

NEW MEXICO OIL CONSERVATION DIVISION

STATE OF NEW MEXICO

CASE NO. 10522

IN THE MATTER OF:

The Application of Southland Royalty
Company for an unorthodox gas well
location, Lea County, New Mexico.

BEFORE:

MICHAEL E. STOGNER

Hearing Examiner

September 3, 1992

REPORTED BY:

DEBBIE VESTAL
Certified Shorthand Reporter
for the State of New Mexico

ORIGINAL

A P P E A R A N C E S

FOR THE NEW MEXICO OIL CONSERVATION DIVISION:

ROBERT G. STOVALL, ESQ.

General Counsel

State Land Office Building

Santa Fe, New Mexico 87504

FOR THE APPLICANT:

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BY: **W. THOMAS KELLAHIN, ESQ.**

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1 EXAMINER STOGNER: Call the next case,
2 No. 10522.

3 MR. STOVALL: Application of Southland
4 Royalty Company for an unorthodox gas well
5 location, Lea County, New Mexico.

6 EXAMINER STOGNER: Call for
7 appearances.

8 MR. KELLAHIN: Mr. Examiner, I'm Tom
9 Kellahin, of the Santa Fe law firm of Kellahin &
10 Kellahin, appearing on behalf of the applicant,
11 Southland Royalty Company. and I have two
12 witnesses to be sworn.

13 EXAMINER STOGNER: Are there any other
14 appearances?

15 Will the witnesses, please, stand and
16 be sworn at this time.

17 [The witnesses were duly sworn.]

18 MR. KELLAHIN: We're ready, Mr.
19 Examiner.

20 EXAMINER STOGNER: You may proceed, Mr.
21 Kellahin.

22 **DENNIS MAIORINO**

23 Having been duly sworn upon his oath, was
24 examined and testified as follows:

25 EXAMINATION

1 BY MR. KELLAHIN:

2 Q. Would you, please, state your name and
3 occupation?

4 A. My name is Dennis Maiorino, and I'm a
5 senior staff geologist with Meridian Oil.

6 Q. Mr. Maiorino, would you spell your last
7 name?

8 A. It's M-a-i-o-r-i-n-o.

9 Q. Mr. Maiorino, where do you reside?

10 A. Midland, Texas.

11 Q. For purposes of this case, you're
12 appearing before the Examiner on behalf of
13 Southland Royalty Company, are you not?

14 A. That's correct.

15 Q. Have you on prior occasions testified
16 as a petroleum geologist before the Division?

17 A. No, I haven't.

18 Q. Summarize for us your education.

19 A. I have a bachelor of science degree
20 from Wayne State University, graduated in 1978.
21 And I have 13 years with Meridian Oil.

22 Q. As part of your duties as a petroleum
23 geologist, have you made a study of the Morrow
24 Formation within this portion of Lea County, New
25 Mexico, that's identified as your Corbin

1 prospect, and that is the subject of the South
2 Corbin Federal Well No. 3 application before the
3 Examiner this morning?

4 A. Yes. I have.

5 MR. KELLAHIN: We tender Mr. Maiorino
6 as an expert petroleum geologist.

7 EXAMINER STOGNER: Mr. Maiorino is so
8 qualified.

9 Q. Let me ask you to turn to what we've
10 marked as Exhibit No. 1. Before we discuss your
11 specific geologic conclusions, identify the
12 display for us and show us what wells you've
13 depicted on your cross-section.

14 A. This is a stratigraphic cross-section,
15 B-to-B prime. It goes generally from west to
16 east and includes three wells: The Pennzoil No.
17 1-29 Federal, the South Corbin Federal No. 3, and
18 the Uncle Com. No. 1.

19 Q. The specific subject of the application
20 is the South Corbin Federal Well No. 3. Would
21 you find that for us?

22 A. That's right in the center. That's in
23 Unit letter "P" of Section No. 20. It's a
24 11,500-foot Wolfcamp test.

25 Q. Is that well depicted on the

1 cross-section?

2 A. Yes, it is. It's well No. 2 in the
3 middle.

4 Q. What is the current status of that
5 well?

6 A. That well is currently temporarily
7 abandoned. It's been temporarily abandoned as of
8 March of 1992.

9 Q. From what formations had it previously
10 produced?

11 A. None. No formations were encountered
12 that were productive.

13 Q. What is Southland Royalty Company's
14 planned use for this wellbore?

15 A. We'd like to reenter this wellbore and
16 deepen it approximately 2,000 feet to test the
17 Morrow Clastics.

18 Q. When you look at the cross-section,
19 identify for us what portion of the Morrow
20 Formation you intend to investigate with the
21 deepening of this existing well.

22 A. We hope to encounter two potential pay
23 zones, one in the Upper Morrow Clastics and one
24 in the Lower Morrow Clastics.

25 Q. As a geologist, when you're examining

1 for the potential for additional reservoir
2 recoveries from the Morrow, what kind of geologic
3 tools and investigations do you make for this
4 type of prospect?

5 Is this a structural-driven solution,
6 or do you use isopachs? What do you use?

7 A. In this particular case, since we have
8 such good well control, we use both a structure
9 map and porosity isopach maps. But right now,
10 with the well control that we have, I made a
11 cross-section to show -- to illustrate the
12 lateral discontinuousness of the sands that we
13 have presently producing -- well, that were
14 producing in Section 28 and 29.

15 Q. The proposed spacing unit for the well
16 is to be the east half of Section 20?

17 A. That's correct.

18 Q. For this reservoir, being the South
19 Corbin-Wolfcamp Pool, identify -- I'm sorry.
20 Your South Corbin-Morrow Gas Pool?

21 A. Gas Pool.

22 Q. Show us in the east half of 20 any
23 other attempts to produce hydrocarbons out of the
24 Morrow Gas Pool.

25 A. That was a section in the east half of

1 Section 20. That would be the No. 1 PA well.
2 That well was drilled back in 1962, I believe,
3 and tested the Morrow Clastics. And at four
4 different shots in the Morrow, all four zones
5 tested tight.

6 Q. Describe for us the offset development
7 and attempts to produce gas out of the Morrow gas
8 reservoir.

9 A. In that wellbore?

10 Q. No, sir. In any of the offsetting
11 wellbores.

12 A. Of the offsetting wellbores? In
13 Section 28, the L.R. French well is completed out
14 of the middle -- of the Upper Morrow.

15 Q. That's the well in the northwest
16 quarter of Section 20?

17 A. Right. That would be Unit letter "C."
18 That well produced 5.6 Bcf. The well, Unit
19 letter "B" in Section 29, that's also on the
20 cross-section, that's the Pennzoil well. That
21 well produced 3.3 Bs out of the Lower Morrow
22 Clastics.

23 Q. When you're looking for remaining gas
24 reserves that may not have yet been produced by
25 any of the offsetting wells that may still exist

1 within the east half of 20, what have you done to
2 determine the optimum location in which to try to
3 capture that remaining gas?

4 A. Basically I've made a couple
5 cross-sections between the wells in Section 20,
6 21, 28, and 29 and have seen that the pays that
7 were encountered in Section 29 and 28 do not
8 extend to the north into section -- into the
9 wells in section -- the 1 PA well and the well 21
10 -- No. 1 Federal in Section 21.

11 Q. Before Southland abandons the leasehold
12 in the east half of 20, is there an opportunity
13 to explore for additional hydrocarbon recoveries
14 out of the Morrow Pool?

15 A. Yes, there is.

16 Q. From a geologic prospective do you see
17 the opportunity to recover those reserves
18 existing at a standard location within that
19 spacing unit which would be a point 1980 from the
20 lines of the 320 or 660 from the side boundaries?

21 A. No, I don't.

22 Q. What causes you to reach that
23 conclusion?

24 A. Investigation of the subsurface data
25 obtained in the 1 PA well there in Section 20 and

1 the well in Section 21 indicated that the Morrow
2 sands in both those wellbores were very thin and
3 tight. Both wellbores have been thoroughly
4 tested and recovered noncommercial amounts of
5 gas.

6 Q. In your opinion is the proposed
7 unorthodox location and the utilization of that
8 existing wellbore the last opportunity for
9 Southland Royalty Company to recover any
10 remaining gas reserves in the Morrow Pool that
11 may underlie this spacing unit?

12 A. That's correct.

13 Q. Any additional comments or observations
14 about your display?

15 A. No, sir.

16 MR. KELLAHIN: We move the introduction
17 of Southland Exhibit No. 1.

18 EXAMINER STOGNER: Exhibit No. 1 will
19 be admitted into evidence at this time.

20 MR. KELLAHIN: That concludes my
21 examination of this witness.

22 EXAMINATION

23 BY EXAMINER STOGNER:

24 Q. Mr. Maiorino, in looking at the west
25 half of Section 20 there's a gas well. Is that a

1 Morrow test?

2 A. That was a Morrow test that has been
3 subsequently plugged back to the first Bone
4 Spring Sands.

5 Q. That other well in the east half of
6 Section 20, I don't see a number on it, but it's
7 in the -- also in the southeast quarter?

8 A. That was a shallow Queen dry hole.

9 Q. Okay. So most of the other wells that
10 show up on this are Queen producers, I would
11 assume, or shallow Queen?

12 A. Either that or Wolfcamp oil producers.
13 The oil wells for the most part in there are
14 Wolfcamp oil wells.

15 Q. There again this is a basic Morrow
16 channel?

17 A. That's correct, fluvial deltaic type
18 sedimentation.

19 EXAMINER STOGNER: Any other questions
20 of Mr. Maiorino? If not, he may be excused.

21 Mr. Kellahin.

22 MR. KELLAHIN: I'd like to call Mr.
23 Parkhurst.

24 **DAVID PARKHURST**

25 Having been duly sworn upon his oath, was

1 examined and testified as follows:

2 EXAMINATION

3 BY MR. KELLAHIN:

4 Q. Mr. Parkhurst, would you, please, state
5 your name and occupation?

6 A. My name is David Parkhurst. I work as
7 a reservoir engineer for Meridian Oil Company.

8 Q. Mr. Parkhurst, on prior occasions have
9 you testified as a reservoir engineer?

10 A. No, I haven't.

11 Q. Summarize for us your education.

12 A. I have a bachelor of science degree in
13 petroleum engineering from Texas Tech University.

14 Q. In what year, sir?

15 A. December 1990.

16 Q. Subsequent to graduation, summarize for
17 us your employment as a reservoir engineer.

18 A. I've been with Meridian for one year
19 and nine months.

20 Q. Do your duties as a reservoir engineer
21 include the examination of the potential for
22 remaining hydrocarbon recoveries out of the South
23 Corbin-Morrow gas pool?

24 A. Yes, it does.

25 Q. How did you go about making that study

1 and investigation?

2 A. Well, we just looked at some of the
3 offsetting wells, and we also looked at our
4 location here, and we felt we had a good shot at
5 obtaining some more reserves at this location.

6 Q. Let's look specifically at Mr.
7 Maiorino's display so that it can help orient as
8 to these wells. When you look at the southeast
9 quarter of Section 20, the subject well --

10 A. Yes.

11 Q. -- why has that been selected by you as
12 a reservoir engineer as the optimum place in this
13 spacing unit, being the east half of the section,
14 at which to attempt to produce the remaining
15 hydrocarbons out of this pool?

16 A. Well, the only reason this particular
17 location has been selected is because we already
18 have a wellbore that's 11,550 feet deep.

19 Q. Have you made a determination as to
20 whether the anticipated remaining Morrow gas
21 reserves are sufficient to justify drilling a new
22 well from surface to total depth for the recovery
23 of that gas?

24 A. Yes, we have.

25 Q. And what was your conclusion?

1 A. The conclusion was that it was not
2 economical to drill a new well from, you know, a
3 13,500 foot well versus drilling incrementally
4 2,000 feet.

5 Q. Using Mr. Maiorino's geology and your
6 reservoir engineering skills, can you conclude
7 that you can drill a standard location for the
8 recovery of the additional hydrocarbons that may
9 remain in this Morrow gas pool?

10 A. No. we can't.

11 Q. Let's turn now to what is marked as
12 Exhibit No. 2. Would you identify and describe
13 this display?

14 A. Okay. Exhibit No. 2 is a pressure
15 versus cumulative gas produced plot, or P/Z plot,
16 for the Hudson 29-Federal No. 1.

17 Q. Which well is that?

18 A. It is the well -- it would be B. It
19 would be the Hudson -- let's see, in Section 29.

20 Q. All right. This is the southwest
21 offset to your well location?

22 A. Correct.

23 Q. Why did you investigate this well?

24 A. Well, what we're doing is looking at,
25 you know, the wells -- this well here producing

1 out of the Morrow and the Uncle Com., which is
2 located to the southeast, our proposed location,
3 and what we're doing is looking at using the
4 remaining reserves out of each of those zones to
5 determine whether or not we have an economical
6 shot at drilling the incremental 2,000 feet.

7 Q. Tell us your conclusions from Exhibit
8 No. 2.

9 A. Well, the Exhibit No. 2, the conclusion
10 is that using a P/Z abandonment rate of 250
11 pounds, we estimate the ultimate recovery of this
12 well to be 3.5 Bcf.

13 Q. Have you made an estimate of the area
14 that may have been depleted or affected by the
15 production of that amount of gas out of the
16 Hudson 29 well?

17 A. Yes. 29-No. 1. Yes, we have.

18 Q. Would that affect the reserve potential
19 underlying your spacing unit?

20 A. Yes, it probably would.

21 Q. Let's turn now to Exhibit No. 3 and
22 identify and describe that.

23 A. Okay. This is the Hudson 29-Federal
24 No. 1. It's a decline curve. And what we've
25 done is taken the EOR that was estimated from the

1 P/Z curve and then input the cumulative gas
2 produced up to the time the well was shut-in.
3 And that allowed us to calculate what we thought
4 were the remaining reserves left in the well.

5 Q. The Hudson 29 stopped producing in
6 early 1980?

7 A. Yes.

8 Q. Do you have a reservoir explanation or
9 an engineering conclusion with regards to why
10 that well was abandoned?

11 A. No, I don't.

12 Q. You've extrapolated on your decline the
13 potential for remaining future recoveries out of
14 this zone using this analysis?

15 A. Yes.

16 Q. And you've taken that information and
17 used it as part of your economics for justifying
18 the reentry of the subject well?

19 A. That's correct.

20 Q. All right. Let's see the rest of your
21 analysis. If you'll turn to Exhibit 4, would you
22 identify and describe that?

23 A. Yes. Exhibit No. 4 is just a P/Z curve
24 like the one that you previously saw, although
25 this is one is for the Uncle Com. No. 1, which is

1 the southeast offset to the proposed location.

2 Q. When we move over to southeast offset,
3 what does Exhibit No. 4 show you?

4 A. It shows you as well that there is a
5 Morrow zone there as well. It's not the same
6 zone that is producing out of the Hudson 29 No.
7 1. Dennis explained that you have two different
8 Morrow producing horizons. And our same logic of
9 thinking is here that, if we can drill in this
10 particular location, we might be able to
11 intersect both zones by drilling here.

12 Q. Turn now to Exhibit No. 5. Would you
13 identify and describe that?

14 A. Yes. Exhibit 5 is the Uncle Com. No. 1
15 decline curve. We used a similar analysis here
16 by taking the estimated ultimate recovery from
17 the P/Z curve and inputting the cumulative
18 production to date. And that allowed us to
19 calculate some remaining reserves for this well
20 as well.

21 Q. How have you taken this information
22 then and analyzed it in terms of whether or not
23 there is sufficient economic incentive to justify
24 the reentry of the South Corbin-Federal No. 3
25 well?

1 A. Well, like I mentioned before, we're
2 taking what appears to be an optimistic approach
3 in that we think at this particular location we
4 can't intersect both of those zones that were
5 producing in each of the offset abandoned wells.
6 And, by the analysis that you've seen here, we're
7 hoping to have our best shot at obtaining
8 remaining reserves in both of those zones.

9 Q. There is still substantial geologic and
10 engineering risk with regards to even the
11 potential to reenter this well and recover this
12 additional gas?

13 A. Yes, there is.

14 Q. Let me have you turn to Exhibit No. 6.
15 Would you identify and describe that exhibit?

16 A. Okay. Exhibit No. 6 is -- I have a
17 reserve model here, and I've explained previously
18 that the reserve model is based on what we think
19 the remaining reserves are in each of these
20 wells. And adding those two together, you have
21 gas reserves of 760 million cubic feet.

22 What we'd like to do is start at an
23 initial rate of 600 Mcf per day, an initial rate
24 of 3 barrels of oil per day. Our economic
25 parameters, we want to use a gas price that's

1 \$1.41 per Mcf held flat and an oil price of \$19
2 per barrel held flat, operating expenses of \$1200
3 a month, and an overhead of \$500 a month.

4 And, in conclusion, you can see that
5 drilling an incremental 2150 feet to the Morrow
6 Formation is a marginally economic prospect or a
7 salvage operation. Drilling a 13,000 foot new
8 drill well is, as you can see, is very negative
9 economics.

10 Q. The new drill analysis never reaches a
11 positive rate of return?

12 A. No, it doesn't.

13 Q. Never pays out?

14 A. Never pays out.

15 Q. You never want to do those kind of
16 deals, do you?

17 A. No, we won't do that deal.

18 Q. On the reentry then, you still have a
19 4.6 year payout?

20 A. Right. Like I say, it's very marginal
21 economics, and it's basically a salvage
22 operation.

23 Q. Without the approval of the reentry and
24 utilization of this wellbore at the unorthodox
25 location, in your opinion are there potential

1 recoverable Morrow gas reserves allocated to this
2 basin unit that may never otherwise be recovered?

3 A. Yeah, that's true.

4 MR. KELLAHIN: That concludes my
5 examination of Mr. Parkhurst. We move the
6 introduction of his Exhibits 2 through 6.

7 EXAMINER STOGNER: Exhibits 2 through 6
8 will be admitted into evidence. I see an Exhibit
9 No. 7. I'm sure you'll address that later.

10 MR. KELLAHIN: Let me come back to that
11 now, perhaps, with this witness. This is an
12 appropriate time.

13 Q. I forgot to ask Mr. Maiorino about the
14 offsetting ownership. Do you know the offsetting
15 ownership of the properties involved in this
16 area?

17 A. Yes. On the Uncle Com. No. 1, Meridian
18 is a 100 percent working interest owner.

19 Q. Help us to know where you are when you
20 describe the well by name.

21 A. Okay. The Uncle Com. No. 1 is the well
22 that's located southeast of the proposed location
23 in Section 28.

24 Q. All right. Who's the operator of that
25 one?

1 A. Meridian Oil Company.

2 Q. When we move into 29, who's the
3 operator of that property?

4 A. That, I'm not sure who's the operator.

5 Q. Go into the west half of 21.

6 A. The west half of 21, Reed and Stevens
7 is the operator of the Corbin State No. 1, which
8 is this Wolfcamp well that's located in the
9 southeast quarter of the southwest quarter. And
10 the rest of the property in this particular half
11 section is owned and operated by Meridian Oil
12 Company.

13 MR. KELLAHIN: Mr. Examiner, I do have
14 -- I may recall Mr. Maiorino, if the Examiner
15 desires. He can verify the additional
16 ownership. We do have a land plat in here. The
17 operatorship of the Section 29 property is
18 Matador. We have waivers from Reed and Stevens
19 and Matador and notification to all those
20 parties. And we've received no objections.

21 I need to submit to you those waivers
22 because they're not attached to Exhibit No. 7.

23 EXAMINER STOGNER: Would you like to
24 attach those at this time? Are you also going to
25 attach the land plat?

1 MR. KELLAHIN: Let me supplement that
2 with an Exhibit 8 that will show the land plat
3 and the waivers.

4 EXAMINER STOGNER: If you would, I
5 would appreciate that.

6 MR. KELLAHIN: All right, sir.

7 MR. STOVALL: Mr. Kellahin, you have
8 submitted your affidavit that everybody has been
9 notified?

10 MR. KELLAHIN: Yes, sir.

11 MR. STOVALL: I accept that.

12 MR. KELLAHIN: I will appropriately
13 mark these waivers as exhibits, but those are the
14 waivers from Reed and Stevens and Matador.

15 EXAMINER STOGNER: Matador, as I
16 understand it, has the Section 29?

17 MR. KELLAHIN: Yes, sir. They would
18 operate the property that is our south offset.
19 And Reed and Stevens operates the east offset.
20 And Southland operates the southeast offset.

21 MR. STOVALL: Matador must concur in
22 your assessment of the prospect; they're wishing
23 you luck on it.

24 MR. KELLAHIN: Yes, sir.

25

EXAMINATION

BY EXAMINER STOGNER:

Q. I notice something in the supplemental Exhibit No. 8 that I didn't see in the first exhibit. It looks like there's another well also on the same drilling pad as an old P & A'd well. Do you have any information on that?

A. No, I don't.

MR. KELLAHIN: You'll see the double mark on the display.

MR. STOVALL: Ours is covered by an orange dot. We got color this time.

A. I believe that it's an abandoned shallow location, but I'm not sure.

MR. KELLAHIN: We'll be happy to provide that information, Mr. Examiner. I'm not sure we have it available.

Q. Do you have a copy of Exhibit 8 in front of you?

A. No, I don't.

Q. Take a look at this and see if you can determine any information from that.

MR. STOVALL: Off the record for this discussion.

[A discussion was held off the record.]

1 EXAMINER STOGNER: Let's go back on the
2 record.

3 Q. Have you found out any other
4 information on this mystery well?

5 A. It is a shallow location. It's a Queen
6 location. It's about 3300 feet deep.

7 Q. It looks like it might have been T &
8 A'd sometime back in the 60s?

9 A. Yes, sir.

10 EXAMINER STOGNER: I have no other
11 questions of this witness. Are there any other
12 questions? If not, he may be excused.

13 Do you have anything else, Mr.
14 Kellahin?

15 MR. KELLAHIN: That completes our
16 presentation.

17 EXAMINER STOGNER: Does anybody else
18 have anything further in Case No. 10522? If not,
19 this case will be taken under advisement.

20 [And the proceedings were concluded.]

21

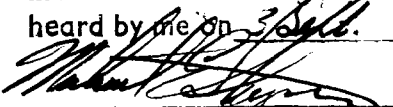
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I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 10522,
heard by me on 3 Sept. 1992.


_____, Examiner
Oil Conservation Division


1 CERTIFICATE OF REPORTER

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

5
6 I, Debbie Vestal, Certified Shorthand
7 Reporter and Notary Public, HEREBY CERTIFY that
8 the foregoing transcript of proceedings before
9 the Oil Conservation Division was reported by me;
10 that I caused my notes to be transcribed under my
11 personal supervision; and that the foregoing is a
12 true and accurate record of the proceedings.

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

18 WITNESS MY HAND AND SEAL OCTOBER 3,
19 1992.

20
21
22 
23 _____
24 DEBBIE VESTAL, RPR
NEW MEXICO CSR NO. 3
25