

1 NEW MEXICO OIL CONSERVATION DIVISION

2 STATE LAND OFFICE BUILDING

3 STATE OF NEW MEXICO

4 CASE NO. 10997

5
6 IN THE MATTER OF:

7
8 The Application of Nearburg Exploration
9 Company for Compulsory Pooling
and an Unorthodox Gas Well Location.
10 Eddy County, New Mexico.

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14
15 BEFORE:

16 JIM MORROW

17 Hearing Examiner

18 State Land Office Building

19 June 9, 1994

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22
23 REPORTED BY:

24 CARLA DIANE RODRIGUEZ
25 Certified Shorthand Reporter
for the State of New Mexico

1994

ORIGINAL

A P P E A R A N C E S

FOR THE APPLICANT:

KELLAHIN & KELLAHIN
Post Office Box 2265
Santa Fe, New Mexico 87504-2265
BY: **W. THOMAS KELLAHIN, ESQ.**

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1 EXAMINER MORROW: Call Case 10997, the
2 application of Nearburg Exploration Company for
3 compulsory pooling and an unorthodox gas well
4 location, in Eddy County, New Mexico.

5 Call for appearances.

6 MR. KELLAHIN: Mr. Examiner, I'm Ton
7 Kellahin with the Santa Fe law firm Kellahin &
8 Kellahin, appearing this morning on behalf of the
9 Applicant, and I have three witnesses to be
10 sworn.

11 MR. MORROW: Would the witnesses please
12 stand to be sworn.

13 [And the witnesses were duly sworn.]

14 MR. KELLAHIN: Mr. Examiner, at this
15 time we'll call our landman, Mr. Joe Fitzgerald.

16 **JOE FITZGERALD**

17 Having been first duly sworn upon his oath, was
18 examined and testified as follows:

19 EXAMINATION

20 BY MR. KELLAHIN:

21 Q. Would you please state your name and
22 occupation?

23 A. Joe Fitzgerald. I'm a petroleum
24 landman with Nearburg Producing Company.

25 Q. Mr. Fitzgerald, on prior occasions have

1 you testified as an expert petroleum landman?

2 A. Yes.

3 Q. Pursuant to your employment by your
4 company, have you made a study of the ownership
5 with regards to this spacing unit, as well as
6 made yourself knowledgeable about the offset
7 operators in this area?

8 A. Yes.

9 Q. As part of your duties, have you
10 negotiated with the various interest owners in
11 order to consolidate, on a voluntary basis, their
12 interest in this proposed well?

13 A. Yes.

14 MR. KELLAHIN: We tender Mr. Fitzgerald
15 as an expert petroleum landman.

16 EXAMINER MORROW: We'll accept him.

17 Q. Let me have you turn to Exhibit No. 1
18 and identify that for us.

19 A. That is a land plat I used to give the
20 general location of this proposed unit, and to
21 show the surrounding tracts.

22 Q. The proposed well that your company
23 seeks to drill, the primary objective of which is
24 what formation, Mr. Fitzgerald?

25 A. Morrow.

1 Q. To the best of your knowledge, can you
2 advise us what you believe to be the closest
3 Morrow gas pool set forth by the Oil Conservation
4 Division?

5 A. There is a Morrow gas pool and a
6 Cemetery pool in the south half of Section 26,
7 currently operated by Nearburg.

8 MR. KELLAHIN: Mr. Examiner, the
9 Cemetery-Morrow Gas Pool has some rules. I'm
10 giving you a copy of Order R-3194 that sets forth
11 the pool rules. And then we've taken out of the
12 Byron's Publication what we believe to be a
13 current tabulation of the acreage that's subject
14 to that pool.

15 Q. What is your opinion as to the
16 appropriate spacing, if you're successful in
17 achieving Morrow gas production in the spacing
18 unit?

19 A. 320.

20 Q. What do you propose to dedicate, then,
21 to the well?

22 A. The north half of Section 26, 19/25.

23 Q. If we look at the land map, Exhibit 1,
24 the north half of 26 is further subdivided into
25 various tracts?

1 A. Yes.

2 Q. Have you taken the information
3 available to you for the north half of 26, and
4 drawn another display with that information?

5 A. Yes.

6 Q. Let's turn to that, sir. It's Exhibit
7 No. 2. Tell us what this shows.

8 A. This is a plat that shows Section 26,
9 and the three sections that our unorthodox
10 location would move toward. If you'll note, the
11 north half of Section 26 is subdivided into five
12 tracts. This subdivision was done years ago,
13 mainly for topographic reasons.

14 Nearburg has Tracts 1, 3, 4 and 5 under
15 lease, and Tract 2 is owned, as far as rights
16 below 2933 feet, by Anadarko.

17 Q. Let's look at the two different
18 categories of interests that you're attempting to
19 pool with this application. The first category
20 is the working interest ownership from the top of
21 the Wolfcamp to the base of the Morrow?

22 A. Correct.

23 Q. Within that vertical interval, then,
24 have you consolidated all the working interest
25 ownership?

1 A. All except for, as I mentioned,
2 Anadarko's interest in that tract, indicated as
3 Tract 2.

4 Q. If you take their interest in Tract 2
5 and apportion it to the spacing unit,
6 approximately what percentage interest do they
7 have?

8 A. 6.3 percent of the unit.

9 Q. Subsequently, you have a set of
10 documents with regards to your efforts concerning
11 Anadarko?

12 A. Yes.

13 Q. All right, we'll talk about that in a
14 minute. Apart from that category of working
15 interest owners to pay for and share in
16 production, do you have any other category of
17 interest owner that you're seeking to pool?

18 A. There are nonparticipating royalty
19 interest owners that we've been unable to locate,
20 that have not appeared of record title since 1945
21 when they divested themselves of their mineral
22 rights and surface rights to--then, it was
23 Richfield Refining, I believe, which became
24 Arco--and they own in Tracts 1 and 2. They
25 retained a 1/16 of 1/8 nonparticipating royalty

1 interest when they conveyed their other interests
2 to what is now Arco.

3 We have been looking for these folks
4 for a number of years. We've checked Eddy County
5 records, surrounding county records, probate
6 records. The only instrument that we have to go
7 by is a 1945 warranty deed, which is what
8 conveyed the interest out of them into Arco.

9 Q. And we'll come to that in a minute, Mr.
10 Fitzgerald. But there is a--and this is unusual,
11 we don't often see a nonparticipating royalty
12 interest owner subject to a pooling?

13 A. Right.

14 Q. You can't find them?

15 A. Correct.

16 Q. All right. Their interest, then, is in
17 Tracts 1 and 2, and if you proportionately reduce
18 their nonparticipating royalty interest in 1 and
19 2, among the entire spacing unit, what's the
20 approximate percentage? Do you have that
21 calculated?

22 A. I don't have it in front of me, but it
23 would be 1/16 of 1/8 of 152 over 320.

24 Q. All right. Are we dealing with a
25 320-acre spacing unit?

1 A. Yes.

2 Q. The nonparticipating royalty owner
3 doesn't share in the cost, but without a pooling
4 order, then you would not be able to apportion
5 their interest to the 320 spacing?

6 A. Correct.

7 Q. Apart from the pooling concepts of the
8 two categories, is there another type of relief
9 you need from the Examiner in terms of your well
10 location?

11 A. Yes. The proposed location is
12 unorthodox in the current pool rules.

13 Q. In what way is it unorthodox, Mr.
14 Fitzgerald?

15 A. The current location we asked for is
16 1450 from the north and east line of the section,
17 and the current pool rules provide for 660/1980
18 from the line.

19 Q. Okay. Looking on Exhibit 2, then,
20 identify for us what you intend to represent by
21 the tabulation of lists A, B and C?

22 A. Okay. Exhibit 2 shows the tracts we
23 would be moving toward for an unorthodox
24 location. As you can see, north of the proposed
25 location, being the south half of Section 23, is

1 a 320-acre Morrow producing unit currently
2 operated by Nearburg.

3 To the north and east, Section 24, the
4 south half of Section 24 is currently leased, by
5 Nearburg, 100 percent. The north half, as
6 indicated on my plat, is leased by Nearburg and
7 the people shown on my list A.

8 Then, if I move to Section 25, you can
9 see the northwest quarter is Nearburg, the
10 northeast quarter is Nearburg, and the estate of
11 Martin Yates III. The southwest quarter is
12 Nearburg and the USA, the BLM lands. And the
13 southeast quarter is the people on my list B.

14 Q. Have you caused the interest owners
15 within the spacing unit, as well as the offset
16 operators, or in the absence of an operator an
17 interest owner, to be notified of this proceeding
18 before the Division?

19 A. Yes.

20 Q. As a result of that notification, have
21 you received any objection from any party?

22 A. No.

23 Q. Let's turn now to the details of your
24 efforts to negotiate a resolution with Anadarko,
25 if you'll turn to what is marked as Exhibit 3.

1 Before we talk about the specifics,
2 tell us generally what's contained in this
3 exhibit package.

4 A. Okay. This package consists of the
5 Joint Operating Agreement and the AFE, which we
6 sent to Anadarko, as indicated in our letter
7 dated May 12, along with a Federal Express
8 receipt which, if you'll look at the second one
9 from the bottom, it shows here that on the 12th
10 of May we sent, and on the 13th of May it was
11 signed for, by an R. Skipper for Anadarko
12 Petroleum, delivered to the attention of Pat
13 Smith.

14 And then I received a letter on Monday,
15 from Pat Smith of Anadarko, and I've attached it
16 here, too, to show what he would want changed in
17 the operating agreement, should his company
18 decide to join. He and I verbally discussed this
19 letter on Monday, and Nearburg agreed to charge
20 his request in the operating agreement.

21 He and I both agreed that we would not
22 meet his request in item No. 1 of the accounting
23 procedure, that it was acceptable the way we had
24 submitted it, that his item No. 3 under the
25 accounting procedure, that we would change it in

1 accordance with his request there, which would
2 mean that they had no objection to what we
3 submitted for as our AFE, and that the overhead
4 rates and the drilling well rates submitted in
5 the JOA would be acceptable, also.

6 They're not yet in a position to join
7 the well because they've not finished the
8 geologic evaluation of our proposal, so therefore
9 he could not commit Anadarko to join in the well
10 at this time.

11 Q. In your discussions with Mr. Smith, did
12 you understand that he was aware of the pending
13 pooling application of Anadarko's interests that
14 you had filed?

15 A. Yes. Prior to this, in phone calls and
16 letters, and we had a representative go by their
17 office back in May, when he was in Houston, to
18 solicit their joining the well, they told us that
19 they didn't believe they could respond to our
20 request in any reasonable time, and they told us
21 to go ahead and force pool.

22 Q. Let's talk about some of the specifics,
23 then. One of the items the Examiner needs to
24 rule on is whether your proposed well costs, as
25 displayed in an AFE, are reasonable, current and

1 accurate.

2 When we turn to the AFE attached in
3 Exhibit 3, is this your proposed AFE?

4 A. Yes.

5 Q. Have you received any objection from
6 Anadarko about any of the items set forth in the
7 AFE?

8 A. No. And, as indicated on their June
9 3rd letter, they didn't have any problems with
10 it, either.

11 Q. Is this AFE prepared during the
12 ordinary course of doing business at Nearburg,
13 whereby you have a drilling engineer specifically
14 assigned to generating this type of data?

15 A. Yes.

16 Q. Is this the type of information you
17 would rely on for yourself in making decisions
18 about this well?

19 A. Yes.

20 Q. What is your opinion, then, about
21 whether this AFE is reasonable and accurate?

22 A. It's reasonable. I even pulled a few
23 old AFEs in the area that were submitted to us to
24 join in wells, and it's within, given the depth
25 differences, it's very similar to what had been

1 submitted by other companies for a Morrow well.

2 Q. Other companies have submitted similar
3 AFEs to you or your company, and you've signed
4 off on paying for wells of this category within
5 this price range?

6 A. Yes.

7 Q. Let's deal with the proposed overhead
8 rates. Have you and Anadarko discussed the
9 proposed overhead rates in the proposed operating
10 agreement?

11 A. Yes.

12 Q. For the Examiner's benefit, will you
13 tell us what your proposed rates are?

14 A. Drilling well rate of \$6,000 per month
15 and an operating well rate of \$600 per month.

16 Q. Mr. Fitzgerald, are you familiar with
17 the Ernst & Young tabulation of overhead rates?

18 A. Yes.

19 Q. How does your proposal compare to their
20 tabulation?

21 A. These are higher than the Ernst & Young
22 report, but they are not in what I found to be
23 costs charged to Nearburg by other operators for
24 other similar type wells in the area.

25 Q. I'm sorry. Say that again.

1 A. They're higher than the Ernst & Young
2 report, but not higher than what other operators
3 charge Nearburg in the area for similar wells.

4 Q. Did Anadarko dispute your proposed
5 overhead rates?

6 A. No, other than what they said in their
7 letter and in our conversation on Monday, when I
8 said we would not change his request under the
9 accounting procedure labeled No. 1, he said,
10 "Fine," and he said "We'll leave the rest of it
11 alone as long as you'll change item No. 1," in
12 what he considered the operating agreement, and
13 Item No. 3 under the accounting procedure.

14 Other than that, the overhead and
15 drilling well rates were acceptable. He didn't
16 raise any questions.

17 EXAMINER MORROW: Where did he address
18 those in his letter?

19 THE WITNESS: You see under accounting
20 procedure, you see his item No. 1 there? It
21 says, "Please delete the reference to
22 professional employees associated with the sale
23 of gas and/or casinghead gas from paragraph II
24 3.A.(4) and III.I.iii."

25 We've agreed to that. And then you see

1 that "Anadarko will agree to the 'Overhead -
2 Fixed Rate Basis' as set out in III.A.1, provided
3 that the expenses that are referenced there are
4 covered by the overhead rates." And he and I
5 agreed we would not change that, that they would
6 be covered by the overhead rates, and that the
7 overhead rates would remain as submitted in the
8 JOA.

9 Q. (BY MR. KELLAHIN) And he withdrew his
10 request for these changes?

11 A. Exactly.

12 Q. All right. The actual dollars to be
13 assigned to that blank line in the operating
14 agreement is a rate that is within the range that
15 you are currently paying other operators for
16 similar wells?

17 A. Correct.

18 Q. Let's deal with a minor issue. The
19 operating agreement also has a COPAS accounting
20 procedure attached to it?

21 A. Yes.

22 Q. Within that procedure, there is a
23 method by which these existing rates are
24 escalated over time, are there not?

25 A. Correct.

1 MR. KELLAHIN: Mr. Examiner, appended
2 to the operating agreement is the COPAS
3 attachment. And if you care to turn that
4 attachment, you'll find on page 4, at the bottom
5 of that bulletin, just above subparagraph B
6 there's a number "3" in parenthesis, that is the
7 escalator provisions, if you will, by which many
8 of the pooling orders allow the operator to
9 escalate the overhead rates in the force pooling
10 orders.

11 Mr. Carr just requested it for
12 Mewbourne, we're requesting it for Nearburg, and
13 we've done so in our original application. I'm
14 sorry the Division orders don't consistently have
15 that escalator in it, because it really is very
16 helpful. When part of the interest owners cite
17 an operating agreement, their overheads are going
18 to escalate under this procedure. If we don't
19 have the pooling orders concurrently tied into
20 the same escalator, then it's an accounting
21 nuisance. So, we would request this.

22 EXAMINER MORROW: I believe they've
23 been included when requested.

24 MR. KELLAHIN: That's true, and we're
25 making that request.

1 Q. In addition, there's something else a
2 little different here, Mr. Fitzgerald. The
3 Applicant in the case is Nearburg Exploration
4 Corporation, but in fact your proposal is that
5 Nearburg Producing Company be designated as the
6 operator?

7 A. Correct.

8 Q. Explain to the Examiner the
9 relationship.

10 A. Nearburg Producing Company is the
11 operating company, and Nearburg Exploration is
12 the company which owns the working interest and
13 such.

14 Q. So, when you file an operator's report
15 with the Division, that's done by the Producing
16 Company?

17 A. Correct.

18 MR. KELLAHIN: We would request that.
19 It's in our original application.

20 EXAMINER MORROW: Who did you want to
21 be the operator?

22 THE WITNESS: Nearburg Producing
23 Company.

24 Q. (BY MR. KELLAHIN) Can you think of
25 anything else you might do to reach an agreement

1 with Anadarko, despite what you've already tried?

2 A. I believed as far as the AFE, the JOA,
3 that has been worked out where it's acceptable to
4 them. As Mr. Smith replied to me on the phone,
5 the only question they had was from their
6 geologic department, who had not finished their
7 review and they didn't know whether they wanted
8 to participate in the well, or go in as a
9 nonconsenting party.

10 Q. Have you exhausted your efforts to get
11 a voluntary agreement?

12 A. Yes.

13 Q. And you're ready to proceed with the
14 well, are you not?

15 A. Yes.

16 Q. Let's turn now to the last topic, the
17 specifics of the nonparticipating royalty
18 interests, and if you'll turn with me to your
19 Exhibit No. 4?

20 A. Yes. This is the instrument which, if
21 you'll allow me, the Badger, et al., heirs
22 executed in December of 1945, into Richfield Oil
23 Corporation, which is now Arco. At the time they
24 owned the surface and minerals, as I indicated in
25 my Exhibit 2, Tracts 1 and 2 in the north half of

1 Section 26.

2 At that time, they sold all their
3 rights to Richfield Oil Corporation, retaining a
4 1/16 of 1/8 nonparticipating royalty interest.

5 Since that time, they don't appear in
6 record title in Eddy County records. We have, as
7 I said earlier, looked in the surrounding
8 counties for evidence of these people. We have
9 also, if you'll note, the notaries for this
10 instrument were done in Travis and Bexer County,
11 Texas. We've investigated in those counties,
12 looking for these people, and haven't come up
13 with anything, either.

14 Q. I want to show you a copy of the
15 application we filed in this case, Mr.
16 Fitzgerald, and have you confirm for me whether
17 on page 3, paragraph 10 of the application, we've
18 correctly identified the parties you believe have
19 this nonparticipating royalty interest.

20 A. Yes, those are the people.

21 Q. If the Examiner chooses to approve your
22 request, and he might do so by lifting paragraph
23 10 out of the application, repeating it somewhere
24 within the context of the order, and showing that
25 interest to be pooled from the surface to the

1 base of the Morrow, that would fulfill the
2 requirements you're seeking to accomplish?

3 A. Correct.

4 Q. All right. Anything else, Mr.
5 Fitzgerald?

6 A. That is all, I believe.

7 MR. KELLAHIN: All right, sir. We move
8 the introduction of Nearburg's Exhibits 1 through
9 4.

10 EXAMINER MORROW: Exhibits 1 through 4
11 are admitted.

12 EXAMINATION

13 BY EXAMINER MORROW:

14 Q. Mr. Kellahin asked you the approximate
15 percentage of that nonparticipating royalty
16 interest. Do you have an approximate number?

17 A. I can come up with the exact number if
18 I had my calculator. It would be $1/16$ of $1/8$ of
19 152 over 320, and I hadn't bothered to calculate
20 it yet.

21 Q. And the $1/8$ would be the base royalty,
22 so that would be their net revenue interest from
23 all--

24 A. Yes, and you proportionately reduce it
25 for all interests.

1 Q. In reading this, I'm not sure exactly
2 what rights a nonparticipating royalty interests
3 would have, but it occurred to me probably they
4 would be subject to whatever lease agreement was
5 negotiated by the participating royalty interest
6 owners?

7 A. Only to the extent to develop the
8 minerals, there. But you can't dilute their
9 interest without their permission.

10 Q. And the dilution would occur?

11 A. By making this a 320-acre unit versus
12 their 150-acre tract that they had in the north
13 half of 26. And the well will be located on
14 their 152-acre tract. Thereby, if we don't--if
15 the order doesn't allow us to pool this interest,
16 then it will cause a greater royalty burden to be
17 paid, thereby affecting the economics of this
18 well, because you wouldn't be able to dilute them
19 over the 320-acre tract.

20 Q. You said you investigated it in Bexar
21 and Travis County. What did you do down there?

22 A. We looked through probate records and
23 tax records for their names and tried to look for
24 historical tax records, trying to go back as far
25 as we could, because usually you can find

1 something by owning other property in those
2 counties, such as real estate, and so far we
3 haven't been able to find any of these people.

4 Q. And you looked in Eddy and Lea County?

5 A. Yes, sir; Eddy, Lea, Chaves and all the
6 surrounding counties of Eddy, in case they had
7 other property that might have been sold at a
8 later date or something.

9 Q. A little more on the Anadarko letter.
10 On the operating agreement, No. 1 there, did you
11 agree to that?

12 A. Yes, sir.

13 Q. And on No. 3, was that agreed to?

14 A. Yes, sir. And I also agreed under the
15 accounting procedure, No. 1 there, we did agree
16 to make that change. What we didn't agree to
17 was, under No. 2, where it says that--

18 Q. No. 2 was the only point where you had
19 any disagreement, and you all discussed that and
20 came to an agreement?

21 A. Right, and it doesn't involve changing
22 the overhead or the drilling well rate.

23 Q. And the risk, I guess, somebody else
24 will talk about?

25 A. I'll let the geologists talk about

1 that.

2 EXAMINER MORROW: Okay. Thank you,
3 sir.

4 MR. KELLAHIN: Mr. Examiner, we will
5 call, at this time, Mr. Jerry Elger. Mr. Elger
6 is a geologist.

7 **JERRY ELGER**

8 Having been first duly sworn upon his oath, was
9 examined and testified as follows:

10 EXAMINATION

11 BY MR. KELLAHIN:

12 Q. Would you please state your name, sir?

13 A. Jerry Elger.

14 Q. On prior occasions, Mr. Elger, have you
15 testified as a geologist before the Division?

16 A. Yes, I have.

17 Q. Pursuant to your employment by your
18 company as a geologist, have you made a geologic
19 investigation of this proposed well site?

20 A. Yes, I have.

21 Q. Have you concluded that study?

22 A. Yes, I have.

23 Q. And, based upon that study, do you now
24 have certain geologic opinions concerning the
25 well location and the risk factor penalty you're

1 requesting from the Examiner?

2 A. Yes, I do.

3 MR. KELLAHIN: We tender Mr. Elger as
4 an expert petroleum geologist.

5 EXAMINER MORROW: So accepted.

6 Q. Let me turn your attention to Exhibit
7 No. 5.

8 A. Exhibit 5 is a structure map of the
9 area, including the proposed north half of
10 Section 26. It's a structure map developed by me
11 on the top of the Lower Morrow. Basically, what
12 it shows, is that the proposed drill site is in
13 an area where the dip is to the southeast at the
14 rate of approximately 100 feet per mile.

15 Q. When we look at the display, the well
16 location in the northeast of 26 that's shaded
17 with the red shading, that's your proposed
18 location?

19 A. That is correct.

20 Q. Tell us the exact footage.

21 A. The footage for that location is 1450
22 from the north line and from the east line.

23 Q. The closest standard location, then, is
24 100 plus feet farther to the west than your
25 proposed location?

1 A. Well, it would be farther than that.
2 1980 from the east line.

3 Q. And 1450 was the other number?

4 A. Yes, it was 1450 from the north and
5 east lines.

6 Q. All right. The other well symbols,
7 starting in Section 23, tell us what we're
8 looking at.

9 A. Okay. All Morrow penetrations that are
10 displayed on this map have a hexagonal symbol
11 around them. There are basically four; two wells
12 in Section 23 and two wells in Section 26, which
13 are Morrow penetrations.

14 The subsea datum that you see displayed
15 by each of those wells, it represents the top of
16 the Lower Morrow. From that control, the
17 structure map was developed.

18 Two wells, you'll notice, have been
19 shaded in orange. Those wells were or are
20 currently active producers from the early, Middle
21 Morrow sand, which is the main objective for this
22 Morrow test. You'll see that in Exhibit 6 and
23 Exhibit 7.

24 Q. Were you involved in the exploration
25 geology for any of these other wells?

1 A. No, I was not.

2 Q. Have you examined the available log
3 data from that effort?

4 A. Yes, I have.

5 Q. To your knowledge, were any of these
6 prior wells being located and drilled based upon
7 seismic interpretation?

8 A. All of the previous locations that you
9 see out here were developed on the basis of
10 subsurface geology, only.

11 Q. Describe for us, in your opinion, the
12 type of Morrow reservoir you're looking for.
13 What type of deposition do we have?

14 A. We're looking at fluvial, deltaic type
15 channel systems, feeder-type channel systems.
16 They have a tendency to meander.

17 Typically, the Morrow sands, which are
18 the most prolific producers in those type of
19 systems, are point bar deposits or channel bar
20 type deposits. You get a lot of cleaning, a lot
21 of winnowing of the sands that develop good
22 porosity and permeability.

23 Q. Have any of the prior efforts to
24 achieve commercial production out of this Middle
25 Morrow, in the immediate vicinity, been a

1 commercial success?

2 A. One of the four previously drilled
3 wells is not considered an economic success--it's
4 an economic success, but it's not a tremendous
5 well. That's the well in the southwest quarter
6 of 26. That wellbore, as we'll see on Exhibit 7,
7 has cum'd roughly 1.5 Bcf.

8 Q. Notwithstanding the additional seismic
9 data that you and others have utilized, do you
10 have an opinion as to the appropriate percentage
11 risk factor penalty to apply to the risk of
12 carrying Anadarko's interest?

13 A. Yes, I would say a well cost plus 200
14 percent.

15 Q. Two seismic lines shown on the display?

16 A. Two seismic lines; an east/west seismic
17 line which has been titled Nearburg Producing
18 Company line 33, and a north/south line, Nearburg
19 Producing Company line 31. Those two lines
20 intersect in very close proximity to our proposed
21 Morris 26 G No. 1 location.

22 Q. Are those the two closest seismic lines
23 to your proposed location?

24 A. Yes, they are.

25 Q. Have you worked with Mr. Durham, your

1 geophysicist, to make this geologic
2 interpretation and to reach the conclusion about
3 where to place this well?

4 A. Yes.

5 Q. Having done all that work, explain to
6 me why we're proposing this well at this
7 location.

8 A. If I could refer to Exhibit 7?

9 Q. All right. Let's look at that one.
10 Let's skip the cross-section, and I'm looking at
11 an isopach. Is that 7?

12 A. You're looking at an isopach map of the
13 Middle Morrow sand. This map was developed from
14 subsurface geology where, obviously, we mapped a
15 much more extensive area than what's displayed on
16 this particular map, and we have projected where
17 the Middle Morrow channel deposits run across
18 this particular area.

19 There is other well control involved to
20 the north of here as well as to the south of
21 here, and across the prospect area you'll see
22 where the interpretation is that there are two
23 distinct channel systems that run north/south
24 orientations across this prospect area. One is
25 off to the west side of the map, and the other is

1 across the prospect area where the proposed drill
2 site is.

3 Q. We're accustomed to seeing
4 presentations before the Division where seismic
5 data is used to interpret structural position, to
6 find structural components, if you will, in the
7 reservoir. Is that the type of application we're
8 looking at here?

9 A. No, it's not.

10 Q. What do you see and what are you
11 telling us?

12 A. If you look down in the map legend,
13 you'll see a little area that's designated as a
14 yellow shaded area. That area represents an area
15 that has been seismically defined by these two
16 lines as a Morrow thick, based on what's called
17 an amplitude anomaly of the data across and
18 through the Morrow.

19 That area is limited in the northeast
20 quarter of Section 26, just south of shot point
21 130 to approximately shot point 125 on line 31.
22 In the east/west direction, on line 33, the
23 amplitude anomaly consistent with Morrow thicks
24 is represented by that area. Again, the same
25 shading, from roughly shot point 165 to roughly

1 shot point 175.

2 The proposed drill site has been
3 situated such that it encroaches as little as
4 possible to an unorthodox location and yet stays
5 within the confines of the amplitude anomaly that
6 has been defined by these two seismic lines.

7 Q. Define for me how you're using or
8 describing "amplitude anomaly."

9 A. Amplitude anomaly--well, I see might
10 defer that question to our expert geophysicist
11 along to, more or less--I'm not an expert in
12 geophysics, but it's my understanding that you're
13 looking at a particular trace of a seismic, line
14 and it departs from the normal signature trace
15 and then reverts back to that signature trace.

16 You can use synthetic seismograms to
17 help you ascertain what you're looking at, in
18 terms of the departure from the normal trace.
19 Those are what my understanding is of an
20 amplitude anomaly, and that's what we're seeing
21 here in the northeast quarter of Section 26.

22 Q. Again, then, what causes you to put
23 this well at this proposed location?

24 A. We think the amplitude anomaly that we
25 see on both of the seismic lines is consistent

1 with a very thick section of the Morrow.
2 Obviously we want to drill in the Morrow, not
3 just a Morrow thick but a sand thick within the
4 Morrow. What we think we've defined is an area
5 where we'll be drilling or, hopefully, locating
6 this test within a very thick Morrow section.

7 Q. One final point. If we were to move to
8 the closest standard location 500 feet to the
9 west, then you're going to be out of this
10 particular--

11 A. We'll be out of the amplitude anomaly
12 as it's been defined on these two seismic lines.

13 Q. Let's look at the cross-section.
14 That's marked as Exhibit No. 6, I believe?

15 A. That's correct. This cross-section is
16 a stratigraphic cross-section; the datum of which
17 is the top of the Lower Morrow, which is the
18 structure map datum that was utilized in Exhibit
19 5. The align of the cross-section is displayed
20 on the land map in the lower left-hand corner of
21 the cross-section. It runs from a well down in
22 Section 3 of the adjoining township and range to
23 the south, a well that was operated by Nearburg
24 Producing Company and called the Huber Federal
25 #1.

1 Q. Why would you tie into the Huber
2 Federal #1?

3 A. We wanted to show what a sand thick
4 within this channel system looked like; that, in
5 combination with the fact that Nearburg has
6 conducted seismic operations through this
7 particular wellbore and has modeled it as the
8 basis for defining their seismic amplitude
9 anomalies.

10 That wellbore was perforated in the
11 sand interval that you see as the depth column,
12 marked in red, and has produced in excess of 7
13 Bcf per date. It still continues to be an
14 excellent sand producer.

15 Q. That's the best of the wells shown on
16 the cross-section, is that correct?

17 A. That's correct.

18 Q. What's the vintage, approximately, of
19 this well?

20 A. All of these wells were drilled 5 to 7
21 to 8 years ago.

22 Q. As we move left to right on the
23 cross-section, the next well, the Boyd 26 M?

24 A. The next well is the Boyd 26 M. If you
25 refer to Exhibit 7, it's the producing well,

1 shaded orange, in the southwest quarter of
2 Section 26. It's shaded orange because it's
3 producing out of this sand system that we're
4 trying to develop also in the northeast corner of
5 Section 25.

6 Q. What kind of cum do you have on that
7 one?

8 A. 1.52 Bcf.

9 Q. You move to the Morris 26 E?

10 A. That's the well in the northwest
11 quarter of Section 26. You can see that that
12 well has about 13 feet of a very dirty looking
13 sand. It's obviously on the edge of the main
14 channel system. It was not production tested or
15 drill-stem tested, it was considered to be too
16 tight to be hydrocarbon-bearing.

17 Q. It's now a Glorieta oil well?

18 A. It's a Glorieta completion, that's
19 correct.

20 Q. We pass through your proposed location
21 and get to the well on the far right?

22 A. That well is in the southeast quarter
23 of Section 23. It's also a Nearburg well, the
24 Parino Com No. 1.

25 Q. You don't show the perforations

1 highlighted in the mid-sand-section, but those
2 perforations are listed below the log section on
3 that well?

4 A. That's correct. The sand section
5 that's shaded in yellow is basically where the
6 gas productive interval was in this wellbore.
7 The total cumulative production from that well is
8 about 120 million cubic feet, which is very
9 subcommercial.

10 Q. Is it still producing out of the
11 Morrow?

12 A. I don't believe it is. I believe it's
13 been plugged back to the Strawn, to a little thin
14 Strawn sand. So that was the total cum from the
15 life of the well in the Morrow.

16 Q. Using the cross-section, describe for
17 us your objective, then, with the well at this
18 location.

19 A. What we think we're seeing here at this
20 Parino Com No. 1 location, is another well that's
21 developed on the edge of one of these early,
22 Middle Morrow channel deposits. You'll notice
23 that the Shape of the yellow shaded area is
24 consistent with a point bar type of deposit.

25 I've taken some geological

1 interpretation and tied in the amplitude anomaly
2 in the northeast of Section 26, and have
3 developed that up towards this Parino Com well,
4 and have it on the north end of the point bar
5 deposit. So, we think we have an area where
6 there's a potential to develop some reserves from
7 a much thicker section than what's developed in
8 the Parino Com.

9 If you'll notice the north/south
10 seismic line, line 31, between shot points 140
11 and 150, runs very close to the Nearburg Parino
12 Com, and there is no evidence of any kind of a
13 seismic amplitude anomaly in the area proximal to
14 this wellbore. So what we're seeing is a better,
15 thicker sand than what was encountered in the
16 Parino well.

17 Q. Even with the application of the
18 seismic interpretation, this is still very risky,
19 is it not?

20 A. It still is very risky. The sand could
21 be wet, the sand could be tight. There are
22 places along here where you have fairly
23 well-developed sands but the porosity is not
24 developed. So, there still is a great deal of
25 risk involved in this location.

1 MR. KELLAHIN: That concludes my
2 examination. We move the introduction of
3 Exhibits 5, 6 and 7.

4 EXAMINER MORROW: Exhibits 5, 6 and 7
5 are admitted.

6 EXAMINATION

7 BY EXAMINER MORROW:

8 Q. On Exhibit 7, as you drew that
9 amplitude anomaly up over into Section 25 and up
10 into Section 24, did you have any control there
11 or was there anything from your seismic data that
12 caused you to think that that would be there, or
13 not?

14 A. Well, it was placed within the
15 confines. You'll see the basic outline of the
16 channel itself is the very dark yellow shaded
17 area. I've tried to, basically, follow along a
18 20-foot contour interval in terms of thickness.

19 That channel direction and orientation
20 is, again, based on the projection of this system
21 from the north, where we have more extensive well
22 control. We know that the Parino well is, again,
23 probably a marginally located, edge-of-the-system
24 type of a well. When you look at the gamma ray
25 on the Parino well, it's a very high gamma ray.

1 That's fairly consistent with a lot of shale and
2 dirt in the sand.

3 It's a marginal well, and is not
4 centrally located in any channel bars or point
5 bars within the system, but it's probably within
6 the system. Again, there's no amplitude anomaly
7 in Section 31, so the orientation of the point
8 bar, which point bars tend to have an arcuate
9 sort of geometry to them, was to run this from
10 the northeast of 26, across as you see into a
11 portion of the northwest part of 25 and southwest
12 part of 24, towards the Parino well.

13 Q. You pulled it over to the Parino well
14 just based on the fact that it produces?

15 A. Based on the fact it made a little gas
16 and it's probably on the edge of one of these
17 point bar types of things.

18 Q. But you got control, if I understand
19 it, from your seis data, at the point where your
20 lines passed through the anomaly, is that
21 correct?

22 A. That's correct.

23 Q. At .180 there, you weren't seeing
24 anything up there to the north?

25 A. That's right. At .180 you're back to a

1 normal type of signature there on your cycle.

2 Q. Most of that, I'm sure it's good, but
3 there are no points to base it on other than your
4 general knowledge of the way Morrow sand lays, is
5 that correct?

6 A. That's correct.

7 Q. On Exhibit 5, which was your location
8 there, I guess it was not--let's see. The
9 structure is running to the--

10 A. Southeast. It dipped to the southeast
11 at about a hundred feet a mile. We expect to
12 be--

13 Q. So, based on structure, further west
14 would have been better if you didn't know what
15 you did about the anomaly, or might have been?

16 A. Possibly.

17 Q. You would have been completely out of
18 your channel, basically?

19 A. The solution gas reservoir structure
20 really doesn't have a whole lot of influence. If
21 you hit the sand gas bearing, you'll drain the
22 farther west locations.

23 EXAMINER MORROW: Thank you, Mr.
24 Elger.

25 MR. KELLAHIN: You might keep Exhibit 7

1 out, Mr. Examiner. I'll call our next witness,
2 Mr. Durham, and have him discuss some of the
3 concepts in his application.

4 **TERRY E. DURHAM**

5 Having been first duly sworn upon his oath, was
6 examined and testified as follows:

7 EXAMINATION

8 BY MR. KELLAHIN:

9 Q. Mr. Durham, for the record would you
10 please state your name and occupation?

11 A. I am Terry Durham, senior geophysicist.

12 Q. Mr. Durham, on prior occasions, have
13 you testified in that capacity before this
14 Division?

15 A. Yes, I have.

16 Q. Have you made a geophysical study and
17 investigation for this proposed well?

18 A. Yes, I have.

19 Q. Is this part of the work you would
20 normally do for Nearburg, making technical
21 evaluations and providing support for the other
22 technical people in finding well locations?

23 A. Yes, that's correct.

24 MR. KELLAHIN: We tender Mr. Durham as
25 an expert geophysicist.

1 EXAMINER MORROW: We accept Mr. Durham.

2 Q. Before we talk about the application of
3 this method, help us have a working understanding
4 of how you define amplitude anomaly.

5 A. Okay. Well, seismic data, as it's
6 recorded, you record a time and an amplitude at
7 that particular time. These time intervals are
8 discrete recorded intervals, be they at two
9 milliseconds or four milliseconds, and we
10 typically record up to three seconds of this data
11 at two to four millisecond intervals.

12 At each one of these intervals we
13 record amplitude, also, for that interval. And
14 in a typical seismic interpretation, we primarily
15 look at structural information, to tell us how
16 high we are to nearby wells, location of faults,
17 things like that.

18 In an attempt to extract more
19 information from seismic data, we're beginning to
20 look more and more at amplitudes themselves, to
21 give us an idea of the lithologies or the changes
22 in the rocks, other than just pure structure.
23 And that, in a summary, is what we're looking at
24 here.

25 Q. How do you apply that concept to this

1 particular well location?

2 A. For this well, I did use a model of the
3 Huber Federal well, which is on cross-section
4 Exhibit No. 6, on the left side of the
5 cross-section. As Mr. Elger mentioned, we did
6 have seismic data through that wellbore.

7 We prepared a synthetic seismogram from
8 a sonic log on that well and, from this synthetic
9 seismogram we are able to calibrate the exact
10 location of where the Middle Morrow sands are,
11 and from that we're able to look at the discrete
12 amplitudes for that interval.

13 In my interpretation of that particular
14 seismic line, I noted that there was a high
15 amplitude interval that was constrained to a
16 narrow area within about 600 feet on either side
17 of the wellbore. By looking at that amplitude,
18 then, I interrupted that that was the channel
19 that passed through and that the seismic line
20 intersected.

21 Using that as a model, I interpreted
22 seismic lines 31 and 33 in the northeast corner
23 of Section 26, and also noted a similar type
24 amplitude anomaly, and that helped to constrain
25 or confine the interpretation of what we believe

1 to be the Morrow channel to shot points 130
2 through 122 on line 31, and approximately 165
3 through 175 on line 33, and that was the basis
4 for the stippled area around those two lines.

5 Q. In the absence of any concern about
6 encroachment onto offsetting properties, where
7 would the optimum location be, then, for the
8 well?

9 A. We feel that the current location is an
10 optimum location, because we're within the
11 seismic confines of the amplitude anomaly. And,
12 in picking out a location, we moved as far west
13 as possible within the amplitude anomaly as we
14 felt comfortable, and so we're using those
15 constraints because we feel it's a good location.

16 Q. Do you share Mr. Elger's conclusion
17 about the risk factor component, that even with
18 the seismic information, this is still a very
19 risky well and that it justifies the maximum
20 penalty awarded by the Division for wells of this
21 category?

22 A. That's correct. The seismic data does
23 help us to reduce some of the risk, but there are
24 still risks involved. Like he mentioned, we
25 could encounter a thick sand, which gives us this

1 amplitude anomaly, but the porosity may be
2 absent. We would still have a good amplitude
3 anomaly. We may have a small gas effect versus a
4 good gas well, and the amplitude anomaly would be
5 really very hard to detect between a good gas
6 well and a poor one, so the risk factor is
7 definitely still there.

8 MR. KEILAHIN: That concludes my
9 examination of Mr. Durham.

10 EXAMINATION

11 BY EXAMINER MORROW:

12 Q. Okay. In defining your amplitude
13 anomaly, the points of intersection with your
14 seis lines are the points of control that you
15 have, is that right?

16 A. That's correct.

17 EXAMINER MORROW: Thank you, sir. I
18 appreciate your testimony.

19 MR. KEILAHIN: Mr. Examiner, Exhibit 8
20 is my certificate of compliance with the notice
21 requirements of the Division, and it sets forth
22 copies of the return receipt cards by which we
23 have sent, certified mail, a copy of the original
24 application before the Division.

25 As Mr. Fitzgerald testified, neither he

1 nor I are aware of any opposition to approval of
2 the application. With the introduction of
3 Exhibit 8, that concludes our presentation.

4 EXAMINER MORROW: Exhibit 8 will be
5 accepted into the record. I do have one other
6 question, and you may be able to answer it, or
7 possibly Mr. Fitzgerald.

8 Was the 200 percent penalty contained
9 in the material that was submitted to Anadarko
10 for their review?

11 MR. KELLAHIN: Yes, sir. It would have
12 been included only indirectly by reference to the
13 subsequent well penalty provisions of the Joint
14 Operating Agreement that are set forth in the
15 document.

16 Anadarko is certainly knowledgeable
17 about the penalties imposed by the Division and,
18 as I understand it, there's no dispute about
19 that.

20 EXAMINER MORROW: You understand, then,
21 that they agree? Let's ask Mr. Fitzgerald to
22 come back, and we'll ask him.

23 **JOE FITZGERALD**

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

FURTHER EXAMINATION

BY EXAMINER MORROW:

Q. Mr. Fitzgerald, is it your opinion that Anadarko was aware of your proposed 200 percent penalty and they were in agreement with that?

A. It's my opinion that they are aware that we would be asking for a 200 percent penalty.

I would like to point out, in the operating agreement we submitted to them, which, as we discussed they didn't bring this out as a problem, on page 6 of the JOA it provides for a penalty of 500 percent, if they were to join, and then we proposed a second well later and they went nonconsent. Then they would be subject to a 500 percent penalty, which they did not object to as you can see in their letter of June 3rd.

So, if they didn't object to 500 percent, I don't see how they would object to 200 percent penalty, under the Commission's order.

EXAMINER MORROW: Thank you. Case 10997 will be taken under advisement.

(And the proceedings concluded.)

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10997, heard by me on June 9, 1994.


_____, Examiner
Oil Conservation Division


CERTIFICATE OF REPORTER

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

I, Carla Diane Rodriguez, Certified
Shorthand Reporter and Notary Public, HEREBY
CERTIFY that the foregoing transcript of
proceedings before the Oil Conservation Division
was reported by me; that I caused my notes to be
transcribed under my personal supervision; 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 15, 1994.


CARLA DIANE RODRIGUEZ, RPR
CCR No. 4