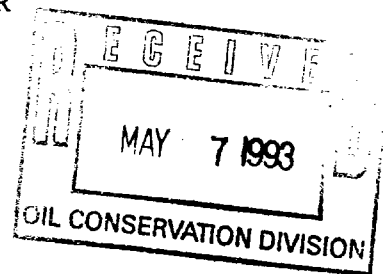


1 STATE OF NEW MEXICO

2 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

3 OIL CONSERVATION DIVISION

4 CASE 10,702

5
6 EXAMINER HEARING7
8
9 IN THE MATTER OF:10
11 Application of Meridian Oil, Inc., for a high
12 angle/horizontal directional drilling pilot
13 project, special operating rules therefor, an
14 unorthodox gas well location, and a nonstandard
15 gas proration unit, San Juan County, New Mexico16
17 TRANSCRIPT OF PROCEEDINGS18
19 BEFORE: DAVID R. CATANACH, EXAMINER20 **ORIGINAL**21
22
23 STATE LAND OFFICE BUILDING

24 SANTA FE, NEW MEXICO

25 April 8, 1993

A P P E A R A N C E S

FOR THE DIVISION:

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ALSO PRESENT:

DENNIS FOUST
OCD Office, Aztec, New Mexico

* * *

I N D E X

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Appearances

2

Exhibits

4

KENT BEERS

Direct Examination by Mr. Kellahin

6

JAMES M. HORNBECK

Direct Examination by Mr. Kellahin

9

Examination by Examiner Catanach

20

Examination by Mr. Stovall

22

SCOTT B. DAVES

Direct Examination by Mr. Kellahin

24

Examination by Examiner Catanach

28

ERIC R. BAUER

Direct Examination by Mr. Kellahin

29

Certificate of Reporter

35

* * *

1	E X H I B I T S	
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* * *

1 WHEREUPON, the following proceedings were had
2 at 2:33 p.m.:

3
4
5
6 EXAMINER CATANACH: At this time we will call
7 Case 10,702.

8 Application of Meridian Oil, Inc., for a high
9 angle/horizontal directional drilling pilot project,
10 special operating rules therefor, an unorthodox gas
11 well location, and a nonstandard oil proration unit --

12 MR. KELLAHIN: The oil is a mistake. It's a
13 gas --

14 EXAMINER CATANACH: Okay.

15 MR. KELLAHIN: -- proration unit. It's a
16 typo in the docket.

17 The Application and the notices to all the
18 parties involved correctly describe that as a gas
19 spacing unit. Anybody who read the docket or the
20 advertisement here, they'd figure out that that was gas
21 and not oil.

22 EXAMINER CATANACH: Okay. -- San Juan
23 County, New Mexico.

24 Appearances in this case?

25 MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin

1 of the Santa Fe law firm of Kellahin and Kellahin,
2 appearing on behalf of Meridian Oil, Inc.

3 There are four witnesses for presentation in
4 this case.

5 EXAMINER CATANACH: Any other appearances?

6 And I believe all the witnesses have
7 previously been sworn in, Mr. Kellahin?

8 MR. KELLAHIN: They have, Mr. Examiner.

9 EXAMINER CATANACH: Okay.

10 MR. KELLAHIN: Call first, Mr. Kent Beers.

11 May the record reflect, Mr. Examiner, that
12 Mr. Beers is a qualified expert petroleum landman and
13 continues under oath in this case?

14 EXAMINER CATANACH: The record shall so
15 reflect.

16 KENT BEERS,
17 the witness herein, having been previously duly sworn
18 upon his oath, was examined and testified as follows:

19 DIRECT EXAMINATION

20 BY MR. KELLAHIN:

21 Q. Mr. Beers, there's a couple of questions I'd
22 like to ask you about the land information available
23 for this particular project, and perhaps we're best
24 served if you'll turn to Exhibit A, and let's look at
25 the pool boundary and the plat of well information.

1 A. All right.

2 Q. As an illustration, let's look at this and
3 have you summarize for us what it is that your company
4 seeks to accomplish with this Application. What is it
5 that you're trying to do?

6 A. We would like to re-enter an existing
7 wellbore and drill out a horizontal leg with that
8 horizontal leg crossing the section lines. Therefore,
9 the a variety of things included in our Application.

10 Doing that, we recognize the need for, first,
11 the ability to drill the horizontal well at all, and
12 then to come up with a set of rules that will allow us
13 to produce this well in a nonstandard spacing unit.

14 The existing wellbore that we're kicking out
15 of is itself a nonstandard location in the pool, so
16 again, that's another of our requests.

17 Just briefly summarizing what's on Exhibit A,
18 is an outline in red of Paradox Creek -- Barker Creek
19 Paradox Gas Pool.

20 The area where Meridian holds 100 percent of
21 the leases, these are all leases from the Ute Mountain
22 Ute Tribe. The multiple leases covered by those hash
23 marks have all been consolidated under a consolidation
24 agreement in 1957, so it's as if we're operating under
25 a single lease. There are no overriding royalty

1 owners, so the only parties involved here are Meridian
2 and the Ute Mountain Ute Tribe.

3 Q. On Exhibit A there is a red outline. What
4 does that represent?

5 A. The red outline represents the current pool
6 outline.

7 Q. With regards, then, to this proposed
8 nonstandard spacing unit, which would consist of all of
9 Sections 15 and 16, the ownership is common as to all
10 interest owners; is that correct?

11 A. That is correct.

12 Q. And for every spacing unit around it?

13 A. That's correct.

14 Q. You as operator effectively control 100
15 percent of the operating rights, and you share your
16 production with the Ute Mountain Indian Tribe?

17 A. That's correct.

18 MR. KELLAHIN: Okay, that concludes my
19 examination of Mr. Beers.

20 Move the introduction of Exhibit A.

21 EXAMINER CATANACH: Exhibit A will be
22 admitted as evidence, and I have no questions.

23 MR. KELLAHIN: All right, sir.

24 Call at this time Mr. Jim Hornbeck. Mr.
25 Hornbeck is a petroleum geologist.

1 The gas that you see in the upper zones has
2 little or no CO₂, less than one percent, approximately
3 .05 percent H₂S. So it's a completely distinct gas, a
4 completely distinct reservoir from a pressure gas
5 standpoint.

6 The Lower Barker Creek makes water. These
7 upper zones in the tests that we've done, almost no
8 water at all to speak of.

9 Q. When you look at the opportunity for a
10 horizontal well, why has Meridian selected the Ute 8
11 well?

12 A. Initially, when we plugged back the lower
13 zones and came up, we tested Desert Creek, the Lower
14 Ismay and the Upper Ismay, and we had what we thought
15 initially was a significant show in the Upper Ismay.
16 It tested at over 3 million a day when we brought it
17 on. It displayed a very hyperbolic decline. It
18 declined extremely rapidly, down into the neighborhood
19 of about 200 MCF a day.

20 We produced the well for a set period of
21 time, and then we shut the well in and did a fairly
22 extensive buildup test.

23 When we did the buildup test, what we did is,
24 we combined what geology we knew with what the pressure
25 data was showing us.

1 And what we identified was a very limited
2 reservoir. In fact, we were able to, within a certain
3 amount of reason, identify the dimensions of what we
4 saw, and that confirmed our inclinations that what we
5 had was a compartmentalized reservoir.

6 Q. When you look at the existing well spacing
7 for the wells that are already producing, why have you
8 chosen to orient the direction of this lateral as you
9 have to the north and west?

10 A. Primarily to honor the geology that we see,
11 that -- We initially thought that we would pursue it in
12 a northerly direction, but as we began to identify that
13 the Ute 4 was a producing well, we did not want to
14 compete with the reserves that we could see that it
15 could drain.

16 So we felt like if we veered off in the
17 direction that we did, we would reach out into
18 completely different reservoir -- or not completely
19 different reservoir, but new reservoir, and be able to
20 drain those reserves, and which we would probably not
21 do any other way.

22 Q. Have you approximated the location of this
23 lateral so that you would not be competing for reserves
24 that would be produced from either the Number 12 well
25 or the Number 4 well, which is up in Section 10?

1 A. Right, right. That was the primary reason
2 for the direction.

3 Q. Have you any estimates or opinions concerning
4 the current drainage areas being effectively depleted
5 by either the Number 12 well or the Number 4 well?

6 A. Well, there again, the Number 12 is an
7 entirely separate reservoir operating in different
8 conditions than is the 4.

9 But yeah, with the 4 we feel like if we move
10 out of what we would estimate as a primary drainage
11 area, that we should be able to reach reserves that we
12 will not reach in any other way.

13 Q. Can you estimate in terms of acreage or in
14 distances an approximation for the drainage pattern for
15 the Number 4 well?

16 A. It's probably unrealistic to estimate it
17 right now in the sense that the well's only been on for
18 six months.

19 We're seeing a similar behavior that we saw
20 in the 8, and after we've produced it for six months
21 we're going to analyze it identically to how we did the
22 8, to be able to identify all that.

23 Q. Do you see any problems that are created if
24 we go ahead and approve this two-section project area
25 for the horizontal well and continue to produce the

1 Number 12 well in its portion of that same spacing
2 unit?

3 A. No.

4 Q. Producing out of different portions of the
5 reservoir?

6 A. Right, right.

7 Q. And would this information then give you the
8 opportunity as a reservoir engineer to evaluate not
9 only horizontal technology but what should be an
10 appropriate set of rules and procedures to effectively
11 and efficiently maximize recovery from the pool?

12 A. Exactly.

13 MR. KELLAHIN: That concludes my examination
14 of Mr. Daves.

15 EXAMINATION

16 BY EXAMINER CATANACH:

17 Q. Mr. Daves, have you looked at actually the
18 drainage characteristics of the Barker Creek interval?

19 A. Uh-huh.

20 Q. And is it your opinion that that's --
21 generally, wells drain only 320 acres?

22 A. They're spaced on 640 acres, and that's a
23 good drainage pattern for those wells.

24 Q. You've got no evidence at the current time
25 about the Ismay zone?

1 A. Only that what evidence we do have shows that
2 there is -- in the case of 8 in particular, that there
3 is a high degree of something limiting your drainage
4 area.

5 EXAMINER CATANACH: I don't have anything
6 else, Mr. Kellahin.

7 MR. KELLAHIN: Call at this time Mr. Eric
8 Bauer.

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

12 DIRECT EXAMINATION

13 BY MR. KELLAHIN:

14 Q. Would you please state your name and
15 occupation?

16 A. My name is Eric Bauer. I'm a drilling
17 engineer for Meridian Oil in Farmington, New Mexico.

18 Q. On prior occasions, Mr. Bauer, have you
19 testified as a drilling engineer before the Division?

20 A. Yes, I have.

21 Q. And pursuant to your employment, have you
22 participated in the drilling program for this
23 particular project?

24 A. Yes, I have.

25 MR. KELLAHIN: We tender Mr. Bauer as an

1 expert drilling engineer.

2 EXAMINER CATANACH: Mr. Bauer is so
3 qualified.

4 Q. (By Mr. Kellahin) Let me have you take --
5 There's a large copy of the display up on the wall, but
6 there are similar copies of that same display contained
7 in the exhibit book. If you'll look at Exhibit C, move
8 past the first exhibit and open up, then, the colored
9 display.

10 Let me have you take us through the plan for
11 the drilling of the well, starting with how you propose
12 to re-enter the existing well, and give us a summary
13 how Meridian is going to accomplish the drilling
14 portion of the project.

15 A. Okay. First of all, Mr. Examiner, we're
16 going to set a cast iron bridge plug below our kickoff
17 point.

18 Then we're going to set a cement kickoff
19 plug, very densified cement, and mill a section of 60
20 foot, and then ream that section out to a 12-inch
21 diameter.

22 Then we're going to add some more cement
23 another cement plug, actually the same slurry, a
24 kickoff plug, and we will go in with a building
25 assembly and build at 17 degrees per 100 foot, which is

1 illustrated on this Exhibit C, this spread-out one and
2 the one you have right in front of you.

3 We will continue at that build rate, that
4 planned build rate, to 80 degrees. And at that point,
5 at 80 degrees, we will trip back out of the hole and go
6 in with a smaller building assembly, a steerable
7 assembly, and set that at five degrees per 100 foot.
8 And that will allow us to fine-tune our inclination and
9 azimuth and put the wellbore directly where we want it.

10 We can -- With that five-degree-per-one-
11 hundred-foot tool, we can get a maximum of eight
12 degrees build if we set it that high, or we can go to
13 zero-degree build.

14 Q. Once you've drilled to the maximum length of
15 the lateral, to that end point, what then do you do to
16 the well in order to complete it for production?

17 A. Okay, we're going to go ahead and stimulate
18 the well with acid, and then we will run a 4-1/2
19 plugged and perf'd liner and hang that in the existing
20 7-1/2 inch above our kickoff point, in the vertical
21 portion.

22 Q. Let's go back, now, to the plan views, which
23 is shown behind Exhibit Tab B, and let's look at the
24 dimensions for the proposed drilling window, starting
25 with the Ute 8, and give us the estimate, then, of the

1 maximum distance that you will need for the drilling
2 window when we approach the northwest corner of the
3 spacing unit.

4 A. Okay, we plan to use an azimuth of 330
5 degrees, and you'll see a 30-60-90 triangle on this
6 page, under Exhibit B. The reason we chose that, once
7 again, was to go for the thickest part of the sequence.

8 And we plan to -- Using those build rates I
9 described earlier, the 17-degrees-per-100-foot to 80
10 degrees and the five degrees for that soft landing till
11 we hit the 89-degree point, we calculated out that it
12 would be 2932-foot vertical section from the Ute 8
13 wellbore to a point in Section 16 where we are at
14 exactly 990 feet from the north of that section, the
15 north section line.

16 Q. Would a nonstandard spacing unit consisting
17 of all of Sections 15 and 16, with a drilling producing
18 window setback, so that you could produce within that
19 spacing unit, so long as you were no closer than 990 to
20 the north boundary or 1650 from the other three
21 dimensions, provide Meridian as the operator the
22 appropriate flexibility to execute this plan?

23 A. Yes.

24 MR. KELLAHIN: That concludes my examination
25 of Mr. Bauer.

1 We move the introduction of Exhibits B and C.

2 EXAMINER CATANACH: Exhibits B and C will be
3 admitted as evidence.

4 EXAMINER CATANACH: I guess the only thing I
5 would ask is that if you guys could provide me a detail
6 of the drilling procedures as were explained on the
7 record by the witness --

8 MR. KELLAHIN: Okay, sure, be happy to.

9 EXAMINER CATANACH: And I think that's all I
10 have.

11 MR. KELLAHIN: All right. The last Exhibit,
12 then, Mr. Examiner, is Exhibit I, which is the
13 certificate of mailing, went to the BIA and to the Ute
14 Mountain Ute Tribe.

15 We do have the active support of the tribe
16 for the execution of this project, and they've
17 encouraged us to go forward.

18 With the introduction of that exhibit, that
19 completes our presentation.

20 EXAMINER CATANACH: Exhibit I will be
21 admitted as evidence, and there being nothing further
22 in this case --

23 MR. FOUST: I've got a request, David, for
24 Meridian -- I guess they don't have an extra copy -- to
25 provide a copy of the exhibits to Ernie.

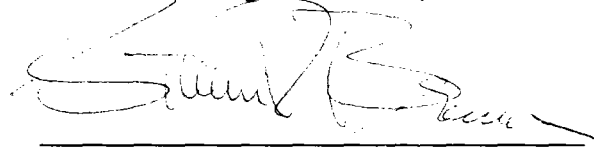
CERTIFICATE OF REPORTER

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.

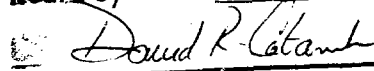
WITNESS MY HAND AND SEAL April 26th, 1993.



STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1994

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 10702,
heard by me on April 8 1993.

 , Examiner
Oil Conservation Division