April 12 19 58.

25 David R. Catanach, Examiner  
Oil Conservation Division

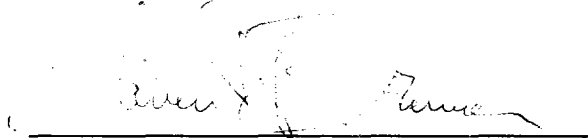
## 1 CERTIFICATE OF REPORTER

2  
3 STATE OF NEW MEXICO )  
4 ) ss.  
COUNTY OF SANTA FE )

5  
6 I, Steven T. Brenner, Certified Court Reporter  
7 and Notary Public, HEREBY CERTIFY that the foregoing  
8 transcript of proceedings before the Oil Conservation  
9 Division was reported by me; that I transcribed my notes;  
10 and that the foregoing is a true and accurate record of the  
11 proceedings.

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

16 WITNESS MY HAND AND SEAL August 20, 1994.

17  
18   
19 STEVEN T. BRENNER  
CCR No. 7

20  
21 My commission expires: October 14, 1994  
22  
23  
24  
25

## NEW MEXICO OIL CONSERVATION COMMISSION

## EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date AUGUST 18, 1994 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
Ernst Haide	Pacific Law Firm	SF
Ernst & Kellin	Kellin & Kellin	Santa Fe
Ernst & Kellin	Loew Law Firm	Albuquerque
VICTOR T. LYON	Loew Law Firm	SF
William T. Lyon	Sampson, Lyon, Fugate & Eubank	Santa Fe
Tom Weinheimer	Vastar Resources, Inc.	Farmington
Bill Hawkins	Amoco	Denver
David Shitzer	Newbourne Oil Co	Midland
DAN WILKINSON	NEWBOURNE OIL	TULSA
Sharon Hamilton	Yates Energy Corp	Roswell
KICK ROSS	YATES ENERGY	ROSWEEL
GEORGE SUTHERLAND	Amadario Pet. Corp	Midland, TX
PATRICK SUTHERLAND	AMADARIO PETROLEUM	Midland, TX
BRIAN REID	EXXON CO USA	MIDLAND, TX
Steve Speu	Palomo Res.	Roswell
John Butler	Montgomery & A. Lewis	SF
Karen C. Brown	Mobil E & P	Midland
Daniel Brown	Mobil E & P	Midland
Don W. Brown	Mobil E & P	MIDLAND
DOUGLAS BROWN	EAKE	DENVER

## NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARINGSANTA FE, NEW MEXICOHearing Date AUGUST 18, 1994 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
Maurice Trimmer	R.W. Ayman	ST
Jesse K. ...	Hickory Can Firm	ST
Angela McLaughlin	Meridian Oil Inc.	Farmington
LOUIS GOLDSTEIN	SANTA FE ENERGY	MIDLAND
Chris W. Smith	Santa Fe Energy	midland
J. H. ASHFORD, JR	ENRE CORPORATION	SAW ANTONIO
JEFF KIRN	ENRE CORPORATION	DENVER
GREG JENNINGS	MERIDIAN OIL INC	FARMINGTON
Mike Dawson	Meridian Oil	Farmington
TOM MULLINS	MERIDIAN OIL	FARMINGTON
VAN L. GOEBEL	MERIDIAN OIL	FARMINGTON
KEITH BAKER	MERIDIAN OIL	FARMINGTON