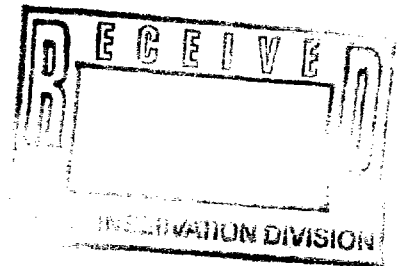


STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING )  
CALLED BY THE OIL CONSERVATION )  
DIVISION FOR THE PURPOSE OF )  
CONSIDERING: )  
 )  
APPLICATION OF MERIDIAN OIL, INC. )  
\_\_\_\_\_ )

CASE NO. 11,118

ORIGINAL



REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: JIM MORROW, Hearing Examiner

October 13th, 1994

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on Thursday, October 13th, 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.

\* \* \*

STEVEN T. BRENNER, CCR  
(505) 989-9317

## I N D E X

October 13th, 1994  
 Examiner Hearing  
 CASE NO. 11,118

|                                    |      |
|------------------------------------|------|
|                                    | PAGE |
| APPEARANCES                        | 3    |
| APPLICANT'S WITNESSES:             |      |
| <u>DEAN PRICE</u>                  |      |
| Direct Examination by Mr. Kellahin | 5    |
| Examination by Examiner Morrow     | 7    |
| <u>JAY CLOSE</u>                   |      |
| Direct Examination by Mr. Kellahin | 9    |
| Examination by Examiner Morrow     | 14   |
| <u>LEONARD J. BIEMER, JR.</u>      |      |
| Direct Examination by Mr. Kellahin | 19   |
| REPORTER'S CERTIFICATE             | 22   |

\* \* \*

## E X H I B I T S

|           | Identified | Admitted |
|-----------|------------|----------|
| Exhibit 1 | -          | 7        |
| Exhibit 2 | 5          | 7        |
| Exhibit 3 | 19         | 7        |
| Exhibit 4 | 8          | 8        |
| Exhibit 5 | 10         | 14       |
| Exhibit 6 | 13         | 14       |

\* \* \*

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

FOR THE APPLICANT:

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

\* \* \*

1           WHEREUPON, the following proceedings were had at  
2   12:15 p.m.:

3  
4  
5  
6           EXAMINER MORROW: Let's start again, and call  
7   Case Number 11,118. This is the Application of Meridian  
8   Oil, Inc., for compulsory pooling, San Juan County, New  
9   Mexico.

10          Call for appearances.

11          MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of  
12   the Santa Fe law firm of Kellahin and Kellahin, appearing  
13   on behalf of Meridian Oil, Inc.

14          Mr. Price and Mr. Biemer are continuing to be the  
15   same witnesses in this case, with the addition of Mr.  
16   Close. Mr. Close is a geologist, and I have a couple of  
17   brief questions for Mr. Close. I do not believe he has  
18   been sworn.

19          (Thereupon, Mr. Close was sworn.)

20          MR. KELLAHIN: Mr. Price, if you'll have a seat  
21   up there, sir.

22          May the record reflect, Mr. Examiner, that Mr.  
23   Price continues to qualify as an expert petroleum landman  
24   in this case, as he did in the past case.

25          EXAMINER MORROW: Good.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

DEAN PRICE,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Price, summarize for us what your company is seeking to do with what is identified as the Zachry 50 well.

A. We're seeking to obtain compulsory pooling of Amoco Production Company within our north-half producing unit in Section 35 for the recompletion of the Zachry Number 50 well in the Gallup formation and the Mesaverde formation.

Q. Let's turn, sir, to the display behind Exhibit Tab Number 2, that locator map. Within Section 35, what is currently being utilized for the Gallup spacing unit dedicated to the existing Zachry well?

A. Currently that is the 40 acres in the southwest of the northwest of Section 35, Township 29 North, Range 10 West.

Q. Within the 40-acre tract spacing unit for that well, is the ownership 100-percent Meridian?

A. Yes, it is.

Q. The plan is to add the Mesaverde as a downhole commingled portion within that existing well?

1           A.    Yes, it is.

2           Q.    And if you do so successfully, what would be the  
3           proration unit assigned for the Mesaverde portion of  
4           production?

5           A.    The Mesaverde would have a 320-acre spacing unit,  
6           which would encompass the north half of Section 35.

7           Q.    Have you proposed this procedure to all the  
8           working interest owners in the north half of 35 that would  
9           share in the Mesaverde production?

10          A.    Yes, we have.

11          Q.    Who are those working interest owners?

12          A.    Meridian and affiliated companies, and the only  
13          exception is Amoco Production Company. They own an  
14          interest in the northeast northeast quarter of Section 35.

15          Q.    As you have done in the prior case with the  
16          Lodewick well, did you propose in the Zachry well to Amoco  
17          their participation?

18          A.    Yes, we did.

19          Q.    What was the result of your efforts to get them  
20          to voluntarily join in the recompletion of the Zachry well  
21          to add the Mesaverde pool production?

22          A.    Again, we seem to be in agreement with everything  
23          sent to them with regard to cost, with regard to the  
24          operating agreement, with regard to drilling the well,  
25          except for the preferential right to purchase included in

1 the operating agreement.

2 Q. All right. And so your testimony with regards to  
3 the prior case in the Lodewick as to your activities with  
4 Amoco describe the same circumstances you dealt with Amoco  
5 concerning the Zachry 50 well?

6 A. Yes.

7 Q. At this point, do you see any opportunity that  
8 Amoco will change its practice with regards to requesting a  
9 preferential right to purchase be included in the operating  
10 agreement?

11 A. I don't know.

12 Q. In order to continue with the work, are you  
13 seeking to have Amoco's interest pooled for this well?

14 A. Yes.

15 MR. KELLAHIN: That concludes my examination of  
16 Mr. Price.

17 We move the introduction of his Exhibits 1, 2 and  
18 3.

19 EXAMINER MORROW: Okay, 1, 2 and 3 are admitted.

20 EXAMINATION

21 BY EXAMINER MORROW:

22 Q. Will the Mesaverde be added to the existing  
23 completion? Is that the situation?

24 A. Yes.

25 Q. What about the commingling? What --

1           A.    The two zones would be commingled, yes.

2           Q.    Has that been previously authorized or requested  
3 here, or what's the situation?

4           A.    Yes, it has been previously authorized.  There's  
5 an order granted from the Commission to commingle the  
6 Gallup Pool and the Mesaverde.  That was dated May 24th,  
7 1994.

8           Q.    Do you have the number on that?

9           A.    Order Number NSL-3372, and it is shown in Exhibit  
10 3.

11          Q.    Okay.

12          A.    Mr. Kellahin --

13          Q.    May, 1994?

14          A.    Yes, sir.

15                Mr. Kellahin, could I also ask that Exhibit 4 be  
16 included?  It's an additional exhibit.  All it is, it  
17 shows, breaks out the interests in the operating agreements  
18 for the Gallup and the Mesaverde.  It just --

19                MR. KELLAHIN:  Mr. Price, that's my oversight.

20                Mr. Examiner, Mr. Price's Exhibit 4 would show  
21 that in the Mesaverde Amoco's got 12 1/2 percent, if we may  
22 introduce Exhibit 4 at this time.

23                EXAMINER MORROW:  All right, Exhibit 4 is  
24 admitted into the record.

25                Thank you, sir.



1 THE WITNESS: Thank you.

2 MR. KELLAHIN: Call Jay Close.

3 JAY CLOSE,

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

6 DIRECT EXAMINATION

7 BY MR. KELLAHIN:

8 Q. Mr. Close, for the record would you please state  
9 your name and occupation?

10 A. Jay Close, petroleum geologist with Meridian Oil  
11 in Farmington, New Mexico.

12 Q. On prior occasions, Mr. Close, have you testified  
13 as an expert petroleum geologist before the Division?

14 A. Yes, sir, I have.

15 Q. And are you familiar with the geologic facts  
16 surrounding the Zachry Number 50 well?

17 A. Yes, sir, I am.

18 MR. KELLAHIN: We tender Mr. Close as an expert  
19 geologist.

20 EXAMINER MORROW: Fine, we accept Mr. Close.

21 Q. (By Mr. Kellahin) Describe, Mr. Close, why  
22 Meridian has selected the Zachry 50 well for the potential  
23 of taking an existing Gallup well and adding the Mesaverde  
24 to it.

25 A. We believe that there is upside potential in the

1 Mesaverde formation in this area and that by recompletion  
2 in an existing wellbore, we can capture reserves that would  
3 otherwise not be contacted and be able to be produced.

4 Q. There's an element of risk in doing that, is  
5 there not?

6 A. Yes, sir, there is.

7 Q. When we look at the risk of that operation,  
8 particularly in light of the geologic circumstances in the  
9 Mesaverde, do you have a geologic opinion as to that risk?

10 A. Yes, sir, I do.

11 Q. In terms of a percentage that the Division  
12 Examiner utilizes in compulsory pooling cases, he is  
13 authorized to allow Meridian to recover out of Amoco's  
14 share of production not only their share of the costs but a  
15 component two more times that number. It's a 200-percent  
16 risk number.

17 If that's the maximum level that he can grant you  
18 for this operation, what is your opinion of the appropriate  
19 level percentage that he should award?

20 A. My opinion is 200 percent.

21 Q. Describe for us how you got to that conclusion.

22 A. If I may draw your attention to the maps behind  
23 Exhibit 5.

24 Q. All right, sir, let's do that. If you'll look  
25 behind your yellow tab, the first display is what, sir?

1           A.    I'd like to draw your attention to the second map  
2   in that sequence, the cumulative gas production from the  
3   Mesaverde producing interval map.

4           Q.    All right. The first map, just for the record is  
5   what?

6           A.    The first map, for the record, is a map, a  
7   structure map on the Huerfanito bentonite bed in the Lewis  
8   shale which overlies the Mesaverde in this area.

9                   And that shows that there is not any significant  
10   faulting of known extent in this area, which is denoted by  
11   the arrow pointing up from the Zachry 50 symbol to the  
12   Zachry 50 location.

13          Q.    When we turn to the next display, that's the one  
14   of significance to you?

15          A.    Yes, sir.

16          Q.    Why is that of importance?

17          A.    This particular test is along the so-called  
18   Mesaverde water line. And along that line --

19          Q.    I don't know what that means.

20          A.    The water line, southwest of that line,  
21   typically, you have the propensity to have water production  
22   from the Mesaverde producing interval.

23                   To the north of that line, as you can see,  
24   production goes all the way from a very low amount to very  
25   prolific.

1           We are right along the line on which we have the  
2 potential to complete in a zone that could be water-  
3 productive. And therefore, because of that geologic risk,  
4 we have a potential to get ourselves a water well as  
5 opposed to a gas well, which is our objective.

6           EXAMINER MORROW: Where is the water line? Which  
7 display is it on?

8           THE WITNESS: That is the cumulative gas  
9 production map, the Mesaverde producing interval map, the  
10 second map behind Exhibit 5, along that trend there.

11          Q. (By Mr. Kellahin) The shaded areas depict  
12 different producing cumulative gas total numbers --

13          A. Yes, sir.

14          Q. -- from Mesaverde wells?

15               And so as we look into the white area, south and  
16 west, where it simply says San Juan --

17          A. Yes, sir.

18          Q. -- is that the area where predominantly the  
19 Mesaverde is water-bearing?

20          A. That is correct.

21          Q. And so that's the trend line you're trying to  
22 describe --

23          A. That is correct.

24          Q. -- that runs northwest-southeast?

25          A. That is correct.

1 Q. All right. And so if you're northeast of that  
2 line, then you're moving into Mesaverde gas production?

3 A. That is correct.

4 Q. And you're very close to the line, are you not?

5 A. That is correct, we are on or very near that  
6 line.

7 Q. Anything else that helps you support the  
8 recommended maximum penalty factor for the risk, Mr. Close?

9 A. Could I draw your attention to the geophysical  
10 log under Exhibit 6, the green tab?

11 Q. All right, sir.

12 A. And in looking at that geophysical log there,  
13 you'll see Point Lookout sandstone and an arrow pointing to  
14 the left. That is the interval that forms the main target  
15 in the Zachry 50 recompletion attempt.

16 As you look below the Point Lookout sandstone  
17 denotation, you're getting into an interval in which you  
18 have increasing likelihood or possibility of encountering  
19 water production upon fracture stimulation, the problem  
20 being that a fracture stimulation can vertically grow  
21 downward into that water-bearing zone and therefore  
22 effectively cancel out our good-faith efforts to obtain a  
23 gas well recompletion in that Point Lookout sandstone.

24 Q. In summary, then, those are the major components  
25 of the reasons by which you have come to the ultimate

1 conclusion the maximum penalty is appropriate?

2 A. That is correct.

3 The other item that I would add is to indicate  
4 that this interval is located above the producing Gallup  
5 interval, and therefore, because of that geometry, then,  
6 there is risk by this recompletion that we would sacrifice  
7 Gallup production. So therefore there is an element of  
8 technical risk in that respect as well.

9 MR. KELLAHIN: That concludes my examination of  
10 Mr. Close, Mr. Examiner.

11 We would move the introduction of his Exhibits 5  
12 and 6.

13 EXAMINER MORROW: 5 and 6 are admitted.

14 EXAMINATION

15 BY EXAMINER MORROW:

16 Q. Try again to explain the water line to me. I  
17 still didn't pick up on what you were talking about there.

18 A. What has happened in the Mesaverde tight gas  
19 interval is that for a number of reasons, some of which are  
20 conjectural and some of which are -- may be proven -- that  
21 there is a transition area where you go from gas  
22 production, or predominantly gas production with low water  
23 production.

24 As you move to the southwest of that area of gas  
25 concentration, you get into sandstones that have an

1 increasingly greater saturation as a function of water  
2 content. You get southwest of that line, and you get into  
3 those reservoirs that may have greater propensity for high  
4 water saturation that can be mobile if you fracture-  
5 stimulate into those intervals. Therefore, you have much  
6 more water production, or almost total water production, as  
7 opposed to the gas production which you're after.

8 And not only is there a lateral problem as you  
9 see on the map, there is also a vertical problem as denoted  
10 on the geophysical log behind Exhibit 6.

11 So lateral and vertical propensity to fracture-  
12 stimulate into water-bearing zones is very high, plus  
13 you're along the edge trend of the Mesaverde water line, as  
14 it is known in the industry, by recompletion efforts in  
15 this well.

16 So those are the main elements of technical risk  
17 involved in this project.

18 Q. So is the water line defined by these lower  
19 recovery rates? Is that what you're depicting here?

20 A. That is a key element in the definition of that  
21 water line, that is correct.

22 Q. So you would be further away from the water line  
23 where you indicate a 50 or a 20 or a 10; is that correct?

24 A. Yes, sir. As you move to the northeast, you are  
25 getting into higher quality reservoirs, that is correct.

1 Q. But -- And you move further northeast, you start  
2 getting out of it; is that right? Or is that wrong?

3 A. That is correct. So this is laterally bounded on  
4 at least two sides.

5 Q. Well, it looks like about anything on this plot  
6 would have the same situation, that any well-completion  
7 attempt in there, it would be hard to find one much better  
8 than where the little black square is, it appears to me.

9 A. It would be very difficult to find a well better  
10 than that, that is correct.

11 Q. Well, is that where your location --

12 MR. KELLAHIN: That's not your location.

13 THE WITNESS: But our location, you see --

14 Q. (By Examiner Morrow) Where is your -- Oh --

15 A. -- is denoted --

16 Q. -- the Zachry 50 --

17 A. -- by the --

18 Q. -- okay, all right.

19 A. -- denoted by the arrow there, sir.

20 Q. I've got you.

21 A. You see the arrow pointing up to the very light  
22 north- and --

23 Q. Badlands marked there.

24 A. -- east-trending lines there?

25 Q. Okay, I see now.



1           Thank you, appreciate it.

2           A.    You're welcome.

3           Q.    Let's see, one more thing I had.  What is the  
4   spacing for Blanco Mesaverde?

5           A.    As far as I recall, it is 160 acres.

6           Q.    Well, it's 320, I believe --

7           MR. KELLAHIN:  It's 320 --

8           THE WITNESS:  It's 320, excuse me.

9           MR. KELLAHIN:  -- optional infill.

10          Q.    (By Examiner Morrow)  But what is the -- what are  
11   the footage requirements?

12          A.    That I do not know.

13          MR. KELLAHIN:  790 from the site boundaries, and  
14   then there's some interior requirements.

15          Q.    (By Examiner Morrow)  Now, this one is 621; is  
16   that right?

17          MR. KELLAHIN:  Are you talking about the size of  
18   the spacing unit?

19          EXAMINER MORROW:  No, I'm talking about the --

20          THE WITNESS:  -- the footage.

21          EXAMINER MORROW:  -- how far it is from the --

22          THE WITNESS:  Yes, 621 from the west, that's  
23   correct.

24          EXAMINER MORROW:  621 from the west.

25          So I guess we've probably got a nonstandard

1 location here; is that right? Or not?

2 MR. KELLAHIN: Well --

3 EXAMINER MORROW: I can go get the rules if we  
4 need them.

5 MR. KELLAHIN: Well --

6 (Off the record)

7 MR. KELLAHIN: It appears to Mr. Alexander and I  
8 that it's unorthodox in the Mesaverde. And that's not  
9 covered in this request, so we're going to have to see how  
10 to process that.

11 The Mesaverde would be an uphole addition to the  
12 Gallup, and maybe it's available for administrative  
13 processing. But he and I are going to have to examine  
14 that.

15 It is not included in this Application, so you're  
16 quite right.

17 EXAMINER MORROW: Let's see, the administrative  
18 process covers recompletions in existing wellbores, I  
19 believe.

20 MR. KELLAHIN: Yes, sir, to a shallower depth,  
21 and we might be able to just do it administratively.

22 EXAMINER MORROW: Okay. You'll let me know --

23 MR. KELLAHIN: Yes, sir, I'll take care of that.

24 EXAMINER MORROW: Okay.

25 All right. Let's see, I -- Thank you, sir.

1 THE WITNESS: Thank you.

2 MR. KELLAHIN: Call Mr. Biemer for a quick  
3 question on this AFE for the Zachry 50.

4 May the record reflect, Mr. Examiner, that Mr.  
5 Biemer is an expert production engineer and continues under  
6 oath in this case?

7 EXAMINER MORROW: Okay, good.

8 LEONARD J. BIEMER, JR.,  
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. KELLAHIN:

13 Q. Mr. Biemer, with regards to the topic of the  
14 estimated cost to do the recompletion work in the Zachry  
15 50, have you examined what was submitted to Amoco as the  
16 proposed cost for that activity?

17 A. Yes, I have.

18 Q. And where will we find that information in the  
19 exhibit book?

20 A. We'll find that behind Exhibit Number 3, the  
21 third and the fourth page.

22 Q. And what are those total numbers?

23 A. The total cost for this recompletion into the  
24 Mesaverde is \$207,435.

25 Q. And do you have an opinion as an engineer as to

1 whether those costs are fair and reasonable?

2 A. Yes, these are standard costs in order to do that  
3 type of work.

4 MR. KELLAHIN: Sir, that concludes my examination  
5 of Mr. Biemer with regards to the costs of the AFE, Mr.  
6 Examiner.

7 EXAMINER MORROW: Okay. Have we already admitted  
8 that exhibit?

9 MR. KELLAHIN: Yes, sir, it's already been  
10 admitted through Mr. Price.

11 EXAMINER MORROW: I don't have anything.

12 MR. KELLAHIN: Mr. Price has also resolved our  
13 dilemma about this location, Mr. Examiner.

14 EXAMINER MORROW: Good.

15 MR. KELLAHIN: I knew there was an answer; I just  
16 didn't know what it was.

17 If you'll look behind Exhibit Tab Number 3 --

18 EXAMINER MORROW: Okay.

19 MR. KELLAHIN: -- and if you'll turn past the  
20 cover letter and the AFEs, there's going to be a letter  
21 from the Division dated March 24th of 1994 --

22 EXAMINER MORROW: Okay.

23 MR. KELLAHIN: -- and I believe if Mr. Price has  
24 read this correctly, that there is approval in here --

25 EXAMINER MORROW: Good.

1           MR. KELLAHIN:  -- down in the second to last  
2 paragraph for this location as being unorthodox in the  
3 Mesaverde.

4           EXAMINER MORROW:  All right.

5           MR. KELLAHIN:  I think that's what this is.

6           EXAMINER MORROW:  I'll bet you're right.

7           Is that all, Mr. Kellahin?

8           MR. KELLAHIN:  Yes, sir, that will take care of  
9 this one.

10          EXAMINER MORROW:  Case 11,118 will be taken under  
11 advisement.

12          (Thereupon, these proceedings were concluded at  
13 12:36 p.m.)

14                           \* \* \*

15

16

17

18

19

20

21

22

23

24

25

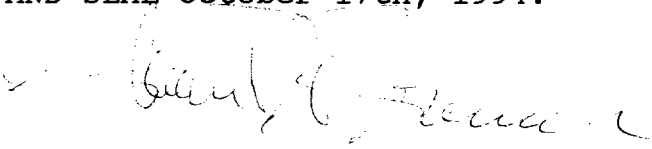
# CERTIFICATE OF REPORTER

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 17th, 1994.

  
 STEVEN T. BRENNER  
 CCR No. 7

My commission expires: October 14, 1998

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. \_\_\_\_\_, heard by me on \_\_\_\_\_ 19\_\_\_\_.

\_\_\_\_\_, Examiner  
 Oil Conservation Division