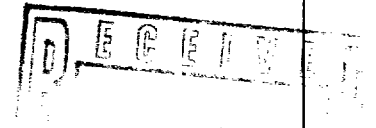


STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION



IN THE MATTER OF THE HEARING)
CALLED BY THE OIL CONSERVATION)
DIVISION FOR THE PURPOSE OF)
CONSIDERING:)
)
APPLICATION OF MARATHON)
PETROLEUM COMPANY)
)

CASE NO. 11,333

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

ORIGINAL

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

July 13th, 1995

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, July 13th, 1995, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

I N D E X

July 13th, 1995
Examiner Hearing
CASE NO. 11,333

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* * *

A P P E A R A N C E S

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* * *

1 WHEREUPON, the following proceedings were had at
2 9:40 a.m.:

3 EXAMINER STOGNER: Hearing will come to order.
4 Call next case, Number 11,333.

5 MR. CARROLL: Application of Marathon Oil Company
6 for the expansion of the Cemetery-Morrow Gas Pool and the
7 contraction of the Indian Basin-Morrow Gas Pool, Eddy
8 County, New Mexico.

9 EXAMINER STOGNER: Call for appearances.

10 MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of
11 the Santa Fe law firm of Kellahin and Kellahin, appearing
12 in association with Tom Lowry. Mr. Lowry is an attorney
13 with Marathon Oil Company. He resides in Midland, Texas.

14 Collectively, we are representing the Applicant,
15 and we have two witnesses to be sworn.

16 EXAMINER STOGNER: Are there any other
17 appearances in this matter?

18 Will the witnesses please stand to be sworn?

19 (Thereupon, the witnesses were sworn.)

20 MR. KELLAHIN: Mr. Examiner, I'd like to give you
21 a preview of how Mr. Lowry and I approached this
22 Application. Perhaps it may aid my illustration to you to
23 have you look at Exhibit Number 2.

24 We're in an area which I call a transition area,
25 in that the Indian Basin-Upper Pennsylvanian Gas Pool

1 generally lies to the south and west of this area, and to
2 the north and east is the South Dagger Draw-Upper
3 Pennsylvanian. That's one huge reservoir, and we have a
4 series of different pools. Those Upper Penn pools deal
5 with Cisco production.

6 What you see is, beneath those two pools is
7 Morrow gas production that historically has been accessed
8 by operators only in conjunction with drilling a Cisco
9 well, approximately 1600 feet difference. And so an
10 operator will take a Cisco well, either a new one or an old
11 one, and deepen it to the Morrow.

12 And therefore, in the Indian Basin, the Morrow
13 has been developed on a similar spacing pattern for the
14 primary upper pool. The Indian Basin-Morrow is currently
15 640 gas spacing, and it's prorated on 100-percent acreage.

16 When you look at the north and east and look
17 underneath the South Dagger Draw-Upper Penn, the Cemetery-
18 Morrow is developed on 320 gas spacing, and it is not
19 prorated.

20 On Exhibit 2, there is a block of six-plus
21 sections that represent a standup rectangle. That blue
22 outline represents an area that currently is assigned to
23 the South Dagger Draw-Upper Pennsylvanian Gas Pool.

24 And what we would like to do, then, is take the
25 Morrow within that area and change the rules so they match

1 the Upper Penn spacing, which would put this on 320 gas
2 spacing and delete any prorationing.

3 This area affords us that opportunity because,
4 unlike some cases, in this case there is no division of
5 interest that's different within an existing spacing unit.

6 For example, in Section 2 there's an existing
7 Morrow gas well. But if you downspace, you're not hurting
8 anybody's interest because the interests are the same in
9 that section.

10 The only section that has a difference in
11 ownership is Section 12. There's no well in that section
12 yet. And so the plan will be, when the Cisco well is
13 drilled in Section 12 in the west half, it can access the
14 Morrow and have the same ownership as the shallower pool,
15 leaving free the east half of Section 12 to be accessed by
16 the owners under that configuration.

17 And we think we have a -- perhaps an unusual
18 circumstance where there is no disruption of equity by
19 downspacing, and yet it affords the opportunity to truly
20 develop the Morrow in an appropriate spacing pattern.

21 The technical evidence will be that there is no
22 technical way to separate the Cemetery from Indian Basin-
23 Morrow.

24 We're going to look at cross-sections, and they
25 look like the same creature. They're correlative, they're

1 highly discontinuous, they're heterogeneous reservoirs that
2 need multiple wells in a section to produce them.

3 We're also going to show engineering data to show
4 the drainage areas, and that all these areas in here have
5 very small drainage radiuses.

6 And so the technical evidence will support the
7 land solution, which will give us additional gas
8 opportunities in the Morrow that we could not otherwise
9 achieve.

10 And finally, the technical evidence will
11 demonstrate that it is not practical to carry the Morrow as
12 a separate pool insofar as drilling stand-alone Morrow
13 wells goes. The economics are such that you drill these
14 wells only as an extension of a Cisco well, and that's how
15 Marathon's doing it, how Conoco's doing it, and how Yates
16 has done it.

17 So that's where we're headed with all this stuff,
18 and it's simply to change the spacing in the Morrow, to
19 make it consistent with what we're doing currently in the
20 Cisco.

21 We'll call two witnesses, Kurt Miller, who you've
22 already heard, and Mr. Ron Folsie.

23 Mr. Folsie has testified before . He's a
24 petroleum engineer, and he'll be the second witness.

25 Mr. Miller?

1 EXAMINER STOGNER: Thank you, Mr. Kellahin.

2 KURT A. MILLER,

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

5 DIRECT EXAMINATION

6 BY MR. KELLAHIN:

7 Q. Mr. Miller, for the record would you identify
8 your name and occupation and tell us where you reside?

9 A. My name is Kurt Miller.

10 I'm a geologist for Marathon Oil, and I reside in
11 Midland, Texas.

12 Q. As part of your geologic duties, Mr. Miller, have
13 you made a study of the Morrow reservoirs in this
14 particular area?

15 A. Yes, I have.

16 Q. And as a result of that study have you reached
17 geologic conclusions about the appropriate way to handle
18 well spacing within the area that I've described to the
19 Examiner as the blue rectangle area contained on Exhibit
20 Number 2?

21 A. Yes, we believe that ought to be spaced on 320
22 acres, similar to Cemetery-Morrow Gas Pool.

23 MR. KELLAHIN: All right. We tender Mr. Miller
24 as an expert geologist.

25 EXAMINER STOGNER: Mr. Miller is so qualified.

1 Q. (By Mr. Kellahin) Let's start back with Exhibit
2 Number 1, Mr. Miller, and there are a number of pieces of
3 information on here. Let's take a little bit at a time.

4 Describe for us how you have outlined what you
5 believe to be the current boundaries of the Cemetery-Morrow
6 Gas Pool.

7 A. The Cemetery-Morrow Gas Pool is outlined with the
8 red line in the upper part of the map.

9 Q. Within that red line, have you shown all
10 penetrations through the Morrow?

11 A. All penetrations are shown for just the Morrow.

12 Q. Just the Morrow. And if that well is still
13 productive in the Cemetery-Morrow Gas Pool, how have you
14 shown that?

15 A. It's shown with a solid red dot in the middle of
16 the gas symbol.

17 Q. All right. As we move into the Indian Basin-
18 Morrow, how have you identified that pool?

19 A. That pool is identified by the green outline in
20 the central portion of the map.

21 Q. Okay. Within the green area, explain the
22 differences between the well symbols and those well symbols
23 that have red dots.

24 A. The nonproductive wells in the Morrow or the
25 dryholes in the Morrow are shown by the dryhole symbols.

1 The shut-in gas wells that were formerly productive from
2 the Morrow are shown with open circles in the gas symbols,
3 and the solid red dots within the gas symbols are the
4 currently active Morrow producers.

5 Q. All right, let's turn to Exhibit 2 now.

6 When we look at the acreage identified by the
7 blue rectangle, that represents the area of the
8 Application, does it not?

9 A. That is correct.

10 Q. And what's your understanding of how the Division
11 handles that area in terms of what pool production is
12 dedicated to in the event you have Cisco production?

13 A. That would be within the South Dagger Draw Pool.

14 Q. All right, and what are you trying to do now?

15 A. We are trying to establish 320-acre spacing
16 within the Morrow, which is similar to our Upper Penn
17 reservoir.

18 Q. All right. Describe for us how you've identified
19 the other wells and the status of those wells on this
20 display.

21 A. Within the area of proposed rule change there is
22 one currently active well within the Morrow shown in
23 Section 2.

24 There is four other penetrations that were either
25 dryholes or completed in a different reservoir interval.

1 And there's one well which had formerly produced
2 but is now shut in within the Morrow, and that's in the
3 southwest quarter of Section 14.

4 Q. All right. When we look at Section 2, which is
5 the only currently producing Morrow well in the blue
6 rectangle, what is the status of ownership in Section 2?

7 A. That well is within the North Indian Basin unit,
8 and the ownership is common throughout that section.

9 Q. So if that section is downspaced for the Morrow,
10 the interest owners would remain the same between the 320
11 that remains -- that contains the existing well, versus the
12 320 that now does not have a well?

13 A. That is correct.

14 Q. Describe the other acreage in here. How is the
15 ownership set up?

16 A. Section 1 is operated by Marathon, 100-percent
17 working interest.

18 Section 2, as I've just stated, is within the
19 North Indian Basin unit, which is operated by Marathon.

20 Section 36 to the north is also operated by
21 Marathon.

22 Section 35 is operated by Yates Petroleum.

23 Section 11 is also within the North Indian Basin
24 unit.

25 Section 12, Marathon operates the western half.

1 The other half is a shared ownership between Marathon,
2 Yates and Devon.

3 Sections 13 and 14 are operated by Santa Fe.

4 Q. Have you been in contact with all those other
5 operators within the affected area to determine if they
6 have any objection to changing the spacing so that the
7 Morrow acreage is now transferred to the Cemetery-Morrow
8 Gas Pool?

9 A. Marathon has, yes.

10 Q. And has there been any objection from any of the
11 other operators or affected interest owners?

12 A. Not to my knowledge.

13 Q. All right. Let's turn to Exhibit Number 3, then,
14 and have you identify and describe that display.

15 A. Number 3, Exhibit Number 3, is an isopach map of
16 the total sand within the Middle Morrow stratigraphic
17 interval. The gray dots are wells that have produced or
18 are currently producing from that interval.

19 It depicts sand thickness within that interval.
20 These sands are discontinuous channel and point-bar
21 deposits, which are oriented more or less northwest-to-
22 southeast direction, direction of transport being to the
23 southeast.

24 And this interval is composed of discontinuous
25 fluvial sands, encased in shales.

1 Q. Apart from the Middle Morrow, when we deal with
2 either the Indian Basin or the Cemetery-Morrow, are there
3 any other portions of the Morrow that are consistently
4 productive?

5 A. There is production from the Middle Morrow, the
6 -- what we've designated Lower Morrow, and some production
7 from an Upper Morrow sand which is, we believe, actually a
8 marine sheet sand, and that is above this Middle Morrow
9 interval.

10 Q. When you as a geologist are looking for potential
11 Morrow production in this area, you concentrate your
12 attention on the Middle Morrow and the Lower Morrow sands?

13 A. Yes, that is correct.

14 Q. All right, let's -- We'll come back to Exhibit 3,
15 but let's look at Exhibit 4 for a moment. Identify and
16 describe what portion of the Morrow you've isopach'd here.

17 A. This is a similar map to the one just shown, just
18 an isopach of total sand thickness within the Lower Morrow
19 interval.

20 And again, the gray dots depict wells which are
21 currently or have been productive from that interval.

22 Q. Were both the Middle Morrow and the Lower Morrow
23 deposited in the same fashion?

24 A. Yes, they are both fluvial sand systems.

25 Q. Let's turn to the cross-section, then, and have

1 you take either Exhibit 3 or 4, each of which have the line
2 of cross-section, and that equates to Exhibit Number 5,
3 does it not, sir?

4 A. That's correct, and that is shown by the line A
5 to A' on Exhibits Number 3 and 4.

6 Q. Let's start with A, which is up in the northeast,
7 and move from -- which is the right-hand side of the cross-
8 section.

9 Let's move right to left, then, going from the
10 northeast Cemetery-Morrow Pool, down to the southwest to
11 Indian Basin-Morrow.

12 And describe for us what, if any, geologic
13 differences you see as we move through the Middle Morrow
14 and the Lower Morrow, between the two pools.

15 A. Okay. This cross-section goes from, on the
16 right-hand side of the cross-section, Cemetery-Morrow Gas
17 Pool, as designated at the top of the cross-section, to the
18 left, over into Indian Basin-Morrow Gas Pool.

19 And the main difference geologically from the
20 productive intervals within those two pools are that in the
21 Cemetery-Morrow Gas Pool sands do tend to be thicker,
22 somewhat more continuous, and as we get into the Indian
23 Basin-Morrow Gas Pool it is the same stratigraphic
24 intervals that are productive, however they tend to be
25 thinner, more discontinuous sands.

1 Q. Geologically, do you see any basis to retain the
2 Indian Basin-Morrow in any portion of the area contained
3 within the blue rectangle?

4 A. No, we believe that it should be spaced similar
5 to the Cemetery-Morrow. There are no significant
6 differences. In fact, we believe that the sands are
7 probably more discontinuous as you go towards the Indian
8 Basin-Morrow Gas Pool and could have more isolated traps
9 within these different channel sands.

10 Q. What's the geologic advantage to changing the
11 spacing in this requested area from 640 to 320?

12 A. One of the main advantages is that we have
13 evidence that although these are two pools, they're
14 actually multiple different traps that are productive from
15 these sand intervals and that the size of these traps are
16 often less than 640 acres.

17 Q. What do you gain, then, if your spacing in this
18 area is 320, as opposed to 640?

19 A. We think we will be able to exploit additional
20 reserves that would otherwise be undrained.

21 Q. It will take at least two wells in a section to
22 access these various discontinuous lenses in the Morrow?

23 A. We believe so.

24 Q. All right, let's go back now and look at Exhibit
25 3 and Exhibit 4 and see how the isopach maps distribute the

1 sand members.

2 When we look at Exhibit 3 you're mapping the
3 Middle Morrow. And when you look at the cross-section, how
4 have you defined that area?

5 A. That's correct, the Exhibit Number 3, the
6 isopach, combines the total sand thickness from the Middle
7 Morrow as designated on the cross-section, which
8 encompasses, we believe, multiple discontinuous sands. So
9 that it is not one sheet sand that is productive from one
10 pool; it is rather multiple traps productive from various
11 sand horizons.

12 Q. When we move to Exhibit 4, which is the Lower
13 Morrow, are we dealing with a map constructed in the same
14 fashion? This is a gross isopach of a certain Lower Morrow
15 interval?

16 A. That is correct.

17 Q. And how is that demonstrated on Exhibit 5?

18 A. That is an isopach map of the Lower Morrow sands,
19 which are designated on the cross-section.

20 Again, we believe there are multiple sand
21 intervals, and we have further evidence for the
22 discontinuities in that there are wet wells updip of
23 producing wells within those different horizons, so that we
24 have evidence for various gas-water contacts and separate
25 traps.

1 Q. Mr. Miller, do you see any geologic argument or
2 evidence indicating any reason to maintain 640 gas spacing
3 in the area that's requested for the change?

4 A. No, we believe that -- Or I believe that 320-acre
5 spacing would be more reasonable for a Morrow pool.

6 MR. KELLAHIN: That concludes my examination of
7 Mr. Miller.

8 We move the introduction of his Exhibits 1
9 through 5.

10 EXAMINER STOGNER: Exhibits 1 through 5 will be
11 admitted into evidence.

12 EXAMINATION

13 BY EXAMINER STOGNER:

14 Q. Mr. Miller, did you prepare the pool boundary
15 maps in which you show the portions of the Indian Basin and
16 the Cemetery-Morrow Pools?

17 A. Yes, with help from others.

18 Q. I'm sorry, with what?

19 A. With help from an engineer and others.

20 Q. Okay. Section 2 stands out by itself and is not
21 contiguous with the rest of the Indian Basin-Morrow Gas
22 Pool?

23 A. That is correct.

24 Q. That's against our own rules and regulations, but
25 you've found that to be so?

1 MR. KELLAHIN: We may have made a mistake when
2 Mr. Lowry and Mr. Folsie and I and Mr. Miller put it
3 together, but we couldn't find how that was handled, and it
4 may be a mistake on our part or it may be a glitch in the
5 Division paperwork, but I simply couldn't find it.

6 Q. (By Examiner Stogner) Okay. Mr. Miller, in your
7 research or your geological work, did you find out why the
8 Indian Basin was spaced on 640 in the beginning?

9 A. We have not found out for sure. We believe that
10 it is reasonable that it was set up on 640s because the
11 primary development in the area was for the Upper Penn and
12 that the Morrow was just handled in a similar fashion.
13 Whereas in the Cemetery-Morrow Gas Pool, for the most part,
14 there is no upper shallower production. It is set up just
15 for the Morrow production in that area. And we think that
16 was a more reasonable spacing, that 320 acres.

17 Q. So the only well in your blue rectangle -- No,
18 you have two, there are two wells in the blue rectangle
19 that's presently producing from the Morrow; is that
20 correct?

21 A. There's one current producer; that is in Section
22 2, which you just pointed out. And the other well in
23 Section 14 was formerly productive but has been shut in.

24 Q. And the remainder of the blue portion is still
25 open tracts; is that correct?

1 A. For the Morrow, yes.

2 Q. What's to prevent them from being spaced on 320
3 or pulled into the Cemetery-Morrow Gas Pool, should geology
4 show whenever you drill a well that that's where it should
5 go?

6 A. Well, we would like to handle -- we have -- As
7 the engineer will point out, we have production -- or
8 development -- occurring throughout that whole area in the
9 Upper Penn, and we would like to handle the whole area at
10 this time.

11 We have multiple candidates within various
12 sections that we could deepen to the Morrow interval.

13 Q. Well, what's to prevent you from doing it now?

14 A. I suppose we could handle them, as I said, on an
15 individual basis. However, we're trying to handle the
16 whole area in one hearing.

17 Q. And in that section --

18 A. And we believe --

19 Q. I'm sorry, go ahead.

20 A. We believe, based on the geology and the
21 engineering, that there's no reason that this should be
22 handled in a different way from the Cemetery-Morrow Pool.

23 EXAMINER STOGNER: No other questions of this
24 witness at this time.

25 MR. CARROLL: I have some questions.

1 EXAMINER STOGNER: Oh, I'm sorry, go ahead.

2 EXAMINATION

3 BY MR. CARROLL:

4 Q. Mr. Miller --

5 A. Yes, sir.

6 Q. -- you testified in Section 2 of Township 21,
7 that the ownership interest was the same throughout that
8 section?

9 A. That's correct.

10 Q. And what about Section 14?

11 A. We know that section is operated by Santa Fe, but
12 I don't know about the exact ownership, other than that.

13 MR. CARROLL: Okay, those are the only questions
14 I had.

15 EXAMINER STOGNER: Mr. Kellahin?

16 MR. KELLAHIN: I'd like to call Mr. Ron Folse at
17 this time.

18 RONALD J. FOLSE,

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

21 DIRECT EXAMINATION

22 BY MR. KELLAHIN:

23 Q. Mr. Folse, would you please state your name and
24 occupation?

25 A. My name is Ronald Folse, senior operations

1 engineer for Marathon Oil.

2 Q. On prior occasions, Mr. Folsie, have you testified
3 and qualified as an expert in the field of petroleum
4 engineering before the Division?

5 A. Yes, I have.

6 Q. And have you performed such engineering duties
7 for your company with regards to Marathon's Application in
8 this Case?

9 A. Yes, I have.

10 Q. And based upon that study, do you now have
11 engineering conclusions and opinions concerning how to
12 space and locate wells within this area we have identified
13 as being contained within the blue rectangle?

14 A. Yes, I do.

15 MR. KELLAHIN: We tender Mr. Folsie as an expert
16 petroleum engineer.

17 EXAMINER STOGNER: Mr. Folsie is so qualified.

18 Q. (By Mr. Kellahin) Mr. Folsie, let's turn to
19 Exhibit 6. Provide the Examiner with information now that
20 includes how the acreage in question has already been
21 drilled in the Upper Pennsylvanian.

22 Let's take a moment and have you describe the
23 information shown on Exhibit 6.

24 A. Okay. First of all, this is a map similar to a
25 prior exhibit that shows within the blue area, the area for

1 the proposed rule change.

2 The red dots in the area indicate the recent
3 development activity for the Upper Penn-Cisco/Canyon
4 formation. There have been right at 30 wells drilled in
5 this area.

6 Q. When you look at the Cemetery-Morrow Pool
7 boundary and compare that boundary in relation to the
8 Indian Basin-Morrow Pool boundary, this is an area in which
9 both pool boundaries overlap; is that not true? The one-
10 mile extension of those two pools would affect this area?

11 A. That's correct, yes.

12 Q. What is the opportunity for you to continue to
13 access the Morrow reservoir by utilizing these Cisco wells?
14 Give us the plan or the sense of development of how this
15 area can be comprehensively developed for the Morrow.

16 A. With the drilling of the Cisco/Canyon wells, that
17 is a primary development activity. The drilling of Morrow
18 wells is basically an incremental economics to the well
19 that we do drill for the Cisco/Canyon.

20 This, including here for the proposed rule
21 change, down to 320-acre spacing, would allow us the
22 opportunity to take as many as, well, two wells per 640
23 down to the Morrow horizon.

24 Q. All right. Let's go back and talk about this
25 blue area. At one time this was in that transition area

1 between South Dagger Draw-Upper Penn and the Indian Basin-
2 Upper Penn. You had the same issue as to that reservoir,
3 didn't you?

4 A. That's correct, yes.

5 Q. Whether or not the Cisco gets developed as an
6 Indian Basin pool or as a South Dagger Draw pool?

7 A. That's correct.

8 Q. So how was this six-plus-section-block tract
9 handled with regards to the upper pool?

10 A. With regards to the upper pool, the southern half
11 of this blue section was -- Or actually the North Indian
12 Basin unit area was included in the Indian Basin-Upper Penn
13 Gas Pool, spaced on 640 acres.

14 Q. So how did all this area in the blue get
15 transferred into South Dagger Draw?

16 A. Based on development from north of the exhibit,
17 coming down to Sections 36 and 35, the half sections, and
18 then into Section 1, 2, 11, 12, and 13 and 14, the
19 development of South Dagger Draw has just progressed in
20 that southerly direction.

21 Q. So at this point, as regards to the development
22 in the Cisco, the area in blue is spaced upon 320 spacing
23 for the Upper Pennsylvanian?

24 A. That's correct, yes.

25 Q. And now in order to make the Morrow uniform with

1 the spacing change that's occurred in the Cisco, you desire
2 to make the same change in the Morrow?

3 A. That's correct.

4 Q. But in this instance you want to do it on a
5 blanket basis?

6 A. That's right.

7 Q. All right. Show us where your next opportunity
8 is for accessing the Morrow with this development.

9 A. The next opportunity -- Primarily there are
10 several wells in Section 1, just north of -- I guess it's
11 in the central part of the north half of Section 1, and
12 then there's an opportunity for the southern half on the
13 eastern well. Those are two wells that currently in the
14 Upper Penn are declining and at some point would be
15 deepened to the Morrow formation.

16 Q. All right. And in Section 12, in the west half
17 of 12, those Cisco wells are already being paid for by the
18 west-half owners on 320 Upper Penn spacing?

19 A. That's correct, yes.

20 Q. And if any of those wells are deepened to the
21 Morrow, then you're going to have different interest owners
22 in that same wellbore --

23 A. That's correct.

24 Q. -- unless you change the spacing in the Morrow?

25 A. That's correct, yes.

1 Q. Okay. All right, let's talk about some of the
2 technical aspects. Did you examine to see what you could
3 characterize to be the typical ultimate gas recoveries of
4 wells in the Cemetery-Morrow, as compared to Indian Basin-
5 Morrow?

6 A. Yes, we did.

7 Q. Let's turn to Exhibit 7 and have you describe for
8 us what you've done.

9 A. What I've done here in Exhibit Number 7, I've
10 taken a sampling of wells that are in the area that you can
11 see on Section -- or Exhibit 6. There are seven wells in
12 the Cemetery field, and they are located in Sections 4, 5
13 and 6.

14 And then I've taken four wells operated by
15 Marathon in the Indian Basin field area that have produced
16 from the Morrow, which is close to the area for the
17 proposed rule change.

18 I have indicated the locations for the wells and
19 the unit designations and the cumulative gas recoveries
20 from those wells and also the well life in years.

21 Q. Let's compare the average cum. If you're dealing
22 with the Cemetery-Morrow wells, those wells on average are
23 cumulating 5.6 BCF?

24 A. That's correct.

25 Q. That's the 320 gas pool?

1 A. That's correct.

2 Q. You move down into the 640 gas pool, Indian
3 Basin, and those wells on average are only recovering 2
4 BCF?

5 A. That's correct.

6 Q. What does that tell you?

7 A. It tells me that at least for the Indian Basin
8 gas field, the recoveries or the acreage of drainage is
9 most likely less than the Cemetery field.

10 Q. Did you put that hypothesis to a test to
11 determine and calculate actual drainage areas?

12 A. Yes, we did.

13 Q. Let's turn to Exhibit 8 and have you describe
14 what you've calculated.

15 A. Exhibit 8 is the same four wells in the Indian
16 Basin field that Marathon has operated over the last 30-
17 plus years.

18 The four wells here indicated have -- indicated
19 porosities, water saturations and pay thicknesses, along
20 with the cumulative recoveries.

21 The acres of drainage are calculated and range
22 from 21 acres to as high as 179 acres.

23 Also indicated, the initial pressures found in
24 these wells at discovery.

25 Q. Let's talk a minute about the drainage areas. By

1 examining the typical Indian Basin well in this immediate
2 area, do you find any of them that have the potential to
3 drain 640 acres?

4 A. No, we do not.

5 Q. Do you see an engineering reason for these small
6 drainage areas when you look and examine the geologic
7 parameters that are involved?

8 A. For this area in particular, it -- the reservoirs
9 we're seeing here are not as thick and as high porosity as
10 the Cemetery-Morrow field, and help to explain the lower
11 drainage areas.

12 Q. All right. So the drainage calculations you're
13 seeing here are consistent with the other technical data
14 that you've looked at?

15 A. That's correct, yes.

16 Q. Let's look at the pressure information. Give us
17 a point of reference as to what this pressure means.

18 A. The pressures for the first well, North Indian
19 Basin Unit Number 1, the production started in 1963, and
20 the initial pressure was approximately 3650 pounds.

21 The second well was actually drilled in 1990 and
22 found a similar pressure and is a mile away.

23 Of course, the well in 1963 had depleted in 1984,
24 I guess, and had an abandonment pressure of about 400
25 pounds. So they do indicate the limitedness of the

1 drainage areas for these wells.

2 Q. Are you satisfied as a reservoir engineer, Mr.
3 Folsie, that reducing the spacing within this blocked area
4 is an appropriate means to best develop this resource?

5 A. Yes, I am.

6 Q. What happens if we leave this area exposed to the
7 640-acre spacing rule for the Morrow?

8 A. The requirement would then be based on locations
9 we would have to file for unorthodox locations, I would
10 assume.

11 Q. And it would simply limit you to one wellbore in
12 a section, would it not?

13 A. That's correct, yes.

14 Q. Let's turn to the issue of whether or not there's
15 sufficient reserves to support a Morrow stand-alone, as
16 opposed to the practice which has been to drill the Morrow
17 as an extension of the Cisco well. Have you analyzed that?

18 A. Yes, I have.

19 Q. Let's turn to Exhibit 9 and have you identify and
20 describe what you've done.

21 A. Exhibit 9 is a -- It's an economic evaluation on
22 an uninflated dollar basis. We -- Marathon drilled a well
23 in the North Indian Basin Unit. It's the current gas
24 Morrow producer.

25 Q. That's the one in Section 2 that we've talked

1 about?

2 A. That's correct, yes.

3 Q. And the actual costs to drill and complete were
4 what?

5 A. The actual cost was \$750,000.

6 Q. The reserves that you got, of the 720 million
7 MCF, where did you get that number?

8 A. Those are based on the initial P-over-Z
9 evaluation. Initial reservoir pressure was approximately
10 3675 pounds.

11 Forty-five days later we did a pressure survey,
12 found the reservoir pressure to be 3200 pounds.

13 Q. In your opinion, is that the maximum practical
14 recoverable gas volume to be produced by that well?

15 A. Yes, it is.

16 Q. And you have not risked that reserve number, have
17 you?

18 A. No, we have not.

19 Q. All right. What happens, then, with the
20 calculation?

21 A. What I did here then is just to look at -- if it
22 were a grassroots well, we would -- based on current gas
23 pricing, our net revenue after royalties on a gross basis
24 would be \$787,500. Operating costs to operate the well,
25 including taxes, would be \$130,000. And resulting in a net

1 cash flow of a negative \$92,500.

2 Q. Can't do that very many times, can you, Mr.
3 Folse?

4 A. Sure can't, no.

5 Q. Okay. Let's go through the analysis on Exhibit
6 10, and describe for us how you would analyze this in terms
7 of drilling a stand-alone Morrow well based upon the actual
8 performance of the well, the Indian Basin Well Number 15.

9 A. Okay. What we did here is based on the
10 statistical analysis for the reserves recovered by the
11 wells that have produced in the Morrow.

12 The average production for a Morrow well is right
13 at 2 BCF of gas. That's based on 66 wells drilled in the
14 Cemetery-Morrow and the Indian Basin-Morrow.

15 We feel that including the other wells, the
16 dryholes, we result with about a 50-percent risk weighting.
17 So we used here a typical well reserve base of right at 1
18 BCF of gas.

19 The net revenue at the current gas price would be
20 right at \$1,095,000.

21 Operating cost for a well for about a three-year
22 production life would be \$187,000, resulting in a net cash
23 flow of \$158,000.

24 Q. What kind of rate of return is that?

25 A. That is right at 17-percent rate of return.

1 Q. Again, Marathon and other operators are not going
2 to do this very often for that kind of return?

3 A. That's correct, yes.

4 Q. So then how do you do this?

5 A. Based on the potential in the Upper Penn-
6 Cisco/Canyon, at the current time the well is justified
7 based on that objective. And incrementally we can actually
8 drill to the Morrow an additional 1600 feet. And based on
9 the risk weighting, we would hope to at least find more
10 than the 1 BCF of gas in the wells.

11 Q. Incrementally, what does it cost to take a Cisco
12 well and then deepen it or drill it through the Morrow? A
13 stand-alone Morrow well is \$750,000. What is the
14 incremental cost to tag this onto a Cisco well?

15 A. Incrementally, it's right at \$150,000.

16 Q. And that is your proposal and plan for Marathon
17 for these wells?

18 A. That's correct, yes.

19 Q. In addition, this plan or practice of development
20 is more effective if you're allowed to do it on a spacing
21 that's consistent with the Cisco?

22 A. That's correct, yes, it is.

23 Q. And it would access the Morrow with multiple
24 wellbores in a section that, in your opinion, would be
25 appropriate?

1 A. That's right.

2 Q. Are other operators doing the same kind of thing
3 when they drill these Morrow wells?

4 A. Yes, they are.

5 Q. You seldom see an operator drill a stand-alone
6 Morrow well out here; isn't that true?

7 A. That's correct, in the Indian Basin area, yes.

8 Q. And so this transition area between South Dagger
9 Draw and Indian Basin is being developed in the Morrow
10 because the operators are already actively drilling Cisco
11 wells?

12 A. That's correct, yes.

13 Q. What's your point of view with regards to Mr.
14 Stogner's inquiry about why can't we simply do this in the
15 more conventional way where the Division lets pools expand
16 well by well, and therefore handle the expansion in that
17 fashion, rather than taking this as a block, which the
18 Division sometimes does, and simply changing the spacing?

19 A. What happened in the case in particular for
20 Section 2, we had drilled the NIBU 15 well earlier this
21 year. We did file for the spacing prorationing under
22 Cemetery-Morrow Gas Pool.

23 Q. In fact, it was a South Dagger Draw-Cisco well,
24 wasn't it?

25 A. Yes, it was.

1 Q. And so you filed to have that in the Cemetery-
2 Morrow as a 320 gas pool in the Morrow?

3 A. That's correct.

4 Q. And what happened?

5 A. And it was, I believe, by the Division or the --

6 Q. -- the District Office?

7 A. -- the District Office, it was switched to the
8 Indian Basin-Morrow Gas Pool because of the close proximity
9 to the Section-10 area.

10 Q. Okay. Would it be an accommodation to Marathon
11 in order to have a common plan that it consistently rely on
12 to have these Cisco-Morrow combination wells on the same
13 spacing patterns?

14 A. Yes, it would.

15 Q. If that doesn't happen, what happens in Section
16 12? There's an area that's arguably within a mile of both
17 pools. Do you see that?

18 A. Yes, I do.

19 Q. Section 12 touches Cemetery-Morrow and is yet
20 within a mile of Indian Basin. In fact, it touches Indian-
21 Basin, doesn't it?

22 A. Yes, it does.

23 Q. The southwest corner of 12 touches Indian Basin
24 and the northeast touches Cemetery-Morrow. So what are you
25 going to do with that one?

1 A. Rephrase the question.

2 Q. Well, what happens to Section 12? It's touching
3 two pools, each of which has different rules.

4 Q. Currently we're drilling the west half of Section
5 12, based on the South Dagger Draw-Upper Penn spacing.

6 The development of the Upper Penn on the eastern
7 half is not as -- the potential isn't as great. Therefore,
8 if we don't get reduced spacing, we probably would not
9 drill the Morrow production.

10 Q. Are you satisfied that there is enough technical
11 information, geologic and reservoir engineering
12 information, to demonstrate that this area we've asked for
13 has the same characteristics within that area, so that an
14 individual well is not going to be any different than what
15 you already found to exist in Section 2 when you drilled
16 and completed the Number 15 well?

17 A. That's correct, yes.

18 Q. So on a case-by-case basis, do you see any reason
19 to wait as each well is drilled to decide what to do?

20 A. No, we do not.

21 Q. All right, let's look at your last exhibit,
22 Exhibit Number 11, this illustration of spacing.

23 One of the issues is not only the spacing size,
24 but what opportunity you have for well locations?

25 A. Yes, it is.

1 Q. And the illustration here is what, Mr. Folse?

2 A. The illustration here is -- it shows a --
3 orthodox well areas for a one-square-mile section, the 640
4 acres. The area inside the blue box is the orthodox well
5 location area.

6 The areas in the brown, which are inside the 320
7 west-half proration unit and a 320 east-half proration
8 unit, that would be the orthodox area for the 320s, in the
9 brown area.

10 What happens is, in the blue area generally
11 you've got 90 acres in that section, for one well in the
12 Morrow. If we do downspace to 320s, we have the
13 opportunity of drilling two wells, one within each of the
14 brown areas.

15 Q. All right. The point is, well locations follow
16 well spacing, and with downspacing you have more
17 flexibility in well locations and therefore have the
18 greater chance of accessing more of these individual Morrow
19 stringers with multiple wells?

20 A. That's correct, yes, sir.

21 Q. Were Exhibits 6 through 11 prepared by you or
22 compiled under your direction or supervision?

23 A. Yes, they were.

24 MR. KELLAHIN: Mr. Examiner, we move the
25 introduction of Mr. Folse's Exhibits 6 through 11.

1 EXAMINER STOGNER: Exhibits 6 through 11 will be
2 admitted into evidence.

3 MR. KELLAHIN: That concludes my examination of
4 Mr. Folse.

5 EXAMINATION

6 BY EXAMINER STOGNER:

7 Q. Mr. Folse, in the Cemetery-Morrow Gas Pool as
8 depicted on the exhibits, is that the present pool
9 boundary?

10 A. That is the southern pool boundary for the
11 Cemetery-Morrow.

12 Q. Okay. Was that boundary in existence when the
13 well in Section 2 was drilled?

14 A. Yes, it was.

15 Q. Did you petition after you had found out the
16 District had put you in Indian Basin-Upper -- I mean -- I'm
17 sorry, the Indian Basin-Morrow, to have it put into the
18 Cemetery? Did you carry it on further, or did you just
19 allow them to do it?

20 A. We did contact the agency and had some
21 discussions with them, and then they decided that. We did
22 not petition the agency, though.

23 Q. You just essentially rolled over and let them do
24 it? Is that what you did? You allowed them to put it in
25 the Indian Basin-Morrow without any further discussions --

1 A. Yes, yeah, we --

2 Q. -- with the District?

3 A. That's correct.

4 Q. Have you had an opportunity to go back and
5 research why it was -- the Indian Basin-Morrow Gas Pool
6 was, a), prorated, and spaced on 640?

7 A. The only information I have is, the pool rules
8 were set up for the Upper Penn, Cisco and the Indian Basin-
9 Morrow at the same time, and that was in -- Let's see. I
10 guess initially it was February 28th, 1963.

11 My feeling would be that the development of the
12 Upper Penn was the primary objective for this field, and it
13 was based on 640 acres. Therefore, the Morrow development,
14 to be consistent with the shallower horizon, was set up in
15 the same way.

16 Q. Do you know what the Morrow formation was spaced
17 at in those days, prior to being 640?

18 A. No, I do not.

19 Q. Did you read the order?

20 A. Could you repeat the question?

21 Q. Did you read Order Number R-2441 that you just
22 alluded to?

23 A. Yes, I have.

24 Q. And what was the spacing of the Morrow prior to
25 640?

1 A. The -- I guess the part -- I read the order in
2 terms of the current -- the spacing here, which was for the
3 Cemetery-Morrow 320-acre spacing.

4 MR. KELLAHIN: No, he's asking you something
5 different.

6 Q. (By Examiner Stogner) Yeah, I'm asking you, what
7 was the spacing of the Morrow formation in 1963, statewide?

8 A. Oh, okay. It appears the Morrow gas pools were
9 developed on 160-acre spacing at that time.

10 Q. Okay. Do you know when that changed to 320 --

11 A. No, I do not.

12 Q. -- statewide?

13 Under the present rules and regulations in the
14 Indian Basin-Morrow, why can't you put two wells on a
15 proration unit? Do you have any 640-acre proration units
16 that has more than one well on it?

17 A. There are no proration units with the 640 acres
18 that has two wells in the Morrow, that's correct, they do
19 not.

20 Q. Is there any reason why you can't?

21 A. The only -- Because of the pool rules and the
22 requirements for the 1650-foot standoff from the leases,
23 the area for the orthodox well would be right at 90 acres,
24 for one well.

25 Q. Okay, essentially Marathon has not decided to put

1 two wells on a 640-acre spacing?

2 A. That's correct.

3 Q. Other people have? Or you have the opportunity
4 to? There's nothing preventing you from doing it; is that
5 right?

6 A. That has been done in the Indian Basin area only
7 when the first well has depleted.

8 Q. But there's nothing preventing you from having
9 two wells on a 640 presently, is there?

10 A. That's correct.

11 Q. Okay. At the Dagger Draw was spaced on 160 up
12 here -- Is that what you would be petitioning for today,
13 that the Morrow be spaced on 160 to make it more convenient
14 and that you wouldn't have a 640 overlay on a 320-acre
15 proration unit, to make your life harder?

16 A. No, it would not.

17 Q. I mean, doesn't this happen all over the state?
18 You've got 320 acres overlying a 640, overlying a 160? Is
19 that the only reason -- or -- I'm still confused here why
20 -- I mean, it was spaced on 640 years ago, and you haven't
21 given any reason other than convenience to go to 320, and
22 there's really nothing preventing you from going to 320 if
23 this be the pool boundaries.

24 I don't know if this is the pool boundaries or
25 not. I don't think they are. In the west half of Section

1 2 and the west half of Section 11 in 21 South, 23 East,
2 part of the Indian Basin-Upper Penn Pool. And I will
3 reference Order Number R-10,376, signed May 24th, 1995,
4 which extended the west half of Section 2 and the west half
5 of 11. I don't know where you got all of Section 2 as
6 being the pool boundary, and I don't know that the
7 Cemetery-Morrow Gas Pool boundary is there either.

8 I didn't write the ad for this, and normally I
9 put everything in there. I was on vacation at the time.
10 Perhaps I shouldn't have gone, is what I'm finding out,
11 but...

12 Where does Marathon plan to put their next well,
13 Morrow well? Section 12, west half?

14 A. That is correct, the west half, the southernmost
15 well in Section 12 there would -- is our next potential
16 candidate for a Morrow test.

17 Q. Which one -- Which map are you referring to?

18 A. On Exhibit 6.

19 Q. Okay, why there? I mean, there's lots of others
20 to deepen. Why the one in 12 in particular?

21 A. That particular well there is based on geology.

22 Q. As opposed to the others in Sections 1 or 36 that
23 you could deepen?

24 A. That's correct.

25 EXAMINER STOGNER: Mr. Kellahin, do you have any

1 witnesses that you're going to put on about the notice
2 issue?

3 MR. KELLAHIN: Yes, sir, I don't have a witness
4 but I have the certificate of mailing, and I'll present
5 that to you.

6 EXAMINER STOGNER: Let's take a look at that now.
7 Do you have them broke out as royalty interests,
8 overriding, since they're all going to be affected? Or are
9 these just working interests?

10 MR. KELLAHIN: Take a moment to remember, Mr.
11 Examiner.

12 EXAMINER STOGNER: Okay.

13 MR. KELLAHIN: Mr. Examiner, that represents an
14 operator; in the absence of an operator, a working interest
15 owner. There are no overriding royalty or royalty owners.

16 EXAMINER STOGNER: Wouldn't this fall under the
17 general rules of notification that would affect any of
18 these parties if we went from 640 to 320, that they would
19 have to be notified?

20 MR. KELLAHIN: I didn't reach that opinion. We
21 took it under Rule 1207 to be a change of the special rule
22 in simply moving the acreage from Indian Basin to Cemetery.

23 EXAMINER STOGNER: Oh, how we forget the *Udden*
24 case, so quickly.

25 What part is that, Mr. Carroll?

1 MR. CARROLL: What part?

2 EXAMINER STOGNER: The notification rule?

3 MR. CARROLL: 1207 (a) -- 11.

4 EXAMINER STOGNER: Wouldn't this follow under
5 1207-11, that all interests would have to be notified, or
6 should be notified, because of the potential dilution of
7 interest and they're affected?

8 MR. KELLAHIN: The only tract that we thought
9 potential dilution of interest existed was Section 2, which
10 had the only producing well in the Cemetery-Morrow in this
11 area, and our information is that interest is common and
12 identical throughout the entire section, and dividing it
13 makes no difference.

14 EXAMINER STOGNER: How about Section 14 or any of
15 the others that --

16 MR. CARROLL: In Section 14 --

17 MR. KELLAHIN: We took the position that there
18 was no producing well and therefore no obligation to go to
19 the additional notification of royalty and overrides.

20 So -- You know, that's the position we took. It
21 may be right or wrong, but that's what we did.

22 EXAMINER STOGNER: Okay.

23 MR. CARROLL: Well, wouldn't in Section 14
24 working interest owners that formerly shared in the
25 production of that well that was shut in, it's downsized to

1 320, there might be some interest owners that wouldn't
2 share in the production if it's brought back?

3 MR. KELLAHIN: I need to find out if that was a
4 unit well or not.

5 (Off the record)

6 MR. KELLAHIN: That's a section that was operated
7 by Santa Fe, and I can't answer your question, Mr. Carroll.
8 I'll simply have to find out.

9 If the predicate for your question is right, then
10 your question is correct, that there would be the potential
11 for interest owners to have shared their production with
12 others, and because of the spacing change no longer be
13 entitled to share with the new well. And so that potential
14 concern exists if the facts are right, and I must tell you
15 I don't know and I'll have to find out. The ownership in
16 14 could be an issue.

17 As to all other tracts within the blue area, it
18 was our position the additional notification did not
19 trigger a notice under *Uhdén* because there was no well. If
20 I've made a mistake on that, then we'll have additional
21 notice obligations.

22 MR. CARROLL: Okay, Mr. Kellahin, if you could
23 supplement the record with a listing of all interest owners
24 in Section --

25 MR. KELLAHIN: Yes, sir, we'll clarify the

1 status.

2 EXAMINER STOGNER: One other question for the
3 witness.

4 Q. (By Examiner Stogner) In this portion of the
5 producing area -- let's call it this portion -- the reasons
6 that the Indian Basin-Upper Penn was prorated, does that
7 still exist in this area today?

8 A. The reason for the Upper Penn proration in the
9 blue area?

10 Q. I'm sorry, I'm sorry, the reason that the Indian
11 Basin-Morrow Pool -- Well, first of all let's establish
12 that.

13 Do you know why it was prorated?

14 A. No, I don't.

15 Q. So you don't know if those conditions exist in
16 this area, that proration needs to continue or be
17 discontinued?

18 A. I don't know of any reason why.

19 Q. Do you know where -- which gas line -- or are
20 there more than one gas line that would take from this
21 area?

22 A. From this area, this production primarily goes to
23 the Indian Basin Gas Plant --

24 Q. "Primarily" --

25 A. -- which is --

1 Q. -- you mean there's some that could go to another
2 market?

3 A. The area in Section 13 actually could go to
4 another area, but we're currently getting a -- working on
5 contracts to get that gas to the Indian Basin Gas Plant,
6 which Marathon operates.

7 Q. Wasn't that one of the conditions why this was
8 prorated, because of more than one transporter?

9 A. There is another large sales line in the area,
10 and I can't really speculate on that.

11 Q. Do you know if Marathon has plans of bringing
12 that well in Section 14 back on line, or would there be any
13 conditions that you would?

14 A. I believe the well in Section 14 that did produce
15 from the Morrow has since been plugged and abandoned.

16 Q. Okay.

17 A. So it's --

18 Q. So more than likely that well would not be
19 reintroduced as a Morrow producer?

20 A. That's correct.

21 Q. Now, looking at Exhibit Number 6, the northeast
22 quarter of Section 14 presently has a Cisco well on it, or
23 depicted on this; is that correct?

24 A. That's correct.

25 Q. Or is that a potential well?

1 A. That is a well that was recently drilled by Santa
2 Fe.

3 Q. Okay. Do you know if they've got plans to deepen
4 it to the Morrow?

5 A. No, I do not.

6 Q. Why would you put Section 14 in this proposal
7 today, if Marathon doesn't operate a well in that section?

8 A. The -- I guess early on, we were attempting to
9 discuss with Santa Fe the proposal here, reducing the
10 spacing, and early on we decided it would be better for the
11 whole area to be included. And we haven't heard anything
12 back from Santa Fe, saying that -- or disagreement with our
13 proposal.

14 Q. If the well in Section 2 was downspaced from 640
15 to 320 and placed in the Cemetery-Morrow Gas Pool, there
16 would be no effect of any interest owner; is that correct?

17 A. That's correct, yes.

18 Q. And that would be the only well at this time that
19 would be actually downspaced; is that correct?

20 A. The Section 2 area?

21 Q. Yes.

22 A. Yes.

23 Q. In the blue-shaded area, that's the only
24 producing Morrow gas well now?

25 A. That's correct, yes.

1 Q. Okay. And the next one is proposed in Section 12
2 in this blue area. Is it being done presently, or is it
3 proposed?

4 A. It's currently being drilled.

5 Q. It's currently being drilled.

6 A. To the Upper Penn.

7 Q. To the Upper Penn?

8 And will you stop drilling it at the Upper Penn
9 and deepen it later, or will you go ahead and continue
10 drilling down to the Morrow?

11 A. Current plan is to stop at the Upper Penn and
12 complete it as an Upper Penn producer.

13 Q. Okay. If your Application was approved today,
14 would you continue drilling down to the Morrow, or still
15 stop at the Upper Penn?

16 A. Depending on the timing, we could reconsider and
17 take the well deeper.

18 Q. I mean, while you had the drilling rig and
19 everything out there?

20 A. Correct, yes, sir.

21 Q. That's a possibility?

22 A. That's right. It initially was produced as a
23 Morrow test with the Upper Penn as the primary target.

24 Q. Now, in the blue area, other than the well in
25 Section 2 and the old Penn A well in Section 14, you show

1 four penetrations to the Morrow. Did those wells actually
2 test or produce from the Morrow that you know of? And
3 that's the one in Section 35, 11, the northwest quarter of
4 14 and the south half of 13?

5 A. They did not produce. They were all wet in the
6 Morrow.

7 Q. Wet with water?

8 A. Yes, not gas-productive.

9 Q. The one in Section 35 was wet?

10 A. Yes, that's correct, yes.

11 Q. But the well in Section 2 -- Let's go up there,
12 in the Cemetery-Morrow Gas Pool. I show a lot of those as
13 shut in Morrow producers. Have those watered out, or just
14 quit producing, or what was the reason?

15 A. They are all Morrow producers that have since
16 depleted. They are depleted in the Morrow horizon.

17 Q. Do you know if that -- Okay. Did any of the
18 Cemetery-Morrow gas wells water out with water like similar
19 to the ones in the Indian Basin-Upper -- I mean, I'm sorry,
20 I keep saying the Upper -- the Indian Basin-Morrow Gas
21 Pool?

22 A. Most of the production in the Morrow reservoirs
23 are -- the production is depletion drive, so they actually
24 deplete -- pressure-deplete.

25 Q. And does that hold true in the Indian Basin-

1 Morrow?

2 A. Yes, it does.

3 Q. Okay. So a water or a water zone is really not a
4 factor determining the two -- as a boundary between the two
5 pools, in your opinion?

6 A. That's correct, they do not.

7 Q. Does Marathon operate any of the wells in Section
8 10, 15, 22, 23 or 24, in the Indian Basin-Morrow Pool, that
9 you're not proposing to be taken out of that pool? Or have
10 they all been depleted?

11 A. They have all been depleted. We operated all of
12 those wells. They have all been depleted, though.

13 Q. How about in the eastern portion of the -- I
14 guess the southeastern portion of the Indian Basin-Morrow
15 Gas Pool on this map, and I'm referring to Exhibit Number
16 6. Are any of those gas wells in the Indian Basin-Morrow
17 Pool operated by Marathon?

18 A. Yes, the wells on the eastern portion, Sections
19 21 and 20, we do operate. That's the Indian Hills unit
20 area.

21 We have also farmed out -- It's Section 16 and
22 17. Barbara Fasken operates those wells.

23 We don't have any plans for changing the pool
24 rules at this time.

25 Q. I know there's been no objection, but also I

1 haven't gotten any support from any of the other operators.

2 Have you discussed this proposal with any of the
3 other operators, like Santa Fe or Yates or any other
4 potential working interest owner that may -- that could
5 possibly -- an operator in here about this proposal?

6 A. I have made some attempts at discussing with
7 Santa Fe, have not -- I have talked to Yates Petroleum and
8 discussed that we were trying to switch or change the
9 spacing requirements here, and haven't had any objections
10 from them.

11 Q. Now, did you talk to them just about this area or
12 about the whole Indian Basin-Morrow Gas Pool in general?

13 A. I talked to them also about their approach to
14 drilling Morrow grassroots wells in this area, and
15 basically they concurred with me that the development of
16 the Upper Penn is the primary target for the wells in this
17 area, and the Morrow is basically just a -- It has some
18 potential where you would take some wells to evaluate the
19 potential in the Morrow, but not all the wells.

20 Q. In Exhibit Number 7 here, you show a cumulative
21 -- I'm sorry, a well life in years. And if I look down at
22 the Indian Basin Gas Com Number 1 in Section 14, you show a
23 "21". Has that well produced for 21 years?

24 A. Yes, it has.

25 Q. Okay. Now, do you feel that that well drained

1 only 320 acres, or do you think there still may be some
2 potential in the northeast quarter of 14 for the Morrow?

3 A. Marathon doesn't have any interest in Section 14
4 at this time. And --

5 Q. But you included it in your Application.

6 A. I included it in the Application since it is
7 currently on the South Dagger Draw-Upper Penn proration in
8 320-acre spacing. Sections 14 and 13 are included in the
9 South Dagger Draw Pool.

10 Q. Okay. Does Marathon have any interest in Section
11 13?

12 A. No, we do not.

13 Q. Okay. Who has that?

14 A. That's Santa Fe also.

15 Q. How about Section 35, in that little half
16 township. Does Marathon have the interest in that?

17 A. No, we do not.

18 Q. Who has that?

19 A. That's operated by Yates Petroleum.

20 Q. How about 36 over to the east?

21 A. Marathon does have interests, and it's operated
22 by Marathon.

23 Q. Okay. Does Marathon have any plans of putting a
24 Morrow completion in there?

25 A. Yes, the southern, southeast red dot in that

1 Section 36 is a proposed well to go to the Morrow,
2 currently waiting on approvals.

3 Q. Okay, and let's move to the south in Section 1.
4 What's Marathon's interest in that section?

5 A. Marathon has 100-percent interest in Section 1.

6 Q. Okay, how about Morrow proposals in this section?

7 A. The two Morrow proposals -- These wells are all
8 currently Upper Penn producers. The well just east of the
9 Number 1 in that section, southeast of it, would be our,
10 probably, first Morrow test, potentially, for deepening.

11 Q. Okay.

12 A. And then just north of the Number 1, that well
13 there in the center would be a Morrow -- potential Morrow
14 test, one or the other.

15 Q. Okay. In Section 2, of course, you've already
16 got a Morrow producer there. What would be the second
17 Morrow in Section 2?

18 A. The second Morrow in Section 2 would be the
19 well -- the red dot just east of the Number 2.

20 Q. Okay, how about down in Section 11?

21 A. Section 11, we're currently proposing the
22 drilling of a well just northwest of Number 11.

23 Q. That's the one depicted with a black dot with a
24 circle around it?

25 A. Well, northwest of 11, actually.

1 Q. Oh, northwest, I'm sorry.

2 A. Northwest.

3 Q. Okay, northwest.

4 A. It's currently being permitted --

5 Q. Okay.

6 A. -- and is to be drilled to the Morrow.

7 Q. And the other one in Section 11, in the east?

8 A. It would be probably the southeasterly-most red
9 dot.

10 Q. Okay, and let's see, we talked about the one in
11 the west half of 12. How about a proposal in the east half
12 of 12?

13 A. We -- I guess we're currently evaluating it. We
14 have no proposals at this time.

15 Q. Okay. I count Marathon's seven proposed Morrow
16 recompletions pursuant to just my questioning there. Is
17 that what you come up with?

18 A. Correct, yes, sir.

19 Q. Okay. And if the potential of 640-acre spacing
20 still exists in this area, Marathon would produce only half
21 that many, or none, or what's -- What's Marathon's plan, if
22 it still stayed on 640?

23 A. If it still stayed on 640s, a few of these
24 locations would be unorthodox, so we would require hearing.
25 We probably would try one well per section.

1 Q. Okay, and there would be a potential of waste by
2 not having two Morrow producers in a section; is that
3 correct?

4 A. That's correct, yes.

5 Q. Okay. Up in the Cemetery-Morrow Gas Pool,
6 especially on the fringe in the red area, the wells that
7 have been depleted or shut in, do you know what the life on
8 those -- Well, I'm sorry, I jumped a little bit here. I
9 guess if I look at Section -- Exhibit Number 7, did you
10 include any wells in Sections 34, 35 and 36 on this
11 summary?

12 A. In which township and range?

13 Q. Just up to the north of your blue area, that
14 would be Township 20 South, Range 23 East. That section of
15 tiers that you show in the Cemetery-Morrow Gas Pool.

16 A. Correct, yeah, I did not include those in these
17 reserve estimates.

18 Q. Did those wells have reserves or produce --

19 A. They -- In Section 34 the well that was produced
20 there in the Morrow produced 37 million cubic feet of gas.
21 The well in Section 35 produced 2 BCF of gas. The well in
22 Section 36 on the west side produced 500 million cubic feet
23 of gas. The well north of the Number 36 there cum'd 1.97
24 BCF. And the one in the southeast corner of that Section
25 36 cum'd 48 million cubic feet of gas prior to depletion.

1 EXAMINER STOGNER: Mr. Kellahin, do you have
2 anything further to add at this time?

3 MR. KELLAHIN: Yes, sir, I'd like to just
4 summarize some of these points, and perhaps you can give us
5 some guidance on issues if there are any of these matters
6 of concern.

7 The approach I've taken is my approach to a
8 question they asked me. And so if the approach is flawed,
9 it's my fault and not theirs.

10 The issue that arose was over Section 12 and how
11 to develop the Morrow. I asked Marathon how the Cisco had
12 been handled, and they said this blue area had already been
13 blocked out for South Dagger Draw, and we had dealt with
14 the more productive reservoir in terms of whether it was
15 going to be Indian Basin or South Dagger Draw.

16 The question, then, is, how does Marathon handle
17 Section 12?

18 I says, Well, the dilemma is, you can drill a
19 Cisco well on 320, but if you tag on the Morrow you're
20 going to have to put it on 640. And you can do it, it's
21 done; it's not convenient, it's a nuisance. And I asked
22 Mr. Folse and the others, Is there any science to prove and
23 justify 640 gas spacing for this area?

24 He says, I'll look and see.

25 I asked him to look at Marathon-operated wells

1 where he had good data. I asked him to prepare a P-over-Z
2 analysis where he could tell me the gas produced was
3 pressure-depleted to abandonment. I told him to give me
4 the volumes and to calculate drainage areas.

5 And he came back with me and says, You won't
6 believe it, but we can't find a well in this area that will
7 drain more than 180 acres in the Morrow.

8 And I says, Well, let's change the spacing. Why
9 fool with 640 spacing if there's no science to support that
10 inconvenience?

11 He says, I can find no science that supports 640
12 Morrow gas spacing in this area.

13 I says, Well, it's really a nuisance to bring in
14 Devon, Yates and Marathon for 640 Morrow as a tag-along to
15 a Cisco. Let's block out this area, and as an
16 administrative convenience let's just take this area and
17 have it spaced like the Cisco. I asked their geologist to
18 map the reservoir and demonstrate to me, is there any
19 geologic difference? Am I looking at two different Morrow
20 creatures?

21 They come back and say, No, it's the same thing.
22 In fact, if you see anything you see that the Cemetery-
23 Morrow is better, and yet it's on 320 spacing.

24 The part of the case that I have not researched
25 -- and it's my fault -- is the effect of prorationing.

1 It's a sort of an antiquity at this point, and I have
2 overlooked researching it. I can get the transcripts from
3 Artesia.

4 But it appears, looking at the orders, this was
5 done back in the Sixties, when we were in fact prorating
6 Morrow gas pools. And it was done on the assertion that
7 there was productivity in excess of market demand in this
8 pool, that there was at least the thought there would be
9 two takers out of the pool, and some argument on
10 prorating. To get down to the exact reasons, I'll
11 research the record and demonstrate that to you.

12 In terms of notice, we may have inadequate
13 notice. My approach is what I described to you a while
14 ago. We could have tried to satisfy *Udden*. It's very
15 expensive, very difficult, and necessary in certain cases.
16 We came to the conclusion it was not necessary here because
17 for two -- with the exception of two sections, everything
18 was undrilled. And so there was no equities to disrupt,
19 because there had never been any production.

20 In the one remaining producing well, all equities
21 were the same.

22 In the final section down there where Santa Fe
23 has Section 14, I have failed to adequately research that
24 section, and I cannot tell you and I will find out for you
25 if it makes a difference.

1 We were simply trying to make the Morrow
2 consistent with the Cisco, and we think that's appropriate.
3 We could find no scientific reason to do otherwise. And so
4 that's why we've approached it in this fashion.

5 EXAMINER STOGNER: Thank you, Mr. Kellahin.

6 Before I take this under advisement, perhaps, on
7 the record, the Indian Basin-Morrow, perhaps Marathon,
8 could perhaps approach the other operators. This is the
9 Indian Basin-Morrow as a whole. There's several things:
10 deprorate the thing, do some pool rules where it's easier
11 to drill wells out there with the realty of the pool -- is
12 it becoming depleted to a degree where we may be able to
13 help assist in its dying?

14 There are a few other things that could be done,
15 perhaps: Freeze the pool boundary in the Indian Basin-
16 Morrow Pool, where if everybody's happy with those wells
17 that's already in existence, then let them be happy, and
18 then everything else that encroaches around it, unless an
19 operator particularly petitions that an expansion be done.
20 We've done that somewhere, I think, up in the northwest.

21 MR. KELLAHIN: Yes, sir, you've suggested that on
22 prior occasions, and we have frozen some of these old 640
23 Morrow Gas Pool boundaries, and that has successfully
24 worked.

25 In addition, your suggestion about an operators'

1 meeting is appropriate, and we will ask the operators to
2 meet with us on the subject.

3 EXAMINER STOGNER: With that, if there's nothing
4 further in this case --

5 MR. CARROLL: I've got one more thing.

6 Mr. Kellahin, if you could determine whether that
7 shut-in well in Section 14 has been plugged and abandoned,
8 that might do away with the additional research.

9 MR. KELLAHIN: I apologize for not having that.
10 We should have had that information, and I will get it to
11 you.

12 EXAMINER STOGNER: Anything further?

13 Let's take this case under advisement, and let's
14 take a ten-minute recess at this time.

15 MR. KELLAHIN: All right, sir. Thank you.

16 (Thereupon, these proceedings were concluded at
17 11:10 a.m.)

18 * * *

19 I do hereby certify that the foregoing is
20 a complete and true record of the proceedings in
21 the hearing held on July 19, 1995, of Case No. 11333.

22  , Examiner
23 Oil Conservation Division
24
25

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

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

WITNESS MY HAND AND SEAL July 18th, 1995.



STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998