

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: ^{JHM})
^{Meridian})
 APPLICATION OF ~~MARATHON~~ OIL, INC.)
)

CASE NO. 10,885

JAN 14 1994

REPORTER'S TRANSCRIPT OF PROCEEDINGSEXAMINER HEARING

BEFORE: JIM MORROW, Hearing Examiner

ORIGINAL

December 16, 1993

Santa Fe, New Mexico

This matter came on for hearing before the Oil
 Conservation Division on Thursday, December 16, 1993, 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

December 16, 1993
 Examiner Hearing
 CASE NO. 10,885

PAGE

APPEARANCES

3

APPLICANT'S WITNESSES:

JOHN F. ZENT

Direct Examination by Mr. Kellahin
 Examination by Examiner Morrow

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JAMES M. HORNBECK

Direct Examination by Mr. Kellahin
 Examination by Examiner Morrow

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REPORTER'S CERTIFICATE

22

* * *

E X H I B I T S

	Identified	Admitted
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Exhibit 1	6	9
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Exhibit 4	11	18
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A P P E A R A N C E S

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FOR THE DIVISION:

ROBERT G. STOVALL
Attorney at Law
Legal Counsel to the Division
State Land Office Building
Santa Fe, New Mexico 87504

FOR THE APPLICANT:

KELLAHIN & KELLAHIN
Attorneys at Law
By: W. THOMAS KELLAHIN
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P.O. Box 2265
Santa Fe, New Mexico 87504-2265

* * *

1 WHEREUPON, the following proceedings were had at
2 9:35 a.m.:

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6 EXAMINER MORROW: Call the hearing back to order
7 and call Case 10,885.

8 MR. STOVALL: Application of Meridian Oil, Inc.,
9 for an unorthodox gas well location, San Juan County, New
10 Mexico.

11 EXAMINER MORROW: Appearances?

12 MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of
13 the Santa Fe law firm of Kellahin and Kellahin, appearing
14 on behalf of the Applicant, and I have two witnesses to be
15 sworn.

16 EXAMINER MORROW: Will the witnesses please stand
17 to be sworn?

18 (Thereupon, the witnesses were sworn.)

19 MR. KELLAHIN: Call at this time, Mr. Examiner,
20 Mr. John Zent. Mr. Zent is a petroleum landman with
21 Meridian Oil Company, and he resides in Farmington, New
22 Mexico.

23 EXAMINER STOGNER: Z-e-n-t, is that --

24 MR. KELLAHIN: Z-e-n-t.

25 MR. ZENT: That's correct.

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JOHN F. ZENT,

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. Zent, for the record please state your name and occupation.

A. John F. Zent. I'm a petroleum landman with Meridian Oil.

Q. Mr. Zent, on prior occasions have you testified as a petroleum landman before the Oil Conservation Division?

A. Yes, sir.

Q. And pursuant to your employment in that capacity as a petroleum landman, are you familiar with the land title issues with regards to your company's Application in this case?

A. Yes, sir, I am.

Q. Summarize for us from your point of view what it is that Meridian is seeking to do.

A. Meridian is seeking to drill a Paradox Pennsylvanian test at a nonstandard location within the boundaries of the Barker Creek-Paradox Pool, located in the northwestern portion of the San Juan Basin.

Q. The Barker Creek-Paradox Gas Pool is spaced upon

1 what spacing pattern, Mr. Zent?

2 A. It is 640-acre proration units for gas wells into
3 the pool.

4 Q. A standard well location in that pool requires
5 what setbacks from the boundaries?

6 A. 1650 feet from the section lines and 330 feet
7 from the interior quarter-section lines. Those are shown
8 in the exhibits before you.

9 We've got a plat of our staked location, Exhibit
10 3, and shaded in green shows the standard locations with
11 the setbacks. Anything within those green-shaded areas
12 would be standard. Anything outside those green-shaded
13 areas would be a non-standard location.

14 You can also see that the location is currently
15 staked, and we're seeking to permit the location 1250 feet
16 from the west line and 1595 feet from the north line of
17 Section 20, 32 North, 14 West.

18 Q. The geologic staff of Meridian has recommended
19 for geologic reasons the unorthodox location?

20 A. Yes, sir.

21 Q. All right. Let's turn back to Exhibit 1. That's
22 the Application for Hearing?

23 A. Yes. sir.

24 Q. Page 3 of the Application for Hearing lists some
25 parties for notification purposes, the Ute Mountain Ute

1 Tribe and the Bureau of Indian Affairs.

2 What's the purpose, to your knowledge, of
3 notifying those parties?

4 A. These two parties, in fact, the Ute Mountain Ute
5 Indian Tribe is the only lessor holding royalty interests
6 on lands within the Barker Creek-Paradox Gas Pool. They
7 are the sole lessor in the pool rules, and Meridian Oil,
8 Inc., or an affiliate company, El Paso Production Company,
9 is the sole lessor within the pool rules.

10 Q. Let's turn to Exhibit Number 2, and give the
11 Examiner an illustration of what you've just described.

12 A. Exhibit 2 is a plat approximately of Township 32
13 North, Range 14 West, San Juan County, New Mexico. The
14 township is the northernmost township in the State of New
15 Mexico. It borders the Colorado border.

16 The red outline on the plat depicts the exterior
17 boundaries of the Barker Creek-Paradox Gas Pool.

18 As you can see with -- on that plat, the entire
19 portion of the pool and Meridian's leasehold interest is
20 shown with a brown crosshatch from the southwest towards
21 the northeast, so you can see that Meridian holds 100
22 percent of the leasehold within the entire pool, with the
23 exception of 320 acres, which is the west half, Section 19,
24 32 North, 14 West.

25 That tract of land is currently subject to a

1 pending oil and gas lease between Meridian and the Mountain
2 Ute Indian Tribe, which is awaiting approval by the Bureau
3 of Indian Affairs. We've negotiated that lease, and we
4 anticipate its final approval within the next 45 days.

5 So in essence, Meridian and the Mountain Ute
6 Indian Tribe are the sole parties of interest within the
7 entire Barker Creek-Paradox Gas Pool.

8 Q. Are there any overriding interest owners?

9 A. There are no overriding interest owners.
10 However, Conoco and Amoco have a production payment
11 amounting to seven cents per MCF on gas produced from the
12 pool.

13 Q. All right. That interest, is that uniform
14 throughout the pool?

15 A. Yes, sir.

16 Q. And are the royalty percentages paid to the Tribe
17 uniform throughout the pool?

18 A. They are uniform at 12 1/2 percent, with the
19 exception of the new lease Meridian has negotiated from the
20 Mountain Ute Tribe on the west half of Section 19, and that
21 will be at a higher royalty rate.

22 Q. Is it a correct conclusion, from your information
23 in this display, that the direction by which this well
24 encroaches, encroaches on exactly the same parties with the
25 same interests as in the unorthodox well?

1 A. Yes, sir.

2 Q. You've identified Exhibit 1, 2, Exhibit 3, and
3 that concludes your exhibits, does it not?

4 A. Yes, sir.

5 MR. KELLAHIN: And that also concludes my
6 questions of this witness.

7 We move the introduction of his Exhibits 1, 2 and
8 3.

9 EXAMINER MORROW: Exhibits 1 through 3 are
10 admitted in the record.

11 EXAMINATION

12 BY EXAMINER MORROW:

13 Q. Who besides Conoco has the seven cents per MCF?

14 A. Amoco, and they both split it. It's a 50-50
15 split between those two parties.

16 Q. How did they get that?

17 A. Pardon?

18 Q. How did they come by that? Do you know?

19 A. If I recall, in the late Fifties, the property
20 was owned by El Paso Natural Gas Company. They had
21 acquired it through Pan American. Pan American had
22 assigned a hundred percent of their interest in these lands
23 to El Paso, reserving seven cents override. That was later
24 conveyed partially to Conoco.

25 Q. And it's not -- Is it really an override? I

1 believe you said earlier --

2 A. It's really a production payment in that it's not
3 a flat fee, but it's a seven-cents-per-MCF, and it comes
4 out after certain costs and expenses are deducted.

5 EXAMINER MORROW: Okay. Do you have any
6 questions?

7 MR. STOVALL: No.

8 EXAMINER MORROW: Thank you, Mr. Zent. You may
9 be excused.

10 MR. KELLAHIN: Mr. Examiner, I'd call at this
11 time Mr. Jim Hornbeck. Mr. Hornbeck is a geologist with
12 Meridian.

13 JAMES M. HORNBECK,
14 the witness herein, after having been first duly sworn upon
15 his oath, was examined and testified as follows:

16 DIRECT EXAMINATION

17 BY MR. KELLAHIN:

18 Q. Mr. Hornbeck, would you please state your name
19 and occupation?

20 A. My name is James Hornbeck, and I'm a geologist
21 with Meridian Oil in Farmington, New Mexico.

22 Q. On prior occasions, Mr. Hornbeck, have you
23 testified as a petroleum geologist before the Division?

24 A. Yes, I have.

25 Q. Pursuant to your employment as a geologist, have

1 you made a geologic study of the pool in question and have
2 determined for yourself a proposed well location for
3 Section 20?

4 A. Yes, I have.

5 Q. This represents your work and your
6 recommendations?

7 A. That is correct.

8 MR. KELLAHIN: We tender Mr. Hornbeck as an
9 expert petroleum geologist.

10 EXAMINER MORROW: We accept his qualifications.

11 Q. (By Mr. Kellahin) Mr. Hornbeck, let's turn to
12 Exhibit 4. Help us locate where we are.

13 A. Exhibit 4 is a regional map of the San Juan
14 Basin. It also has a structural datum on the base of the
15 Greenhorn, which is a Cretaceous marker throughout the
16 Basin.

17 And what it shows is the location of the Barker
18 Creek field, straddling the Colorado-New Mexico border in
19 the northwestern edge of the San Juan Basin.

20 Q. Let's turn to Exhibit Number 5 and have you
21 illustrate for us where this pool is located and where
22 within the pool your principal zone or formation lies.

23 A. Exhibit 6 -- I'm sorry, correction --

24 Q. Yeah.

25 A. -- Exhibit 5 is a type log from a producing well

1 within the field, and it shows the Des Moinesian Paradox
2 intervals which are productive within the pool outline.

3 The original main pay in the field is referred to
4 as the Lower Barker Creek, and it has the original
5 perforations in that wellbore colored and marked.

6 Q. What portion or member of the pool is your
7 primary objective with this well?

8 A. In this particular test, we are targeting the
9 Desert Creek interval, still within the Paradox Pool, as
10 the main target of the well.

11 Q. Give us a general geologic description, if you
12 will, of this pool.

13 A. The Desert Creek pay is a highly stratigraphic
14 reservoir which is not nearly as well developed throughout
15 the field's outline and is very prone to stratigraphic
16 pinching out.

17 Q. What is the trapping mechanism, if you will, in
18 the reservoir in which the hydrocarbons are then contained
19 within the individual members?

20 A. Well, the gas has been accumulated in porous
21 limestones, in stratigraphic porosity, which is accumulated
22 on the flank of the Barker Dome structure and trapped with
23 tight overlying limestone sealing it in place. It's truly
24 a stratigraphic trap.

25 Q. What is the approximate total vertical interval

1 of the pool?

2 A. Well, the entire pool encompasses approximately
3 -- well, say in round numbers, 900 feet of stratigraphic
4 section.

5 Q. Within that 900-foot interval, estimate for us
6 the number of different members or zones within the pool
7 that have shown the ability to produce gas.

8 A. There have been seven zones identified within the
9 pool, along the anticlinal structure, and production has
10 been established out of five of those seven zones, and
11 we're evaluating all of these zones for their additional
12 potential currently.

13 Q. How long has this pool been in existence? Do you
14 remember?

15 A. I believe the discovery well was drilled in 1945,
16 by Southern Union Gas. So that would be approximately 40
17 years.

18 MR. KELLAHIN: The records reflect, Mr. Examiner,
19 that the pool was established in March of 1950; 640-acre
20 spacing was established by Order Number R-46.

21 Q. (By Mr. Kellahin) What has been the development
22 strategy thus far for exploiting the reservoir? How many
23 wells per section?

24 A. One well per 640-acre section.

25 Q. Do you have an opinion or an anticipation as to

1 whether or not a single well per section has provided you
2 an appropriate opportunity to encounter all of these zones?

3 A. The original development on 640-acre spacing may
4 have been adequate to develop the Lower Barker Creek pay
5 zone, but has not allowed us to develop the Desert Creek
6 and the shallower pays with a much more stratigraphic
7 nature effectively.

8 Q. Let's turn specifically to the information on
9 Section 20, then, and if you'll look at Exhibit Number 6,
10 what is that?

11 A. Exhibit 6 is an isopach of net pay of the primary
12 target in this subject well, the Desert Creek interval.

13 The proposed location is shown with regard to
14 existing well control and shows that the pay pinches out
15 rapidly to the southeast in Section 20. The scale is a
16 mile -- is a section, as shown there.

17 And the existing wells that are positioned on
18 this plat are the deep tests penetrating the Pennsylvanian
19 pay zones in the field currently existing, some of which
20 are still producing or are completed out of the deeper
21 Lower Barker Creek main pay, but all have given us control
22 to show the pinching out of the Desert Creek to the
23 southeast.

24 Q. Are you satisfied, Mr. Hornbeck, that you have
25 sufficient geologic control from which to make a map such

1 as this that is reliable for purposes that you choose to
2 apply?

3 A. Based on a study of the pay in the Desert Creek,
4 we feel this is a valid interpretation at this time.

5 Q. Has there yet to be drilled a well in Section 20
6 to any member of the pool?

7 A. That is correct, it is undeveloped at the present
8 time.

9 Q. This will be the first attempt in this section to
10 obtain production from the pool?

11 A. That is correct.

12 Q. What is your recommendation with regards to the
13 best place to put that initial well in the section?

14 A. Well we've staked the well at what we feel is our
15 best location based on reducing the chances of encountering
16 a thinner pay zone and also capturing reserves within that
17 particular 640 drill block.

18 Q. Is there a correlation between the net pay
19 isopach interval and the opportunity to produce gas out of
20 that pay interval?

21 A. Yes, there is. The wells that have the thicker
22 established pays have been much more successful commercial
23 ventures.

24 Q. When you look at Section 20 as displayed on
25 Exhibit Number 6 and compare it to Mr. Zent's Exhibit

1 Number 3, which shows the four possible standard drilling
2 windows in the section, what opportunity do you have for
3 drilling a successful well to this pay member in either the
4 northeast, southwest or southeast quarter sections of this
5 section?

6 A. Well, the only viable standard location would be
7 the location in the southeast of the northwest of Section
8 20, and if we were to position a well there, we interpret
9 it to be a thin marginal thickness of reservoir, and we
10 don't believe we would be economically successful drilling
11 it in that location.

12 Q. Let's look, then, at the standard window in the
13 southeast of the northwest and compare for us on the
14 isopach, then, what you obtain over a standard location
15 with the unorthodox location.

16 A. Well, the standard location would most likely
17 give us a thickness of between 10 and 20 feet, probably an
18 average of about 15 feet of pay.

19 And in our experience we have found that we would
20 not be able to support the drilling of an expensive well
21 like this with that amount of pay, so we've tried to
22 increase our chances of a commercial producer in this
23 section by moving it towards the thicker, better developed
24 reservoir, as proposed in our nonstandard location right
25 now, which would be approximately 25 feet of pay.

1 Q. Is that enough difference in pay, potential
2 thickness, to make a difference to you?

3 A. Yes, it is.

4 Q. And what is the approximate cost of a well like
5 this?

6 A. Our wells have averaged, in drilling them, right
7 around \$1.2 million.

8 Q. And with wells of that cost to this depth, it's
9 important to you, then, to locate it at its most
10 advantageous position in the spacing unit?

11 A. That is correct.

12 Q. Do you have an opinion as to whether or not this
13 well is going to be located too close to the Ute Number 6
14 well in 17?

15 A. We have positioned this well to strategically not
16 -- hopefully not compete for reserves from the Ute 6, which
17 is currently completed in the Desert Creek interval. We
18 don't believe there will be a problem there.

19 Q. All right. The plan, then, is to keep them
20 sufficiently separated enough that each is competing for
21 their own unique portion of the reservoir reserves?

22 A. That is correct.

23 MR. KELLAHIN: That concludes my examination of
24 Mr. Hornbeck, Mr. Examiner.

25 We move the introduction of his exhibits; they

1 are numbered 4, 5 and 6.

2 EXAMINER MORROW: Exhibits 4, 5 and 6 are
3 admitted into the record.

4 MR. KELLAHIN: And in addition, Mr. Examiner,
5 Exhibit 7 is my certificate of mailing of notification to
6 the parties that are entitled to notice in this case. We
7 would ask that that be admitted at this time.

8 EXAMINER MORROW: We admit Exhibit Number 7 also.

9 EXAMINATION

10 BY EXAMINER MORROW:

11 Q. Mr. Hornbeck, is the Ute Number 6 in Section 17,
12 is that at an orthodox location? Doesn't look like it.

13 A. No, it doesn't look like it.

14 Q. Do you have an estimate of how much -- of the
15 hydrocarbon recovery from the proposed well? Have you made
16 an estimate?

17 A. Oh, yes, we have.

18 Q. How much is that?

19 A. We're hoping to encounter somewhere in the range
20 of between 3 and 4 billion cubic feet of gas, total
21 recovery.

22 Q. And at the orthodox location, did you make an
23 estimate over there?

24 A. Yes, we did. It would be an un- -- We wouldn't
25 drill the well.

1 Q. Wouldn't drill the well?

2 A. No.

3 Q. Wouldn't be --

4 A. We couldn't justify the expenditure.

5 Q. Would the recovery be on the order of 15/25 of
6 that amount or --

7 A. Yes, yes.

8 Q. -- something like that?

9 A. Yeah.

10 Q. And you said you had gained about ten feet --

11 A. Yes, hopefully.

12 Q. -- of net pay by moving?

13 How about the Colorado portion of the pool? Is
14 there substantial development up there or not?

15 A. Well, there's a well on every 640 within the pool
16 outline, the delineated structural pool outline for the
17 Lower Barker Creek, and we are currently looking at the
18 development of the shallower pay zones in that portion of
19 the pool also.

20 Q. Is the state line shown on here or not?

21 A. Yes, it is. On Exhibit 6, the Colorado-New
22 Mexico border is directly north of the New Mexico heading
23 on the map. That is the top -- Section 8 is a cutoff
24 section, as well as Section 9, and they butt up against the
25 Colorado-New Mexico border.

1 Q. Okay. So a portion of Exhibit 3, then -- I know
2 you didn't testify on that, but is a portion of that
3 Colorado and part of it New Mexico, or is that all New
4 Mexico?

5 A. I'm not sure I understand what you're asking me.

6 Q. This Exhibit Number 3, do you know if it shows
7 the Colorado portion of the pool or only the New Mexico?

8 A. It is exclusively New Mexico.

9 MR. STOVALL: The top of the exhibit is the state
10 line; is that right, Mr. Hornbeck? It appears to be.
11 You've got Section 8 as the top row going across.

12 THE WITNESS: Yes, it is.

13 Q. (By Examiner Morrow) Do you know if the same
14 ownership for -- To satisfy my curiosity, is the same
15 ownership situation -- does it prevail in Colorado as well
16 as New Mexico as to Meridian and the Ute Tribe?

17 A. I believe it does. I could check very quickly
18 with our landman and make sure that's the case.

19 MR. ZENT: That is correct, sir. Ute Mountain
20 Tribe owns a hundred percent of the minerals and Meridian
21 is the sole lessor --

22 EXAMINER MORROW: Okay.

23 MR. ZENT: -- lessee.

24 EXAMINER MORROW: Thank you, Mr. Hornbeck. You
25 may be excused.

1 MR. KELLAHIN: That concludes our presentation in
2 this case.

3 EXAMINER MORROW: Thank you, Mr. Kellahin.

4 Case 10,885 will be taken under advisement.

5 (Thereupon, these proceedings were concluded at
6 9:57 a.m.)

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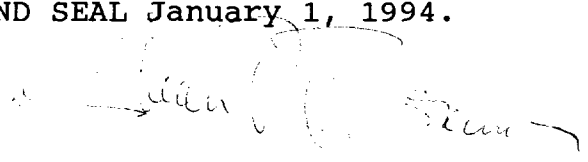
1 CERTIFICATE OF REPORTER

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.

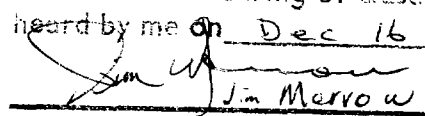
12 I FURTHER CERTIFY that I am not a relative or
13 employee of any of the parties or attorneys involved in
14 this matter and that I have no personal interest in the
15 final disposition of this matter.

16 WITNESS MY HAND AND SEAL January 1, 1994.

17
18 
19 STEVEN T. BRENNER
CCR No. 7

20
21 My commission expires: October 14, 1994

22 I do hereby certify that the foregoing is
23 a correct record of the proceedings in
24 the examiner hearing of Case No. 10885,
heard by me on Dec 16 1993.

25 
Jim Marrow, Examiner
Oil Conservation Division