

NEW MEXICO OIL CONSERVATION DIVISION

STATE OF NEW MEXICO

CASE NOS. 10547 AND 10548

CONSOLIDATED

IN THE MATTER OF:

The Applications of Benson-Montin-Greer
Drilling Corporation for a high
angle/horizontal directional drilling
pilot project, Rio Arriba County,
New Mexico.

BEFORE:

MICHAEL E. STOGNER

Hearing Examiner

September 3, 1992

REPORTED BY:

DEBBIE VESTAL
Certified Shorthand Reporter
for the State of New Mexico

COPY

A P P E A R A N C E S

FOR THE NEW MEXICO OIL CONSERVATION DIVISION:

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

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BY: **WILLIAM F. CARR, ESQ.**

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WITNESSES FOR THE APPLICANT:

1. JOHN D. ROE

Examination by Mr. Kellahin

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Examination by Examiner Stogner

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Certificate of Reporter

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1 EXAMINER STOGNER: This hearing will
2 come to order. I'll call at this time both Cases
3 10547 and 10548.

4 MR. STOVALL: Each of which, both of
5 which --

6 EXAMINER STOGNER: Go ahead, Mr.
7 Stovall.

8 MR. STOVALL: -- is the application of
9 Benson-Montin-Greer Drilling Corporation for a
10 high angle/horizontal directional drilling pilot
11 project in Rio Arriba County, New Mexico.

12 EXAMINER STOGNER: Call for
13 appearances.

14 MR. KELLAHIN: May the Examiner,
15 please, I'm Tom Kellahin, of the Santa Fe law
16 firm of Kellahin & Kellahin, appearing on behalf
17 of the applicant, and I have one witness to be
18 sworn.

19 MR. CARR: May it please the Examiner,
20 my name is William F. Carr, with the Santa Fe law
21 firm, Campbell, Carr, Berge and Sheridan. I
22 represent American Hunter Exploration, Limited.
23 I do not intend to call a witness.

24 EXAMINER STOGNER: Both you gentlemen
25 have agreed that these two cases can be

1 consolidated?

2 MR. CARR: We have.

3 EXAMINER STOGNER: So, Mr. Kellahin,
4 you may proceed.

5 MR. STOVALL: Can I swear in Mr. Roe
6 here? I would really like to do that.

7 MR. CARR: May it please the Examiner,
8 I would like the record to reflect I've been
9 given two files that contain no exhibits.

10 MR. STOVALL: Kellahin tries to pull
11 something every time he does this.

12 EXAMINER STOGNER: So what's your
13 point, Mr. Carr?

14 MR. CARR: I'm at least not confused
15 yet.

16 EXAMINER STOGNER: Let the record show
17 that Mr. Kellahin has given Mr. Carr exhibits to
18 stuff in the files.

19 Mr. Kellahin.

20 MR. STOVALL: I'd still like to swear
21 Mr. Roe.

22 MR. KELLAHIN: Yes, I believe so.

23 EXAMINER STOGNER: In that case do so.

24 JOHN D. ROE

25 Having been duly sworn upon his oath, was

1 examined and testified as follows:

2 EXAMINATION

3 BY MR. KELLAHIN:

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

6 A. My name is John Dale Roe, Jr. I'm an
7 engineering manager for Dugan Production
8 Corporation in Farmington, New Mexico.

9 Q. On prior occasions have you testified
10 as an expert petroleum engineer before the Oil
11 Conservation Division and the Oil Conservation
12 Commission in New Mexico?

13 A. Yes, I have.

14 Q. With regards to these two applications
15 by Benson, Montin, and Greer, have you been
16 retained as a consultant by him, Mr. Greer, to
17 present his case with regards to these two
18 matters?

19 A. Yes.

20 Q. As part of your engineering duties,
21 have you made a study of the details regarding
22 this particular application?

23 A. Yes, I have.

24 MR. KELLAHIN: We tender Mr. Roe as an
25 expert petroleum engineer.

1 EXAMINER STOGNER: Are there any
2 objections?

3 MR. CARR: No objections.

4 MR. STOVALL: No.

5 EXAMINER STOGNER: Thank you.

6 Mr. Kellahin.

7 Q. Mr. Roe, let me have you turn to the
8 package of information that is in the exhibit
9 package for case 10547. If you'll take the first
10 display, help us orient ourselves as to the
11 information shown on that exhibit and to each of
12 the two proposed special high angle/directionally
13 drilled projects that Benson-Montin-Greer seeks
14 approval for.

15 A. Yes. On Exhibit No. 1 it's basically
16 intended to just provide a picture of the
17 pertinent things regarding the two wells that are
18 the subject of these two cases, along with the
19 existing well development status in this general
20 area.

21 The boundary outlined in pink
22 identifies what is the current northern boundary
23 of the West Puerto Chiquito-Mancos Oil Pool.
24 I've outlined in yellow what is the lease
25 boundary for the lease that the two wells that

1 we're proposing are located on. It's the
2 Jicarilla 404 lease. And both wells that we're
3 proposing in these two cases are located on that
4 same lease. And again that boundary is outlined
5 in yellow.

6 I've also identified the two wells that
7 we're looking at, the Jicarilla 404 No. 3, which
8 is in the northwest quarter of Section 9, and
9 also identified the BMG's proposed Jicarilla 404
10 well No. 2, which is in Section 10.

11 Q. The display shows the proposed spacing
12 unit for each of those wells?

13 A. Actually I meant to outline the spacing
14 unit. The spacing unit for each well would be
15 the 640 acres comprised in the respective
16 sections that the well's located in.

17 Q. We look at Section 9 then for the well
18 404 No. 3, which is Case 10547, and the proposal
19 would be to dedicate that approximately 640 acres
20 to that well?

21 A. Yes, sir. There is 640 acres in that
22 section. That would be the spacing unit.

23 Q. When you move over to Section 10 for
24 the 404 No. 2 well, which is Case 10548, what
25 will be the spacing unit for that well?

1 A. The spacing unit for that well would be
2 all of Section 10, which also contains 640
3 acres.

4 Q. Within each of those sections, there is
5 a smaller square enclosing the number that
6 identifies the section. What does that intend to
7 represent?

8 A. The square that's inscribed basically
9 around the center of the section represents a
10 square that is 1650 feet from all section lines.
11 The 1650 feet represents two things. The purpose
12 of putting it on this map is that would be our
13 projected bottomhole target area.

14 At the current time we're not able to
15 feel comfortable in spending a lot of time
16 preparing a detailed wellbore profile.

17 The 1650 foot square also represents
18 the setback. This is stipulated in the West
19 Puerto Chiquito Pool Rules.

20 Q. If you honor the 1650 setback for the
21 pool, that would apply to any production with
22 this well from the entire vertical limits of the
23 pool?

24 A. Yes. Mr. Greer's proposal would be to
25 locate the producing interval from the top

1 perforation, which he's hoping will be in the
2 Niobrara A, to either the total depth of the well
3 or the base of the Greenhorn, if he elects to
4 drill to the Greenhorn.

5 But that total interval, from the top
6 of the Niobrara A to the base of the Greenhorn or
7 TD in the Mancos, whichever occurs, will be
8 located within that square, and no point of the
9 producing interval of the wellbore would be
10 closer than 1650 feet to the outer boundaries of
11 the spacing unit.

12 Q. Is that drilling window both
13 horizontally and vertically limited consistent
14 with the types of approvals the Division has
15 entered for other high angle/directional drilled
16 projects?

17 A. Mr. Kellahin, I'm not sure about all of
18 the -- I haven't followed a lot of the high angle
19 projects, so I'm not sure. But what we're
20 proposing in these two applications is that the
21 producing interval would be basically within the
22 proposed setbacks, as stipulated in West Puerto
23 Chiquito-Mancos Pool Rules. And basically that's
24 the same set of rules that all other wells within
25 West Puerto Chiquito-Mancos are operating under.

1 Q. Other than having a special project
2 created and applied to this drilling production
3 window within the spacing unit and exceptions
4 from the appropriate rules of the pool that would
5 allow the high angle well to be an exception to
6 the well location requirements, if you will, are
7 you seeking any special oil allowable rates for
8 either of these wells?

9 A. No. Mr. Greer is comfortable with the
10 800 barrel of oil per day top allowable that's
11 stipulated in the special pool rules.

12 Q. Are you seeking any special gas-oil
13 ratio limitations other than what exists for the
14 pool?

15 A. No, sir.

16 Q. Are you seeking any special project
17 allowable for these particular wells?

18 A. No.

19 Q. Describe for us whether or not Mr.
20 Greer and BMG have undertaken to drill any other
21 high angle/horizontal wells in the San Juan
22 Basin.

23 A. Mr. Greer personally has been involved
24 with the drilling of -- reentry of an old well
25 that resulted in a drilling of a horizontal well

1 within the West Puerto Chiquito-Mancos Pool. And
2 more specifically it was in the Canada Ojitos
3 Unit. It's the old well No. 8.

4 And he successfully designed and
5 drilled that well, and it was engineering
6 success. It was not necessarily an economic
7 success. But irregardless the well was drilled
8 very comfortably.

9 Q. Mr. Greer is seeking the flexibility of
10 the Commission to make operational decisions in
11 the field concerning choices as to angle,
12 orientation of the azimuth, distance of the
13 lateral, things that he may determine he needs to
14 do in the field with regards to drilling this
15 project?

16 A. Yes, that is correct.

17 Q. Give us a general sense, from your
18 perspective as an engineer, about how those
19 decisions are going to be made when you plan the
20 actual location of the well and select a
21 particular orientation.

22 A. Well, if we knew just a little bit more
23 about where the top of the Niobrara would be, we
24 would be in a better shape to design the wellbore
25 at this time. This is a particular area of the

1 Niobrara where it goes from a fairly gentle slope
2 to the west, and it starts developing a very
3 steep dipping as it approaches its outcrop to the
4 east.

5 What Mr. Greer hopes to do is have the
6 flexibility of monitoring the formation tops as
7 the well is drilled. He has plans to log the
8 well with conventional openhole electric logs at
9 the base of the Mesaverde to confirm the
10 formation tops.

11 And with the geology that he has now
12 and hopes to supplement between now and whenever
13 he gets to a drilling depth in the first well
14 that would be the top of the Mesaverde -- I mean,
15 the base of the Mesaverde, he will use that
16 information to then determine a point in the
17 Mancos that will most likely exhibit the
18 fracturing that's necessary for the Mancos to be
19 commercial.

20 That depth, because of the uncertainty
21 as to how the beds are dipping right at this
22 area, we don't have a lot of well control in the
23 area. The well control we have says that the
24 beds are really beginning to start dipping right
25 in these Sections 9 and 10.

1 And we could be looking at a depth
2 difference -- well, to the west the beds dip 100
3 to 200 feet per mile. And right in this area
4 they could be as much as 1,500 to 2,000 feet per
5 mile.

6 So if he gets through the Mesaverde,
7 he'll have quite a bit better handle on where the
8 bottom of the well needs to be. And he would
9 design the angle and the direction to encounter
10 the Mancos within the target area that we've
11 outlined on Exhibit 1.

12 And whether that would require a
13 horizontal well or just a high angle well, that
14 would be a decision he'd make when he has a
15 better handle on where the top of the Niobrara
16 is.

17 Q. What in your opinion is the method to
18 be used to determine where the wellbore is at any
19 given time during the drilling process?

20 A. Well, in the last high angle well that
21 Mr. Greer drilled, or horizontal well, he used
22 the MWD equipment, and he had real good control
23 of the wellbore during the drilling process. Mr.
24 Greer isn't committed to using MWD at this point,
25 although that is one possibility.

1 If he doesn't use that, he will run the
2 necessary electrical surveys to establish the
3 location of the wellbore while he's drilling and
4 also at the end of the completion.

5 Q. Give us your opinions about the
6 appropriateness of the use of this type of
7 technology over conventional vertical wells in
8 maximizing the opportunity to produce oil out of
9 the reservoir.

10 A. Well, basically this is the trend that
11 a lot of the operators -- American Hunter to the
12 north has been using the deviated wellbores.
13 When you're dealing with a fractured Mancos
14 shale, basically in the absence of the fractures,
15 you're dealing with just a very low, permeable,
16 tight reservoir.

17 And so it's very important that you
18 encounter as much of the natural fracturing as
19 possible with your wellbore during the drilling
20 process. If you don't, you can hope to encounter
21 some of it with artificial stimulation -- or
22 stimulation after completion, although typically
23 if you don't encounter the fractures during the
24 drilling process, it's not common to fracture
25 into the fracture system.

1 Q. Within the horizontal limits of this
2 particular pool, do you show on Exhibit No. 1 any
3 of the high angle/horizontal wells drilled by
4 other operators?

5 A. Yes. There's three wells that have
6 previously been drilled. They're all three
7 drilled by American Hunter. They are indicated
8 at the very top of the map very close to the
9 northern township line of 27 North.

10 In two of the wells they have a very
11 significant deviation from the surface location
12 to the bottomhole location, and that's what I'm
13 attempting to demonstrate.

14 For instance, American Hunter's 2-A No.
15 1 located in Section 2 of 27 North, Range 1 West,
16 the surface location is indicated with the solid
17 dot, which is at approximately 442 feet from the
18 north line and 1177 feet from the east line. It
19 is within the boundaries of the West Puerto
20 Chiquito-Mancos Pool.

21 And the bottomhole location is
22 indicated with the small "x," and that's at a
23 point about 620 feet from the north line and 3277
24 feet from the east line. And additionally
25 there's another proposed directional well in

1 Section 5.

2 And Mr. Greer's drilling of a
3 horizontal well is off the map to the south.
4 It's actually located in Section 8 of 25 North, 1
5 West.

6 Q. Within the display on Exhibit No. 1 and
7 looking at Section 9, there is a red dot just
8 outside of the drilling window --

9 A. Yes.

10 Q. -- within Section 9. What does that
11 represent?

12 A. Okay. The red dot -- since we've
13 consolidated these cases, this exact same map
14 will also occur in the exhibit package for Case
15 10548. The map in Case 10548, the circle in
16 Section 10 would be red. So that's the only
17 difference between those two exhibits. On both
18 maps the red dot is to highlight the proposed
19 surface location of both wells.

20 Q. Let's turn now to Exhibit No. 2 and
21 specifically discuss the surface topography that
22 affects the location of the well at which you
23 commence drilling.

24 A. Okay. On Exhibit No. 2, for Case
25 10547, we've outlined the 1650-foot setback

1 square in yellow. And again the proposed surface
2 location of the well is also identified with the
3 red dot.

4 The primary reason, also I've indicated
5 in the upper northwest quarter of that --

6 Q. Drilling window.

7 A. -- drilling window, that is an
8 additional square that identifies the area that
9 the West Puerto Chiquito Pool Rules would
10 identify as being an orthodox location. That's a
11 10-acre plot of land that is the only location in
12 that northwest quarter of the drilling window
13 that would be orthodox. As you can see, we're
14 outside that drilling window.

15 And this map is just basically a
16 reproduction of topographic map, USGS topo map,
17 which indicates surface topography. And, as you
18 can see, basically that's a very, very, very
19 rough area of the -- well, this part of the
20 country. It's right in the forest. And getting
21 an orthodox location would be very difficult and
22 costly.

23 Q. When you look at Rule 4 for the West
24 Puerto Chiquito-Mancos Pool Rules, it describes
25 in that rule in certain subsections various well

1 location requirements and limitations on total
2 deviation of wellbores within the context of
3 those special rules, does it not?

4 A. Yes, it does.

5 Q. And, in order to execute this
6 particular pilot project, you're going to need
7 exceptions to Rule 4 and its various subparts?

8 A. Yes, that is correct. Because beyond
9 any doubt, the wellbore will deviate more than
10 the 330 feet that is the maximum allowed in the
11 West Puerto Chiquito Pool Rules.

12 Q. And the well location limitations for
13 surface location are not not going to fit for
14 either one of these wells?

15 A. Well, the No. 2 well will be at an
16 orthodox location on the surface. As I've
17 indicated -- again if we look at Exhibit 2 for
18 Case 10548 -- the little dot would be highlighted
19 in red.

20 But even in absence of the red, you can
21 see on this exhibit the surface location on the
22 No. 2 is orthodox, and the topography allows
23 that. It's still rough, but it's about as good
24 as exists in Section 10.

25 Q. Do we know whether or not the proposed

1 location in 10, as well as the proposed location
2 in 9, have met all the final approvals of the
3 various regulatory agencies that have
4 jurisdiction over the surface?

5 A. It's my understanding that Mr. Greer --
6 our next exhibit will be a copy of the APD. He
7 has submitted the APD, and the locations are such
8 that they're satisfactory to Mr. Greer. But, as
9 far as approval by the various parties that are
10 claiming authority to have -- give us approval,
11 we haven't received any approval.

12 Q. In order to accommodate the potential
13 that another agency may require the surface
14 location to be adjusted, would you request from
15 this Examiner the flexibility in the order to
16 establish an administrative procedure by which
17 the surface location might be adjusted provided
18 that the producing interval within the reservoir
19 honors the 1650 setback?

20 A. Yes. That would be a great help if we
21 could get the flexibility. In the event -- now,
22 the locations, as we've represented them here, is
23 where the well will be drilled unless we have
24 objection by some party.

25 In the event we receive that objection,

1 it would be very helpful if we had an
2 administrative procedure to move the surface
3 location simply to accommodate that objection
4 with the stipulation that we keep the bottomhole
5 producing interval within the 1650 foot -- in
6 other words, that would not change. We would
7 keep the bottomhole producing interval as
8 proposed.

9 Q. Do you see a change or modification in
10 the surface location as having any possible
11 effect on the impairment of correlative rights of
12 anyone that has entitlement to the hydrocarbons?

13 A. I see absolutely no way that that
14 should be a problem.

15 Q. Let's turn now to Exhibit No. 3 in Case
16 10547 and have you identify and describe that
17 exhibit.

18 A. Okay. The purpose of Exhibit 3, these
19 are simply two pages that I have extracted from
20 the APD package that was submitted. The purpose
21 of providing this information is to demonstrate
22 that on July 31 BMG did submit the APD package.
23 It's my understanding that the package is
24 considered to be complete and meeting all of the
25 needs of the Bureau of Land Management.

1 On this you can see the location, the
2 surface location of the well. And basically that
3 was the only purpose of this APD, is to -- Mr.
4 Greer's feeling, the pressure of getting these
5 wells -- the drilling commenced prior to winter,
6 and he's in high gear attempting to get going
7 before winter prohibits the operations -- or it
8 won't prohibit operations, but it will make it
9 very costly. And if we can avoid that, it would
10 really be something that is important to him.

11 Q. In looking at the APD, is there
12 attached to the APD a proposed drilling program
13 for the deviated well that is consistent to the
14 description of that program as you've conveyed it
15 to this Examiner?

16 A. That is correct. Page No. 2 basically
17 says in words what I've repeated -- basically I
18 repeated those words.

19 Q. And when we turn to the next exhibit
20 package, the corresponding Exhibit 3 then is
21 going to be the APD for that well?

22 A. That is correct.

23 Q. And finally in each exhibit package is
24 a Notice and a Certificate of Mailing to parties
25 that may be affected by the approval of this

1 application?

2 A. Yes, sir.

3 Q. That certification is Exhibit 4 in each
4 package, and it shows a list of parties that were
5 notified. Based upon your information and
6 knowledge, Mr. Roe, are those the appropriate
7 parties that should receive notice in this kind
8 of case?

9 A. Yes. Yes, they are.

10 MR. KELLAHIN: That concludes my
11 examination of Mr. Roe. We move the introduction
12 of Exhibits 1 through 4 in each of the two cases.

13 EXAMINER STOGNER: Are there any
14 objections?

15 MR. CARR: No objections.

16 EXAMINER STOGNER: Exhibits 1 through 4
17 will be admitted into evidence.

18 EXAMINER STOGNER: Mr. Carr, your
19 witness.

20 EXAMINATION

21 BY MR. CARR:

22 Q. Mr. Roe, you indicated that you had
23 been retained by Benson-Montin-Greer to present
24 these cases; is that correct?

25 A. Yes, sir.

1 Q. Were you involved in the selection of
2 the actual surface location for the wells or the
3 particular drilling blocks?

4 A. No, I wasn't.

5 Q. When did you actually become involved
6 with this matter?

7 A. Mr. Greer actually contacted me, I
8 think, on August 14.

9 Q. Okay. The applications in each of
10 these cases that were filed, dated August 10,
11 reference a special gas-oil ratio and a special
12 project allowable. If I understand your
13 testimony, Benson-Montin-Greer is not proceeding
14 with either of those?

15 A. That is correct. Again, I wasn't
16 involved right up front, but it's my
17 understanding that Mr. Greer was concerned.

18 Producing of the Mancos in this area,
19 particularly the fractured Niobrara, is something
20 that he's basically made a life-time project out
21 of. And he's following very closely what's
22 happening in the American Hunter wells to the
23 north.

24 And there is what appears to be a very
25 good well in Section 3, which is the primary

1 purpose for proposing both of these wells, is to
2 meet the development, the protective well
3 necessary to offset the American Hunter well in
4 Section 3.

5 Mr. Greer, in his following of this,
6 there are some problems in having a very good
7 well and no pipeline connection to sell your
8 gas. So initially he was wanting to address the
9 issue of how to handle the gas during the period
10 that precedes the pipeline connection. It's a
11 rough area to lay lines, and it will be probably
12 be some time before he gets lines.

13 He decided -- I don't think that even
14 American Hunter has figured out what to do with
15 their produced gas, but at the time I think Mr.
16 Greer was hoping to just be treated in a similar
17 manner to what would be occurring in offset
18 wells.

19 Q. But there's no request now at this time
20 for special gas-oil ratio?

21 A. That is correct. We plan to operate
22 under that stipulated in the West Puerto Chiquito
23 Pool.

24 Q. That would mean that both American
25 Hunter's well north of you and these wells would

1 all be operated under the West Puerto Chiquito
2 Rules as they now stand, so we'd all have the
3 same rules?

4 A. Yes. In fact, Mr. Carr, the reason
5 that it shows up in the application is it was Mr.
6 Greer's effort to simply ask for the same
7 treatment that American Hunter was getting if
8 there was some deviation from the special pool
9 rules.

10 Q. You'd hope to get wells here that are
11 comparable to the well in Section 3, would you
12 not?

13 A. Actually Mr. Greer hopes to get better
14 wells. No. This is a very complex area of the
15 Mancos. There's some pretty decent wells just to
16 the south and there's some pretty poor wells just
17 to south. My guess is American Hunter would
18 admit that this is a very difficult place to
19 drill wells. You get some good wells, and you
20 get some bad wells.

21 Q. If you get even better wells than the
22 well in Section 3, you'd be producing some gas.
23 And you talked about waiting for a pipeline. Are
24 there any plans right now in place that you're
25 aware of to extend the pipeline into the area?

1 A. Well, the plans that I am aware of, Mr.
2 Greer has proposed as part of a project in
3 conjunction with American Hunter -- and it's my
4 understanding that that may not materialize --
5 but Mr. Greer has proposed \$1.3 million pipeline
6 up into the area.

7 Knowing Mr. Greer, if he gets gas
8 production from his production, he well could
9 proceed with that. Mr. Greer has long been an
10 advocate of unitization. He's had numerous
11 discussions, not only with the Jicarilla Apaches,
12 but also the American Hunter people about
13 unitization. And I know he would still prefer to
14 do that. That would be another option to do with
15 the gas.

16 But, as it stands right now, not
17 knowing what kind of gas he's going to have, it's
18 difficult to know what you would do.

19 Q. You've worked with Mr. Greer in the
20 past, have you not?

21 A. Yes.

22 Q. And you understand that the kind of
23 reservoir we're dealing with is a highly
24 fractured reservoir where gravity drainage is one
25 of the fundamental concepts in producing the

1 wells?

2 A. Yes, sir.

3 Q. And you have been involved in cases --
4 I don't know if it's with Mr. Greer or just on
5 the same side -- involving the Gavilan where
6 there were discussions about the importance of
7 pressure maintenance --

8 A. Yes.

9 Q. -- in conjunction with gravity
10 drainage. Do you have an opinion at this time as
11 to whether or not there's sufficient data in this
12 area to make a decision as to whether or not it
13 would be prudent to commit to large gas
14 withdrawals from this portion of the pool?

15 A. Yes. We don't have the information
16 specific to this immediate area. But we have
17 enough information with Boulder-Mancos to the
18 north and West Puerto Chiquito-Mancos immediately
19 adjacent to the south. We have enough
20 information to tell us that the production of
21 large volumes of gas without pressure maintenance
22 will result in a reduced recovery.

23 Q. So, if we don't maintain pressure, then
24 we ultimately could leave production in the
25 ground?

1 A. That is correct.

2 Q. Do you know the status of Mr. Greer's
3 plans for the pipeline, I mean, where they stand
4 today other than it being a proposal?

5 A. Well, I don't know, no.

6 Q. Have you made any calculations as to
7 how much gas would have to be removed from the
8 reservoir in this area to pay for a pipeline?

9 A. Speaking as -- Dugan Production had
10 partial interest by virtue of our interest in the
11 West Puerto Chiquito Unit. I studied that
12 particular issue in depth because we had to
13 approve an AFE that Mr. Greer had submitted to
14 the unit owners.

15 And yes, I did. As I recall, it would
16 require about a three-year payout had we had the
17 production from the American Hunter well. But
18 it's my understanding that that's --

19 Q. Do you know how much in terms of volume
20 of gas would have to be removed to make that
21 three-year payout?

22 MR. KELLAHIN: Mr. Examiner, I've been
23 patient with Mr. Carr, but I'm going to object.
24 This is not free discovery of anything Mr. Roe
25 may or may not know in the entire area. It is

1 site specific as regards to this application.
2 And it makes no difference as to what a pipeline
3 does or does not do to your decision in approving
4 this application.

5 MR. CARR: I would submit that Mr. Roe
6 has told us that they're hoping to get wells that
7 are at least comparable to the well to the
8 north. One of the big issues in the development
9 in this entire area has been: What do we do with
10 the gas, and what impact will it have on the
11 reservoir with removal of large volumes of gas?

12 We think it's an appropriate line of
13 cross-examination. And the proposal before you
14 here is to drill three wells -- or two additional
15 wells, I'm sorry, that are going to produce large
16 volumes of gas.

17 We've invested substantial amounts of
18 money and are going forward with an effort to
19 reinject. And we certainly don't have an
20 objection to Mr. Greer drilling wells on his
21 property in accordance with the rules. But we
22 think it's appropriate and it is necessary in
23 fact for us to understand exactly what his
24 long-term plans are.

25 We've had just a very elementary

1 presentation that here's the location and here's
2 what we want to do. Yet it is part of a much
3 larger question, and I submit that the question
4 as to what are the status of plans to do
5 something with the gas is relevant to this case.

6 MR. KELLAHIN: Mr. Carr chooses to
7 confuse the Hearing Examiner and wants to talk
8 about a pressure maintenance project that we have
9 asked for. He wants to ask about what we're
10 going to do with gas that we have yet to
11 produce. And it has nothing to do with drilling
12 this horizontal/high angle project.

13 EXAMINER STOGNER: Mr. Carr, do you
14 concur that the drilling window he is asking for
15 constitutes a standard location pursuant to the
16 rules as far as the offsets to the lease?

17 MR. CARR: Yes.

18 EXAMINER STOGNER: And I'm assuming
19 that you saw Exhibit No. 1, which had their four
20 -- I'm sorry, Benson-Montin-Greer's Jicarilla 404
21 lease outlined with four sections?

22 MR. CARR: Yes.

23 EXAMINER STOGNER: I concur with Mr.
24 Kellahin. I don't see where this line of
25 questioning is going anywhere at this point. So

1 I'm going to ask you to move on.

2 Q. (BY MR. CARR) Let's go to the 404
3 lease then in Exhibit No. 1. Is the lease what
4 is outlined in yellow?

5 A. Yes. That is the entire lease.

6 Q. And I believe you testified that you
7 did not participate in any decision concerning
8 the surface location?

9 A. That is correct.

10 Q. In seeking an administrative procedure
11 whereby you can be permitted to move the surface
12 location --

13 A. Our request is only if there is a
14 regulatory agency that would stipulate that.

15 Q. Suppose, just for the purpose of the
16 question, that the Jicarillas show up and find
17 trees at the proposed surface location and they
18 ask you to move it --

19 A. Yes, sir.

20 Q. -- is it possible that you could even
21 be required to move it away from that particular
22 location, say, to the west of the drilling
23 block? Would you anticipate that the
24 administrative approval would contemplate that as
25 well?

1 MR. KELLAHIN: May I clarify the
2 question? The request is to stay confined within
3 the spacing unit?

4 MR. CARR: Yes.

5 MR. KELLAHIN: Do you mean by "drilling
6 block" --

7 MR. CARR: The surface location only.

8 MR. KELLAHIN: -- within that spacing
9 unit or the four sections?

10 MR. CARR: No. Within that particular
11 section. I'm just trying to determine how much
12 administrative leeway you think you might need.

13 MR. KELLAHIN: Okay.

14 THE WITNESS: Well, hopefully -- on
15 Exhibit 2 there is that State Road 95 that runs
16 up and down there. And the topography to the
17 west, it's pretty rough until we get up on top.

18 Hopefully, there wouldn't be a need to
19 move it a great distance. We're not anticipating
20 the need to drill it at a location different than
21 we've identified here.

22 But we have had less than --
23 particularly the Jicarillas have seemed like
24 they've provided a lot of unnecessary hurdles.
25 So it could be that they would want to move it.

1 I would hope that it would be a small move. What
2 is small, I have no way to even say.

3 But we would expect it to be a
4 reasonable request. If they moved it too far,
5 that would be an unreasonable request.

6 Q. (BY MR. CARR) You know, is it
7 possible, Mr. Roe, that you might even want to
8 move it to a completely different location as
9 long as you could keep -- I'm talking about, say,
10 perhaps off the southwest corner of the 1650
11 setback block. I mean is that what you're
12 contemplating in terms of flexibility from an
13 administrative point of view?

14 MR. KELLAHIN: To restate our request,
15 Mr. Examiner, we seek any surface location within
16 the outer boundaries of Section 9 for which then
17 to seek an administrative adjustment as to this
18 particular location.

19 EXAMINER STOGNER: Which would mean
20 anywhere within Section 9; is that correct?

21 MR. KELLAHIN: Yes, sir.

22 Q. (BY MR. CARR) Is it possible to drill
23 from anywhere within Section 9 and still bottom
24 that well within that 1650-foot setback?

25 A. It is. But it becomes more costly.

1 And in the interest of economics, Mr. Greer has
2 been out and had done the well site work and has
3 satisfied himself that these locations that we
4 have picked are probably the best that's
5 available in Section 9 and 10.

6 Any other location is going to be
7 something that's going to cost us more and be
8 more difficult.

9 Q. And the testimony is that from any
10 surface location you could keep the openhole
11 portion or the portion in the formation within
12 that drilling block?

13 MR. KELLAHIN: That would be the
14 limitation of the order.

15 MR. CARR: Okay.

16 A. But that's technically feasible, yes.

17 Q. When I look at your Exhibit No. 1 and
18 you've got this lease, this will be the third
19 well on the lease; is that correct?

20 A. Well, we have one well that has
21 produced for many years, and this will be the
22 second and third wells, yes, sir.

23 Q. What well formation is that other well
24 completed in? Do you know?

25 A. It would be the same formation that

1 we're projecting. It's the West Puerto
2 Chiquito-Mancos Pool, and it is the Niobrara
3 Formation that it is producing from. And I'm not
4 positive which member, but the A and the B are
5 predominantly productive in this general area.

6 Q. And it's a producing well at this time?

7 A. The well in Section 16?

8 Q. Yes.

9 A. Yes, sir.

10 Q. Do you know what rates it's producing
11 at?

12 A. It's about -- I have that information,
13 if it's important. There's no question that it's
14 a nice well. It's produced approximately 103,000
15 barrels of oil. And my guess is it's in the 40
16 barrel a day range.

17 Q. And it's a straight hole?

18 A. Yes. It's conventional. In fact, all
19 wells on this map are conventional with the
20 exception of the ones I've indicated.

21 Q. Is it in an unorthodox location?

22 A. It looks to me like it may not be. I
23 don't know.

24 Q. The offsetting acreage would also be
25 operated by Greer, though?

1 A. Yes. In fact, the crosshatched -- I've
2 identified the four leases that Mr. Greer is the
3 operator of.

4 Q. And those are all West Puerto wells?

5 A. Yes.

6 Q. Based on your study of the formation
7 and also what's represented in the application
8 for the well in Section 9, you talk about the --
9 it states that the fracture orientation is in the
10 north-south direction.

11 When I look at the ad for this case, it
12 talks about the well in Section 9 drilling to
13 penetrate the Mesaverde Formation and then
14 kicking off in a southerly direction. Is that
15 the direction you plan to take the well,
16 southerly?

17 That just confused me. It seemed like
18 you were parallel to the fracture system.

19 A. Well, we are. I think what we intended
20 to represent there is, southerly is about the
21 only way we can go and still wind up with an
22 orthodox bottomhole location.

23 Now, my guess is it might be more south
24 and east, but there wouldn't be any way we could
25 go north, west, or immediately east from that

1 location. It has to be south-southwest or
2 south-southeast. And that was the purpose of
3 that statement.

4 Q. When we go to the well in No. 10, maybe
5 it was as to both wells, you indicated that Mr.
6 Greer proposed to drill through the Mesaverde and
7 then log and with that information determine the
8 orientation of the fracture?

9 A. Yes.

10 Q. Is there any kind of special logging
11 devices that you intend to use?

12 A. I discussed that with Mr. Greer.
13 There's several things that may happen between
14 now and the point he needs to finalize his
15 drilling profile. With respect to those
16 wellbores, he plans to run conventional openhole
17 logs, which would be an electric and a porosity
18 log. And he may run a dip meter log, depending
19 on how things are looking.

20 Additionally, he is proceeding with
21 efforts to run seismic, do a seismic shoot across
22 this area that would help a great deal. But he
23 had this discussion with American Hunter people
24 for quite a while hoping to get some seismic work
25 done. Finally, he gave up on that being a joint

1 project.

2 And I think during June he approached
3 the Jicarillas on his own with a formal
4 application, and he has gone before the tribal
5 council. And they are not acting on his
6 application in an expeditious manner. And with
7 winter coming up Mr. Greer may do this work
8 without the seismic work, although if -- they
9 would approve his application, he'll have that
10 information also.

11 Q. But at this time he's going to have to
12 go forward without seismic or geophysical data
13 unless they approve it?

14 A. That's his plan, yes.

15 Q. Compared to other areas within the
16 Niobrara, do you have an opinion on whether or
17 not it's fair to simply analogize the information
18 on the portion of the formation to the south in
19 Canada Ojitos Unit with what you would anticipate
20 here, or is additional information needed?

21 A. Well, in the absence of additional
22 information, the analogy is all we have. And
23 that's the way a lot of development occurs even
24 outside the Mancos.

25 Mr. Greer would love to have more

1 information. He's a master of all people that
2 appreciates good information. He is making every
3 effort to accumulate all of the data that he can,
4 including the information from the American
5 Hunter wells, which he really has not been
6 provided much of that.

7 Hopefully, he'll have that so when he
8 makes his decision as to where the wellbore is
9 going to go and how it's going to look, I
10 personally know that he will have exhausted all
11 information that's available.

12 Q. On your Exhibit No. 3, the APD --

13 A. Yes.

14 MR. KELLAHIN: Which Exhibit 3, Mr.
15 Carr?

16 MR. CARR: I suspect either one, Mr.
17 Kellahin. We can look at 3 in Case 10548.

18 Q. Right below the description of the
19 casing and cementing program, it says, "See
20 attached proposed casing and cementing program."

21 A. Yes, sir.

22 Q. Did you intend to include that or leave
23 it off?

24 A. No. I could easily have included it.
25 The purpose of Exhibit 3 was not to -- the rough

1 details are presented there on the first page
2 under the proposed casing and cementing program.
3 The attached program, that could easily have been
4 provided. It's public information available
5 through the BLM.

6 Q. And basically what you'll do is drill
7 and then cement the casing. Will there be
8 slotted casing through the horizontal or vertical
9 -- I mean, or the deviated portion of the hole?

10 A. I honestly don't -- I did not study or
11 discuss exactly how Mr. Greer plans to case the
12 horizontal portion of the well. But I do know he
13 will have an encasement of some sort. In the
14 last horizontal well he drilled, it was a slotted
15 liner that was uncemented.

16 Q. Does he use drilling mud in drilling
17 these wells?

18 A. His plan would be -- I did discuss that
19 with him, and he plans to use drilling mud down
20 through the casing point on 7-5/8. And then the
21 lateral portion of the hole, which would
22 encounter the productive Niobrara, he intends to
23 use an aerated system.

24 If he can get gas to the area, he would
25 use a gasified mud, oil-base mud. If he can't

1 get the gas up into the area through a pipeline,
2 he probably would use a nitrified. And that's
3 what he has told me.

4 Q. That's use to lighten the mud; is that
5 right?

6 A. Lighten the mud and minimize the
7 invasion that would occur upon encountering the
8 fractured reservoir.

9 MR. CARR: That's all I have. Thank
10 you.

11 EXAMINER STOGNER: Thank you, Mr.
12 Carr.

13 Do you have anything further?

14 MR. KELLAHIN: No, Mr. Examiner.

15 EXAMINER STOGNER: Does anybody else
16 have any questions of this witness?

17 MR. STOVALL: No.

18 EXAMINER STOGNER: Thank you, Mr.
19 Stovall.

20 If not, Mr. Roe may be excused.

21 Does anybody else have anything further
22 in this case?

23 MR. KELLAHIN: That completes my
24 presentation.

25 MR. CARR: I want to make just a very

1 brief statement, but it is not a long flag-waving
2 speech.

3 MR. KELLAHIN: We are relieved, Mr.
4 Carr.

5 MR. CARR: Yes, I know that.

6 EXAMINER STOGNER: You may go first,
7 Mr. Carr.

8 MR. CARR: I just want to make clear
9 what I said a few minutes ago by way of a closing
10 statement. American Hunter is not here opposed
11 to Mr. Greer drilling a well under the West
12 Puerto Chiquito Rules with the well bottom at
13 1650 feet from the outer boundary. If there was
14 a suggestion there in my cross-examination,
15 that's not our intention.

16 The only concern we have is that we're
17 trying to watch and manage the reservoir. We're
18 spending a lot of money trying to put gas back in
19 it. And the questions were directed at gaining
20 information and assuring that what is done
21 doesn't mean we're putting it in and it's just
22 blowing out somebody else's well, because I think
23 we all share that concern. That's the reason
24 we're here today.

25 EXAMINER STOGNER: Thank you, Mr.

1 Carr.

2 Mr. Kellahin, do you have any response
3 to Noranda at this point -- I'm sorry, American
4 Hunter.

5 MR. KELLAHIN: The gas injection issue,
6 American Hunter's gas disposal application is a
7 substantial issue of dispute between these
8 parties but has nothing to do with this case. We
9 think it is a routine application now at this
10 point, considering the past history of
11 involvement of the Division in planning and
12 assisting operators with high angle wells.

13 We have attempted to comply with those
14 procedures the Division has established already
15 in terms of a drilling window. We want to have
16 the same opportunity the Division has granted
17 others to make field decisions in order to
18 maximize the opportunity to encounter multiple
19 fractures.


20 We believe Mr. Greer's professional
21 expertise and competence speaks for itself in
22 this state, and we would seek the approval of his
23 two applications.

24 EXAMINER STOGNER: Thank you, Mr.
25 Kellahin. Both cases, No. 10547 and 10548 will

1 both be taken under advisement at this time.

2 At this time we'll take a recess until
3 1:30.

4 [And the proceedings were concluded.]
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14 I do hereby certify that the foregoing is
15 a complete record of the proceedings in
16 the Examiner hearing of Case Nos. 10547 and 10548
17 heard by me on 3 July 1992.
18 , Examiner
19 Oil Conservation Division
20
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22
23
24
25

CERTIFICATE OF REPORTER

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

I, Debbie Vestal, 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 OCTOBER 12,
1992.


DEBBIE VESTAL, RPR
NEW MEXICO CSR NO. 3