

1 STATE OF NEW MEXICO  
2 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
3 OIL CONSERVATION DIVISION  
4 STATE LAND OFFICE BUILDING  
5 SANTA FE, NEW MEXICO

6 24 May 1989

7 EXAMINER HEARING

8 IN THE MATTER OF:

9 Application of Meridian Oil, Inc. for CASE  
10 an unorthodox gas well location and an 9680  
11 exception to General Rule 104.C.II (sim-  
12 ultaneous dedication), Rio Arriba County,  
13 New Mexico.

14 BEFORE: David R. Catanach, Examiner

15 TRANSCRIPT OF HEARING

16 A P P E A R A N C E S

17 For the Division:

18 For Meridian Oil, Inc.: W. Thomas Kellahin  
19 Attorney at Law  
20 KELLAHIN, KELLAHIN & AUBREY  
21 P. O. Box 2265  
22 Santa Fe, New Mexico 87504

23 For Blackwood & Nichols: William F. Carr  
24 Attorney at Law  
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## I N D E X

## STATEMENT BY MR. KELLAHIN

4

## JOHN CALDWELL III

Direct Examination by Mr. Kellahin

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Cross Examination by Mr. Carr

25

Cross Examination by Mr. Catanach

26

## ALAN E. ALEXANDER

Direct Examination by Mr. Kellahin

28

## STATEMENT BY MR. CARR

35

## E X H I B I T S

Meridian Oil Exhibit One, Application

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Meridian Oil Exhibit Two, Waivers &amp; Letter

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Meridian Oil Exhibit Three, Documents

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Meridian Oil Exhibit Four, Listing

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Meridian Oil Exhibit Five, Map

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Meridian Oil Exhibit Six, A-H

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Meridian Oil Exhibit Seven, Affidavit

34

1 MR. CATANACH: At this time  
2 we'll call Case 9680. The application of Meridian Oil,  
3 Inc., for an unorthodox coal gas well location and excep-  
4 tion to General Rule No. 104.C.II, simultaneous dedication,  
5 Rio Arriba County, New Mexico.

6 Are there appearances in this  
7 case?

8 MR. KELLAHIN: Mr. Examiner,  
9 I'm Tom Kellahin of the Santa Fe law firm of Kellahin,  
10 Kellahin & Aubrey, appearing on behalf of the applicant.

11 MR. CATANACH: Any other ap-  
12 pearances?

13 MR. CARR: May it please the  
14 Examiner, my name is William F. Carr, with the law firm  
15 Campbell & Black, P. A. I'm entering my appearances on  
16 behalf of Blackwood & Nichols Company, Limited.

17 MR. KELLAHIN: Mr. Examiner, I  
18 have two witnesses to be sworn.

19 MR. CATANACH: Do you have any  
20 witnesses, Mr. Carr?

21 MR. CARR: No, I do not.

22 MR. CATANACH: Will the two  
23 witnesses please stand and be sworn?  
24

25 (Witnesses sworn.)

1 MR. KELLAHIN: Mr. Examiner,  
2 before we commence the presentation of Mr. Caldwell's  
3 testimony, I'd like you turn to the last attachment to the  
4 exhibit book, which is marked 6-A.

5 The area in question is the  
6 area shown on the display and specifically Section 15.  
7 Within Section 15 we're dealing with the west half of that  
8 section and we're -- the subject of discussion is the Basin  
9 Fruitland coal gas wells. The requested unorthodox loca-  
10 tion is to be a replacement well which is identified as  
11 Well 406-R, shown in the red circle and identified by the  
12 red arrow.

13 It is the applicant's desire  
14 to eventually end up with one producing coal gas well in  
15 the west half. You can see that there currently exist a  
16 406 Well just to the northwest of the 406-R, and then in  
17 the southwest quarter is the 402. That circumstance oc-  
18 curs because the wells were permitted prior to the adop-  
19 tion of the 320 spacing unit.

20 What we ultimately seek to do  
21 is to save one of the wells for an observation well, to  
22 plug one well, and then to have one producing well.

23 In bringing this matter to  
24 hearing I may have inadvertently caused confusion at the  
25 Division, as well as some concern for the offset operators.

1 We had originally applied for two observation wells and I  
2 am told that we seek only one observation well and that is  
3 to be the 402 Well.

4 In addition, the docket shows  
5 that we have requested simultaneous dedication and unless I  
6 have misunderstood the Division rules, I believe that's not  
7 necessary. Our plan would be to drill the replacement  
8 well, evaluate that well and then only place a single well  
9 on coal gas production. There is a possibility the re-  
10 placement well could simply be a bad well and we may have  
11 to plug that, but our plan is not to have two producing  
12 coal gas wells by which then you would simultaneously dedi-  
13 cate the spacing and then share an allowable, that's cer-  
14 tainly not our purpose.

15 With that clarification, Mr.  
16 Examiner, I'd like to call as my first witness Mr. John  
17 Caldwell, who is a reservoir engineer with Meridian Oil  
18 Company.

19  
20 JOHN W. CALDWELL,  
21 being called as a witness and being duly sworn upon his  
22 oath, testified as follows, to-wit:

23

24

25

## DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Caldwell, for the record, sir, would you please identify yourself and tell us your occupation and by whom you're employed?

A Yes, sir. My name is John W. Caldwell, III. I'm currently employed by Meridian Oil, Incorporated, Farmington, New Mexico. My job title is Regional Reservoir Engineer.

Q Mr. Caldwell, as a reservoir engineer have you on prior occasions testified before the Division?

A Yes, sir, I have.

Q And you have participated in and testified before the Division with regards specifically to Basin Fruitland coal gas wells, have you not?

A Yes, sir, I have.

Q Let me have you also continue with my opening comments by directing your attention to Exhibit Number Six-A. Do you have that before you?

A Yes, sir, I do.

Q Is this a display that was prepared or compiled under your direction and supervision?

A Yes, sir, it was.

Q Would you identify the source of the information shown on the display?

1           A           The display in essence comprises a  
2 9-section topographic base map, compiled, I believe, from  
3 USGS topographic surveys of the area. Superimposed on that  
4 we have compiled some data regarding the Fruitland coal  
5 wells drilled and planned to be drilled in the area.

6           Q           When we look at the information shown,  
7 would you identify for us how to understand the code at the  
8 bottom of the display?

9           A           Okay. We'll just start at the top of  
10 the legend and work our way down.

11                   The first item there is a red P&A,  
12 plugged and abandonment marker, indicating all wells perti-  
13 nent to this discussion that have been plugged and aban-  
14 doned in the 9-section area. That particular symbol  
15 applies directly to the Mesaverde Well No. 83-Y, located in  
16 the northeast quarter of Section 15, Township 30 North, 7  
17 West.

18                   That particular well experienced a coal  
19 blowout and the well was lost, which is why it's a perti-  
20 nent point for the Fruitland coal display.

21                   The next item on the legend is a solid  
22 red triangle indicating a Fruitland coal well that's been  
23 drilled and has either been plugged or is preparing to be  
24 plugged and there are two symbols on the display within the  
25 9 sections.

1                   The first one is the 413 Well, located  
2 in Section 23 in the southwest quarter; a replacement well  
3 has already been drilled and is currently being tested for  
4 that well and the 413 Well will be plugged.

5                   The other red triangle, solid red tri-  
6 angle is located in the northwest quarter of Section 15,  
7 concerns the 406 Well, and that well again will also be  
8 plugged.

9                   Moving down the legend, then, the third  
10 item is an open red triangle designating existing Fruit-  
11 land coal wells currently drilled and completed either on  
12 production or waiting to be produced.

13                   And there is, I haven't counted the num-  
14 ber, there is a number of those red open triangles both in  
15 the San Juan 36 Unit on the south and east parts of the  
16 display, and there's a number of wells in the Northeast  
17 Blanco Unit on the north and west parts of the display.

18                   Q           How do we find the boundary of import-  
19 ance in this area with regards to the San Juan Unit 30-6  
20 Unit?

21                   A           Okay, moving down to the bottom of the  
22 -- of the legend, there is a striped line indicating the  
23 boundary of the San Juan 30-6 Unit, and that line can be  
24 found traversing across the 9-section display from the  
25 southwest to the northeast and comprises the current



1 boundary of the 30-6 Unit, operated by Meridian.

2 Q Up in the northwest portion of the dis-  
3 play there is the identification Northeast Blanco Unit.

4 A Yes, sir, that's correct.

5 Q And who operates that unit?

6 A I believe that's operated by Blackwood  
7 and Nichols.

8 Q And to the best of your knowledge what  
9 is the boundary of that unit within the vicinity of Section  
10 15 that we're discussing?

11 A The boundary on the 9-section display is  
12 identical to the one that's indicated for the 30-6 Unit  
13 with one exception. The 320-acre drill block located on  
14 the east half of Section 16 is neither included in the  
15 Northeast Blanco Unit or the 30-6 Unit.

16 Q Let's talk about the sequence or the  
17 history of development for coal gas production of Section  
18 15. What was the original plan of development for the  
19 section in terms of the location of the coal gas wells?

20 A Meridian's original plan was a 4-well  
21 pilot project in the 30-6 unit based on some indications  
22 that we had that the Fruitland coal seam might be produc-  
23 tive.

24 Q When those wells were being drilled and  
25 tested as a pilot project for coal gas production what

1 period of time is involved there in relation to when the  
2 Commission is considering and adopting spacing and well  
3 locations for the Fruitland coal gas wells?

4 A The pilot project was initiated in late  
5 1985. I participated in the consummation of the Basin  
6 Fruitland Coal Pool rules. In the summer of 1988, approxi-  
7 mately three years later, the pool rules were formally  
8 adopted recommending 320-acre drilling and spacing units  
9 on November 1st, 1988.

10 Q At the time, then, you were developing  
11 on a pilot basis the exploration and production from Fruit-  
12 land coal gas wells you had predated the 320-acre spacing  
13 rules.

14 A By approximately 3 years.

15 Q At that point in time, then, the spacing  
16 was 160 acres for this type of well?

17 A Meridian originally permitted all four  
18 of these original pilot wells under statewide Fruitland  
19 Pool rules, which were 160's.

20 Q Where was the location of the well to  
21 first be drilled in Section 15, or proposed to be drilled  
22 in 15?

23 A I believe the -- let me refer to my ex-  
24 hibit here quickly.

25 I believe the 402, located in the

1 southwest -- yes, sir, that's correct, the 402, located in  
2 the southwest quarter of Section 15, was the first well to  
3 be drilled on the west half 320-acre unit.

4 Q And that well would also conform, would  
5 it not, to the -- to the well locations now existing as  
6 well as to the particular quarter section in which wells  
7 are now required to be drilled.

8 A That's correct.

9 Q And well rules now require that within a  
10 section wells be drilled in the northeast and the southwest  
11 quarter section?

12 A That's correct.

13 Q Unless they're otherwise approved.

14 A That's correct.

15 Q And the primary footage location to be  
16 concerned with is an outer boundary distance of 790 feet?

17 A That's correct.

18 Q All right. The 402 Well is drilled.  
19 What is the next well in order of drilling in 15?

20 A The next well drilled was the 406 Well,  
21 located in the northwest quarter of Section 15.

22 Q Let's look at the east half of 15 now.

23 A Okay.

24 Q What was the sequence or the order of  
25 potential development in the east half?

1           A           The 83-Y, which was the original Mesa-  
2 verde test, I don't believe I have the data in front of me  
3 as to what year that was drilled. I believe it was in the  
4 fifties, early sixties, was the first well drilled in the  
5 east half.

6           Q           Have you considered whether or not it  
7 was reasonable to drill a well in the northeast quarter of  
8 Section 15 as part of a plan of development for 15?

9           A           Yes, sir, we certainly have.

10          Q           And what happened?

11          A           We originally permitted the 465 Well  
12 located currently in the southeast quarter of Section 15.  
13 In the northeast quarter of Section 15 approximately  
14 450-to-500 feet from the -- I'm sorry, approximately 200  
15 feet from the 83-Y location, as close as we could get to  
16 that location as was possible.

17          Q           Were you able to obtain the necessary  
18 administrative approvals from the various regulatory and  
19 jurisdictional agencies for the drilling of the well at  
20 that location?

21          A           I believe we consummated virtually all  
22 of the regulatory approvals with the exception of the New  
23 Mexico Oil and Gas Commission.

24          Q           When we look at the topography map on  
25 which this information is superimposed, are we looking at a

1 river or a portion of a river in the Section 15?

2 A We are looking at the Navajo Lake Re-  
3 creation Area. As indicated by the topographic contours,  
4 there's a very steep precipitous slope going down from the  
5 83-Y to the water level indicated by stippling.

6 Q Why was the 465 Well then not drilled  
7 somewhere in the northeast quarter of Section 15?

8 A Among other problems, the 465 were ori-  
9 ginally staked -- was staked several hundred feet away from  
10 an eagle's nest that was underneath one of the ledges to  
11 the north and east of the 83-Y location. Operationally we  
12 would have had to lay approximately 450 to 500 feet of flow  
13 line up the hill to behind -- as you can see indicated on  
14 the topo map -- a little knob, a little hill. We would  
15 have had to place our tank batteries and facilities behind  
16 that hill.

17 We anticipated drilling a highly pro-  
18 ductive, prolific Fruitland coal well that would have had  
19 500-to-1500 barrels of water per day, perhaps; rates of gas  
20 from a million to 10-million cubic feet of gas per day,  
21 perhaps, and operationally we were concerned about having  
22 that type of distance away from the wellbore where we have  
23 our facilities and possibly having operational problems  
24 keeping that flow line clean and clear.

25 Additionally, the BLM would have given

1 us authority to go and drill the well but not access  
2 authority subsequent to that. We would not have been able  
3 to approach the wellhead on a regular basis.

4 Q Therefore where did you in fact drill  
5 the 465 Well?

6 A We -- we chose for operational reasons  
7 then to move the well back to where it was more easily  
8 accessible in periods of well testing in winter conditions  
9 to where the current location is right off the indicated  
10 road in the northwest of the southeast of Section 15.

11 Q Let's go to the exhibit book, if you  
12 will, Mr. Caldwell, and look at the information compiled  
13 after Exhibit Number Six in the book, and have you de-  
14 scribe for us your engineering opinions with regards to why  
15 you cannot now continue to utilize the 402 Well as the pro-  
16 ducing well in the west half of 15.

17 Q Our plans for development of the west  
18 half of Section 15 started with the 402. Exhibit B, the  
19 first page behind Tab 6 is brief recap of our operations in  
20 drilling the 402 Well.

21 We spud the well in March of '86, 1986,  
22 and drilled to a total depth of 3160 and cemented a 7-inch  
23 casing string.

24 We perforated and acidized the well and  
25 collapsed the 7-inch casing.

1                   At that time we took the gauge indicated  
2 at 91 MCF of gas per day. We had initiated subsequent  
3 operations where we milled through the casing and gauged  
4 the well at approximately 6.2-million cubic feet of gas a  
5 day open hole, and whereupon we killed the well with 11  
6 pounds per gallon mud and there's no volume recorded but I  
7 understand it was 500-to-1500 barrels of mud.

8                   We then ran a 5-1/2 inch liner uncemen-  
9 ted in the hole, perforated it, and first delivered the  
10 well at approximately 2.2-million cubic feet of gas a day.

11                   Exhibit Six-C, which directly follows  
12 the next page in the section, is a more detailed rate/time  
13 plot of the 30-6 Unit No. 402 Well. The scale on the Y  
14 axis is production in MCF of gas per day versus time on the  
15 X axis. The red line indicates gas production on a daily  
16 basis and the blue line indicates water production on a  
17 daily basis.

18                   What you can see from that performance  
19 is a rather marked decline from the date of first delivery  
20 at 2 to 2-1/2 million cubic feet of gas per day down to a  
21 low point there of approximately 5-to-600 MCF of gas per  
22 day.

23                   That is atypical in our experience of  
24 Fruitland coal gas wells in this area. Typically coal gas  
25 wells show increasing rate with time. This well has ex-

1     perienced a severe decrease in rate with time, indicating  
2     upon extensive study that severe wellbore damage exists in  
3     the well. That conclusion has drawn us to our ultimate  
4     conclusion, I guess, why we're here today. We would like  
5     to re-drill another well for the 320-acre drilling and  
6     spacing unit and convert this well to a pressure observa-  
7     tion well.

8             Q             Is it reasonable to expect that you  
9     could re-enter the 402 Well and do something to that well  
10    that would repair the damage and allow you then to continue  
11    to utilize that well to produce the remaining reserves in  
12    that spacing unit?

13            A            Well, we've already done it once and to  
14    the best of our experience I don't think the second or  
15    third time would -- would help us. The wellbore is irre-  
16    trievably damaged and I think--

17            Q            When we look at the 406 Well, describe  
18    for us why you're seeking to replace that well as opposed  
19    as continue to use that as the producing well in the spac-  
20    ing unit.

21            A            Okay, the third well drilled in our  
22    pilot program was the 406 Well. Again moving to the third  
23    page behind Tab B we have Exhibit Six-D, which is a one  
24    page recapitulation of our operational events on that par-  
25    ticular well.



1                   We spud that 406 Well in April of 1986  
2 and set 7-inch casing on top of the coal, cemented it back  
3 to surface.

4                   At that point we tried our open hole  
5 completion techniques where we drilled to a total depth of  
6 3105, using 11.3 pounds a gallon mud to control the well.

7                   We displaced the mud, ran a 5-1/2 inch  
8 liner and cemented it and first delivered the well May 31st  
9 at approximately 9:00 o'clock in the evening at over  
10 13-million cubic feet of gas per day.

11                   Three hours later we collapsed the pipe,  
12 collapsed the liner; the rate had dropped to 4-million  
13 cubic feet a day.

14                   An hour later the deliverability dropped  
15 to less than 2-million a day and 12 to 16 hours later we  
16 were down to less a million and a half cubic feet of gas a  
17 day.

18                   At that point we initiated some remedial  
19 operations at trying to clean up the well with nitrogen and  
20 unload it through tubing and we tried to pull the tubing  
21 and found out that the pipe was collapsed. So we killed  
22 the well and lost it again, approximately 1000 barrels of  
23 mud.

24                   We milled through the liner, cleaned out  
25 and (unclear) the liner and recovered 100 feet. We milled

1 and drilled to a new total depth of 3110, a little bit  
2 deeper than what we'd originally drilled the well. We ran  
3 a second liner uncemented to 3104 and landed the tubing  
4 again.

5                   On subsequent operations of trying to  
6 clean up the well and unload it to produce, we collapsed  
7 the liner again. We jarred and tried to recover some  
8 tubing. We could not jar the liner loose. We cut it off.  
9 We recovered 9 joints and milled out the rest of it to 2898  
10 whereupon we could not retrieve the rest of the -- of the  
11 second liner, so we redrilled the hole to a new total depth  
12 and ran a third liner to 3112, about 2 foot deeper than the  
13 second attempt, whereupon, we again unloaded the hole and  
14 landed the tubing.

15                   The well was first delivered approxi-  
16 mately four months later; from the first time of delivery  
17 at 356 MCF gas per day and 320 barrels of water a day.

18                   I think the key points from that synop-  
19 sis is we went in a period of four months time production  
20 rates of a few days, from 15-million cubic feet of gas a  
21 day to less than -- less than half -- less than half a  
22 million cubic feet of gas a day. In our mind that indi-  
23 cated severe extensive wellbore damage introduced by the  
24 11.3 pound mud that we killed the well with several times;  
25 our milling and drilling operations in controlling it with

1 mud; and the three, finally successful, attempts to run  
2 liners in the well.

3 Q In your opinion can further work on this  
4 well restore it to a producing rate that's acceptable for  
5 unit operations for production of coal gas from the Basin  
6 Coal Pool?

7 A We've tried in this well three times and  
8 we're convinced that the fourth time would even damage it  
9 further.

10 Q The location of the 406 Well in terms of  
11 its outer boundaries from the north spacing unit and the  
12 west spacing unit are in fact in excess of the minimum dis-  
13 tance required for those lines, are they not?

14 A That's correct.

15 Q The replacement well that you're propos-  
16 ing is located at a footage 2610 from the west line and  
17 2560 from the north line?

18 A Yes, sir. It's a little hard to read  
19 but I believe those are the numbers.

20 Q What's the basis for proposing to re-  
21 drill the producing well for the west half of 15 at that  
22 location?

23 A We have several options in front of us  
24 that we've investigated. As indicated on Exhibit Six-A,  
25 the topography in this area is very rugged. I'm not sure

1 that there's not any more eagles' nests around there; I  
2 don't think there are, but our options are to drill the  
3 well within 50 to 150 feet of the current 406 location,  
4 which we feel has experienced severe damage and would not  
5 be advantageous for us to locate the well there.

6 Another option would be to locate it on  
7 the bluff to the south side of the lake, still in the  
8 northwest quarter. It's my understanding that -- that we  
9 cannot get a good location there due to the considerations  
10 on the slope of the cliff.

11 We could conceivably drill it on the  
12 north half of the northwest quarter on that cliff. Opera-  
13 tionally there would be some problems, I think, in building  
14 a pad there, as well, besides the fact that we'd be moving  
15 reasonably close to the common border between Northeast  
16 Blanco Unit and 30-6 boundary.

17 Our decision, based on some geologic and  
18 reservoir engineering factors, the 406-R location where it  
19 was finally picked optimizes the operational  
20 considerations, flow line considerations, the wellbore pro-  
21 ductivity considerations, the damage considerations, and  
22 still protects our interest in that 320 acres dedicated to  
23 the west half.

24 Q You've indicated that there's a certain  
25 minimum distance you want to move away from the 406 to get

1 out of the influence of wellbore damage?

2 A Yes, sir.

3 Q And what is that distance?

4 A In our best experience it would be 150  
5 to 200 feet.

6 Q Do you have an example down in Section 23  
7 of a similar situation where you've had to redrill a well?

8 A Yes, sir, in the southwest quarter of  
9 Section 23 we recently, within the last several weeks, re-  
10 drilled the 413 Well as the 413-R.

11 To give you little history of that  
12 well, the 413 was probably the most prolific coal gas pro-  
13 ducing well in the world. At one point last summer it was  
14 making 10-1/2 to 11-million cubic feet a gas a day. It  
15 experiences a corrosion problem in the casing and we had to  
16 kill the well and run a tieback string.

17 At that time when we brought the well  
18 back on production the well had dropped 10-1/2 to 11  
19 million cubic feet a day to approximately a million cubic  
20 feet a day and it's declined ever since.

21 We have since redrilled the well appro-  
22 ximately 250 feet to the southwest of the 413. Our initial  
23 completion we achieved, gauges 3-to-400 MCF per day. It  
24 made large quantities of mud.

25 In the process of cleaning the wellbore

1 out over a period of about a week, we were able to gauge  
2 that well in excess of 5-million cubic feet a day, indi-  
3 cating that we had gotten through what we perceived as a  
4 (unclear) damage from mud, killing operations of the 413  
5 (unclear).

6 Q Have you examined the possibility of  
7 taking a surface location such as where you propose to  
8 drill the 406-R well and directionally drilling that well  
9 to a bottom hole location elsewhere?

10 A Yes, sir, we have.

11 Q Do you have a display that shows your  
12 analysis of that?

13 A Yes, sir. If you'll flip a few pages to  
14 Exhibit Six-H.

15 Q That would be the very last page in this  
16 --

17 A The very last page in the booklet.

18 Q All right.

19 A We have run some scenarios, if you will,  
20 on a vertical completion and a horizontal completion in a  
21 highly deviated (unclear) well and that is presented in  
22 this exhibit.

23 The first line is our estimated -- our  
24 best guess cost of drilling, completion and facility for a  
25 vertical completion of \$458,000; a horizontal well of

1 \$1,091,000.

2                   Compared to the gross initial deliver-  
3 ability for both scenarios at 2-1/2 million cubic feet of  
4 gas per day and 250 barrels of water per day indicated on  
5 the second line. Our internal economics program generates  
6 an after tax rate of return of 99 percent for the vertical  
7 completion and 36 percent for the horizontal completion.

8                   Q           In your opinion as an engineer is it  
9 operationally and economically justified to attempt to  
10 drill a well horizontally or directionally to a standard  
11 well location?

12                  A           No. There are some factors that Meri-  
13 dian has tried to optimize in vertical completions that we  
14 cannot and have not been able to duplicate in our hori-  
15 zontal completions. In a highly prolific fractured area  
16 with a (unclear) well of 1259 foot of deviation, it would  
17 virtually impossible to optimize an open hole completion  
18 technique and maintain a successful well.

19                               My notes at the bottom indicate that all  
20 other factors being equal, we would exhibit, we feel, a  
21 significantly higher mechanical risk drilling a horizontal  
22 well in this area and we have a much higher possibility of  
23 a lower rate completion in the horizontal -- horizontal  
24 well.

25                  Q           Describe for the Examiner why you pro-

1 pose to utilize the 402 as an observation well.

2 A We chose to use the 402 observation well  
3 due to the strategic location of that well in relation to  
4 the Northeast Blanco Unit No. 407, the 30-6 Unit No. 465,  
5 the 30-6 Unit No. 466, the 30-6 Unit No. 406-R.

6 One of the options that we looked at and  
7 dismissed was converting the 406 to a pressure observation  
8 well and we decided against that primarily for several  
9 reasons.

10 First of all, the strategic location  
11 doesn't tell us as much about as many wells in as nicely  
12 centered a pattern as the 402 Well does.

13 And secondly, the 406 Well has exhibited  
14 perhaps a lot more damage than the 402. The pressure tran-  
15 sients that we would expect to be seeing would take consi-  
16 derably longer to work their way through that.

17 Q Does the existence of the replacement  
18 well as you propose it to be located, the 406-R Well, still  
19 give you adequate distance among and between your wells so  
20 that you can effectively and efficiently develop the Basin  
21 coal gas reserves underlying Section 15 with then two  
22 producing wells?

23 A Yes, sir.

24 Q Was the information presented by you  
25 behind Tab 6 and marked Six-B, I believe it is, through Six



1 -- I'm sorry, Six-A through Six-H, was that compiled under  
2 your direction and supervision?

3 A Yes, sir, it was.

4 MR. KELLAHIN: That concludes  
5 my examination of Mr. Caldwell.

6 We would move the introduction  
7 of his Exhibits Six-A through Six-H.

8 MR. CATANACH: Exhibit Six-A  
9 through Six-H will be admitted as evidence.

10 Mr. Carr?

11 MR. CARR: I have just a  
12 couple of questions, Mr. Catanach.

13

14 CROSS EXAMINATION

15 BY MR. CARR:

16 Q Mr. Caldwell, on Exhibit Six-G, the  
17 bottom paragraph there, you indicate that the 402 Well will  
18 be shut-in and operations, I guess, observation, operating  
19 that well as an observation well, will begin following the  
20 establishment of commercial production from the San Juan 36  
21 Unit 406-R?

22 A That's correct.

23 Q My question is, it isn't Meridian's in-  
24 tentation, is it, if I understand Mr. Kellahin's statement,  
25 to at any time have more than one well in the west half of

1 Section 15 producing from the Basin Fruitland Coal Gas  
2 Pool?

3 A No, sir, it's not our intention at all.

4 Q And so you wouldn't have the 402 con-  
5 tinuing to produce while you're trying to get BLM or who-  
6 ever to concur that commercial production is not being  
7 obtained from the 406. So what you're planning to do, plug  
8 the 406 --

9 A That's correct.

10 Q -- convert the 402 to observation --

11 A That's correct.

12 Q -- drill the 406-R --

13 A That's correct.

14 Q -- and produce one well in the west half  
15 of Section 15.

16 A That's correct.

17 MR. CARR: That's all I have.

18

19 CROSS EXAMINATION

20 BY MR. KELLAHIN:

21 Q Mr. Caldwell, are there -- you said you  
22 weren't sure if you could move the location further west of  
23 your proposed location?

24 A From the 406-R?

25 Q Yes, the 406-R, you don't know if you

1 can move that location to the west?

2 A Not and stay within the northwest  
3 quarter.

4 Q The well's only going to be 30 feet off  
5 that -- off that lease line, or off that --

6 A I think we've got a landman here that  
7 can tell you about the common ownership in the unit parti-  
8 cipating area.

9 Q Okay, but that's the only feasible  
10 location, I mean you can't go any further west of that  
11 location.

12 A No. No.

13 Q Due to topographic reasons.

14 A I haven't seen where the stake actually  
15 is but there are some serious topographical problems there.

16 Q I think our procedure, and we don't have  
17 our location man with us here today, is he tells the BLM  
18 where we'd like to drill it and the BLM tells us where it's  
19 going to be drilled.

20 A Do you know -- do you guys have any  
21 drift in these wells?

22 Q Very little. There's very little bed  
23 dip which would cause problems. Our deviations, now I'm  
24 not familiar with these particular wells, but it's typical-  
25 ly less than 2 degrees.

1           Q           What direction would you say it would  
2 drift in if it were to drift?

3           A           Oh, I'm not prepared to tell you. It's  
4 a pretty busted up area.

5           Q           And the reason you're not drilling in  
6 the other location is due to other considerations. you've  
7 said by BLM and operational problems.

8           A           That's correct.

9           Q           If you have a well at that location will  
10 it drain this west half?

11          A           Yes, sir, I believe it will, if we can  
12 -- if we can achieve what we feel is a good completion  
13 without any damage.

14                               MR. CATANACH: I have no fur-  
15 ther questions.

16                               MR. KELLAHIN: Mr. Examiner,  
17 we call at this time Mr. Alan Alexander.

18  
19                               ALAN E. ALEXANDER,  
20 being called as a witness and being duly sworn upon his  
21 oath, testified as follows, to-wit:

22

23                               DIRECT EXAMINATION

24 BY MR. KELLAHIN:

25           Q           Mr. Alexander, for the record would you

1 please state your name and occupation?

2 A My name is Alan E. Alexander. I'm a  
3 Senior Land Advisor with Meridian Oil in the Farmington  
4 office.

5 Q Mr. Alexander, have you on prior occa-  
6 sions testified before the Division as a petroleum landman?

7 A Yes, I have.

8 Q And pursuant to your employment by your  
9 company have you been involved with and tabulated land  
10 title information with regards to the subject well that's  
11 involved in this application?

12 A Yes, I have. That information has been  
13 tabulated under my supervision.

14 Q Are you familiar with the working  
15 interest ownership and the participation areas in the San  
16 Juan 30-6 Unit?

17 A Yes, sir.

18 MR. KELLAHIN: We tender Mr.  
19 Alexander as an expert petroleum landman.

20 MR. CATANACH: He is so qual-  
21 ified.

22 Q Let me direct your attention first of  
23 all to the exhibit book.

24 Exhibit One is simply a copy of the ap-  
25 plication that was utilized for today's hearing?

1           A           Yes, sir, that's correct.

2           Q           Let's turn to the last page of informa-  
3           tion behind Tab 1 and there's a list of parties, the  
4           caption of which says San Juan 30-6 Unit 406-R Well, and  
5           there's a list of names and addresses.

6           A           Yes.

7           Q           Did you cause that list to be prepared?

8           A           Yes, sir, I did.

9           Q           And what does that represent, sir?

10          A           That would represent the operators or  
11          the owners of the offsetting acreage to the location where  
12          we intend to drill the 406-R.

13          Q           All right, so we go to the information  
14          in Tab 2, or Exhibit Two, and what have you included behind  
15          that tab, sir?

16          A           This is a waiver letter whereby we in-  
17          tended to inquire of the offset owners and/or operators as  
18          to either their opposition or their support of our applica-  
19          tion to redrill the 406-R Well.

20          Q           In summary what operators or offset  
21          owners have submitted waivers to you, Mr. Alexander?

22          A           To date we have received a waiver from  
23          the Crossed Timbers group of companies and also Mr. W. P.  
24          Carr has executed a waiver letter.

25          Q           Do you have a plat or other information

1 by which you can identify where these various owners have  
2 their specific interests?

3 A Yes, sir, we do. The plat that we would  
4 need to refer to would be behind Exhibit Two and is a  
5 reduced copy of the map that you have currently looked at.

6 Q Help us use the -- help us use the --  
7 let's use that map and help us identify where these various  
8 interest owners have -- have their interest.

9 A All right. The interest owners that we  
10 were showing on the exhibit behind Tab 1, Blackwood &  
11 Nichols Company, Limited, would be the operator of the  
12 Northeast Blanco Unit and have previously described where  
13 that unit lies in relation to the hatched line. That line  
14 is also indicated on the map that we're looking at current-  
15 ly behind the Tab 2. The only difference would be that we  
16 have gone ahead and shown that the east half of Section 16  
17 is not committed to the Northeast Blanco Unit.

18 Now in that east half of Section 16 we  
19 have an operator of the Fruitland Coal, which is Amoco  
20 Production Company.

21 We also decided to go ahead and notify  
22 Mr. Carr and the Cross Timbers partners, Mr. Mizell and Mr.  
23 McIlvain, who have an interest in that half section, al-  
24 though Amoco was the designated operator at the time we  
25 made this application. I might add that we have subse-

1 frequently negotiated with Amoco and Meridian will be taking  
2 over as operator of that half section.

3 Q Let's turn to the information available  
4 behind Tab 3 and have you identify and describe that in-  
5 formation.

6 A The information behind Tab 3 represents  
7 our efforts to secure regulatory approval as well as work-  
8 ing interest owner approval for those partners that are in  
9 the San Juan 30-6 Unit.

10 We originally proposed the 406 redrill  
11 in 1988, on the 1988 program. We have carried that forward  
12 into the 1989 drilling program. We have received the  
13 necessary majority approval and we have also received the  
14 regulatory agency approvals necessary to drill this well.

15 Q When we go to Exhibit Four would you  
16 identify and describe that information for us?

17 A Yes, sir. Exhibit Four is a listing of  
18 the Fruitland -- the current Fruitland participating area  
19 in the San Juan 30-6 Unit and the percentages that each  
20 party owns in that participating area.

21 Q And let's look at the map, then, which  
22 is Exhibit Five. What does that show?

23 A Exhibit Five is a map of the current  
24 Fruitland participating area for the San Juan 30-6 Unit.

25 Q When we look specifically, then, at



1 Section 15, do we have parties participating, either dif-  
2 ferent individuals or percentages between the east half and  
3 the west half of 15?

4 A No, sir, they are the same parties.

5 Q From examining the title documents and  
6 the land information available for the San Juan 30-6 Unit,  
7 do you see any opportunity for the correlative rights of  
8 any of the owners in property towards whom the well is  
9 encroaching to have their correlative rights impaired?

10 A No, sir. Since the well is encroaching  
11 in fact upon the 30-6 ownership and since that ownership is  
12 consistent through the participating area, I do not see an  
13 opportunity for us to violate correlative rights in any  
14 manner.

15 Q Are we dealing with the same base title?  
16 Is this Federal or State properties?

17 A In the participating area as a whole?

18 Q Yes, within Section 15.

19 A In Section 15?

20 Q Uh-huh.

21 A I believe that it is Federal mineral  
22 ownership. I didn't bring a breakdown of the lease owner-  
23 ship with me today.

24 Q I think if you'll look at Exhibit Number  
25 Five, although it's very difficult to read, it appears that

1 those are Federal numbers with regards to 15?

2 A Yes.

3 Q It would appear that you have a section  
4 that's composed of Federal royalties as opposed to a com-  
5 bination of fee and state ownership.

6 A I believe that's correct. That could be  
7 verified but I just didn't have the information here today.

8 MR. KELLAHIN: That concludes  
9 my examination of Mr. Alexander, Mr. Catanach.

10 We would move the introduction  
11 of his Exhibits One through Five.

12 MR. CATANACH: Exhibits One  
13 through Five will be admitted as evidence.

14 Any questions, Mr. Carr?

15 MR. CARR: No questions.

16 MR. CATANACH: I have no  
17 questions of the witness.

18 MR. KELLAHIN: To complete our  
19 presentation, Mr. Catanach, I have a certificate of mailing  
20 showing that we have provided notice to various parties  
21 towards whom we're encroaching of our application, and  
22 that's shown as Exhibit Number Seven.

23 MR. CATANACH: Exhibit Number  
24 Seven will be admitted as evidence.

25 MR. KELLAHIN: That concludes

1 our presentation.

2 MR. CATANACH: Anything fur-  
3 ther?

4 MR. CARR: I just have a very  
5 brief statement.

6 I'd like on the record to  
7 state that Blackwood & Nichols Company, Limited, does not  
8 oppose what Meridian stated today is the sequence, and that  
9 is plugging the 406, converting the 402 to observation, and  
10 drilling the 406-R.

11 Our concerns stem from two  
12 things. One, based on the application compared to the  
13 notice and the docket in this case. We were unsure as to  
14 what was being sought.

15 We would oppose simultaneous  
16 dedication or the production of multiple wells in the west  
17 half of Section 15. It would contrary to the pool rules.  
18 It would increase the density of wells in the area and we  
19 think that could result in an advantage to Meridian over  
20 the offsetting operators.

21 But what they propose is con-  
22 sistent with the pool rules and we do not object to that.

23 MR. CATANACH: Thank you, Mr.  
24 Carr.

25 Anything further, Mr.

1 Kellahin?

2 MR. KELLAHIN: No, sir.

3 MR. CATANACH: If not, this  
4 case will be taken under advisement.

5

6 (Hearing concluded.)

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## C E R T I F I C A T E

I, SALLY W. BOYD, C. S. R. DO HEREBY  
CERTIFY that the foregoing Transcript of Hearing before the  
Oil Conservation Division (Commission) was reported by me;  
that the said transcript is a full, true and correct record  
of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is  
a complete record of the proceedings in  
the Examiner hearing of Case No. 9680,  
heard by me on May 21 1985.

David Catanzaro, Examiner  
Oil Conservation Division