

1 STATE OF NEW MEXICO
2 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
3 OIL CONSERVATION DIVISION
4
5

6 EXAMINER HEARING
7

8 IN THE MATTER OF:
9

10 Application of Samuel Gary Jr.
11 and Associates, Inc. for a Case 10099
12 horizontal directional drilling
13 pilot project and special operating
14 rules, Sandoval County, New Mexico.
15

16 **ORIGINAL**
17

18 TRANSCRIPT OF PROCEEDINGS
19

20 BEFORE: DAVID R. CATANACH, EXAMINER
21
22

23 STATE LAND OFFICE BUILDING
24 SANTA FE, NEW MEXICO
25 September 19, 1990

CUMBRE COURT REPORTING
(505) 984-2244

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A P P E A R A N C E S

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1 P R O C E E D I N G S

2 HEARING EXAMINER: Okay. At this time we'll call
3 Case 10099.

4 MR. STOVALL: Application of Sameul Gary Jr. and
5 Associates, Inc. for a horizontal directional drilling pilot
6 project and special operating rules therefore, Sandoval County,
7 New Mexico.

8 HEARING EXAMINER: Are there appearances in this
9 case?

10 MR. BRUCE: Mr. Examiner, Jim Bruce from the Hinkle
11 law firm in Albuquerque representing the applicant. I have two
12 witnesses to be sworn.

13 HEARING EXAMINER: Any other appearances?

14 The witnesses please stand to be sworn in.

15 (Witnesses sworn)

16 MR. BRUCE: Mr. Examiner, for the record, some of
17 the testimony presented by the witnesses today will be
18 applicable to Case 10100. And we would request your permission
19 to first, present the testimony, and second of all, at whenever
20 the next case is heard, 10100, we would like to incorporate
21 that testimony in the record of that case if that is
22 permissible.

23 HEARING EXAMINER: That would be fine, Mr. Bruce.
24 Do you want to formally continue to Case 10100 at this time?

25 MR. BRUCE: Yes, why don't we.

1 HEARING EXAMINER: To?

2 MR. BRUCE: For now let's continue it to the October
3 3rd hearing.

4 HEARING EXAMINER: October 3rd, okay. Case 10100
5 will be continued to the October 3rd hearing.

6 And I might add, Mr. Bruce, that due to
7 advertisement problem in the Sandoval County newspaper that
8 Case 10099 will in fact also have to be continued to the
9 October 3rd hearing.

10 MR. BRUCE: Okay.

11 CRAIG AMBLER,
12 the witness herein, after having been first duly sworn upon his
13 oath, was examined and testified as follows:

14 EXAMINATION

15 BY MR. BRUCE:

16 Q. Will you please state your name for the record.

17 A. My name is Craig Ambler.

18 Q. And where do you reside?

19 A. 7121 South Filmore Circle, Littleton, Colorado.

20 Q. And who do you work for?

21 A. Sameul Gary Jr. and Associates, Inc.

22 Q. And what is your occupation?

23 A. Land manager.

24 Q. And have you previously testified before the OCD as
25 a land manager?

1 A. No.

2 Q. Would you please outline your educational and
3 employment background.

4 A. Yes. I have a degree in petroleum land management
5 from the University of Colorado. After graduation I worked as
6 a landman for Petro-Lewis Corporation in Denver for about three
7 years. After Petro-Lewis I worked as land manager for Edwin L.
8 Cox in Denver for about six years. I've been employed by
9 Sameul Gary Jr. and Associates, Inc. for approximately three
10 years as land manager.

11 Q. And does your area of responsibility include
12 Northwestern New Mexico?

13 A. Yes.

14 Q. And are you familiar with the land matters involved
15 in Case 10099?

16 A. Yes.

17 MR. BRUCE: Mr. Examiner, is the witness considered
18 acceptable?

19 HEARING EXAMINER: He is.

20 Q. (BY MR. BRUCE) Mr. Ambler, would you please state
21 what Samuel Gary and Associates seeks in this case. And I
22 would also request you to briefly outline what the applicant
23 seeks also in Case 10100.

24 A. Okay. Our first and primary thing that we're
25 seeking at this time is permission to drill a horizontal well

1 in the west half of Section 11 of Township 20 North, Range 3
2 West. It is our intention initially to dedicate the well to a
3 standard 320-acre unit which the area is already spaced at.

4 Second, we are requesting that special rules be
5 granted for permission to drill additional horizontal wells
6 within the project area. And specifically to this extent we
7 have formed a federal unit on this property that covers some
8 18,000 -- 18,897.16 acres. And this unit has been approved by
9 the BLM.

10 Third, we're requesting approval for a gas
11 reinjection project in association with our horizontal drilling
12 operations within the unit area.

13 (Thereupon, Exhibit 1 was
14 marked for identification.)

15 Q. Okay. In referring to Exhibit No. 1, does that
16 outline the unit and the lands and leases involved in the unit?

17 A. Yes, it does.

18 Q. And is that information also given in the unit
19 agreement that we'll introduce later?

20 A. Yes, it does.

21 Q. Okay.

22 MR. STOVALL: Mr. Bruce, may I interrupt you for
23 just a second on that. You've identified both cases. Am I
24 correct that a single application was in fact filed in these
25 cases?

1 MR. BRUCE: Yes.

2 MR. STOVALL: And that they were separated by the
3 division into two separate cases because, if I understand, the
4 applicant requests prompt approval of the horizontal drilling
5 because they have a deadline problem.

6 MR. BRUCE: That is correct.

7 MR. STOVALL: The fact that there are two cases is
8 really -- was for the convenience of the applicant in order to
9 attempt to get the horizontal approved in order that they could
10 spud; is that correct?

11 MR. BRUCE: That's correct.

12 MR. STOVALL: Okay. Thank you.

13 MR. BRUCE: Okay.

14 Q. (BY MR. BRUCE) What type of lands are involved in
15 the unit?

16 A. The lands are 100 percent federal. There are no fee
17 lands and there are no state lands.

18 Q. Okay. And have all, referring back to Exhibit
19 No. 1, have all working interest owners committed their
20 interests to the unit?

21 A. We have all -- full commitments from all the owners
22 except for tract No. 19, which if you'll look on the map is
23 Township 20 North, Range 2 West, Section 5, north half of the
24 southeast and the southeast southeast. Tract is owned by
25 Charles G. Gates, who I believe is a simultaneous federal oil

1 and gas owner. All the other lands have been committed to the
2 unit.

3 Q. And is the applicant attempting to get the joinder
4 of tract 19?

5 A. Yes.

6 Q. And are all working interest owners listed in the
7 unit agreement?

8 A. Yes, they are.

9 Q. And you previously mentioned that the BLM has
10 approved the unit?

11 A. Yes, the unit has been approved effective as of July
12 31st, 1990.

13 (Thereupon, Exhibit 2 was
14 marked for identification.)

15 Q. Okay. Is the unit agreement submitted as Exhibit
16 No. 2?

17 A. Yes, it is.

18 Q. And have you discussed your proposed horizontal
19 drilling program with the BLM?

20 A. Yes. In our initial application for unit approval
21 the unit was in fact set up and designated as a unit for
22 purposes of exploring, utilizing horizontal drilling
23 techniques.

24 (Thereupon, Exhibit 3 was
25 marked for identification.)

1 Q. Okay. Would you please refer now to Exhibit No. 3,
2 and point out the location, the approximate location of the
3 proposed initial horizontal well. And would you also briefly
4 describe the other wells that are on this plat.

5 A. Exhibit No. 3 is a map depicting the unit area and
6 also contains a description of all the wells that have been
7 drilled within the unit area down to the Mancos formation. The
8 initial horizontal well we're proposing to drill is located
9 approximately in the center of the unit area, Section 11. And
10 we're proposing to drill as we'll get into further along the
11 axis on a north northwest direction in the west half of
12 Section 11.

13 (Thereupon, Exhibit 4 was
14 marked for identification.)

15 Q. Okay. Why don't you move on to Exhibit No. 4 and
16 describe the location of the well and how -- the initial plans
17 for the drilling of the well.

18 A. All right. Exhibit 4 is a blown-up version really
19 of Exhibit No. 3 wherein we've squared off the nine section
20 area depicting the exact well control that we have in the area.
21 It also has an outline of the well plan with respect to its
22 proposed horizontal distance and surface location bottomhole
23 location and azimuth anticipated in the drilling of the well.

24 At this time the well is initially designed and
25 applied for to be drilled at a location I believe 1,975 feet

1 from the west line and 974 feet from the south line. And due
2 to a desire to increase the ability to lengthen the well and
3 drill for longer distance without lease line constraints we'd
4 move the well back to a distance of 1,975 feet from the west
5 line and 450 feet from the south line of Section 11. The point
6 of intersection of the Mancos formation by the wellbore will be
7 approximately 800 feet from the south line, which would be a
8 legal location.

9 Q. Okay. So just to clarify for the Examiner, the
10 original proposed location was 1,970 feet -- 1,975 feet from
11 the west line, and that remains the same.

12 A. Yes.

13 Q. But the original distance from the south line was
14 934 feet, and that has been changed to 450 feet.

15 A. Right.

16 Q. Okay.

17 A. With respect to the horizontal part of the well, I
18 just want to clarify, too, that it's our intention to be
19 located within what I would call a windowed area such that
20 the wellbore, as it intersects the pay zone, will be within a
21 660-foot lease line boundary within the west half of
22 Section 11.

23 Q. Okay. Does Samuel Gary and Associates and the other
24 parties in the unit have plans to drill additional horizontal
25 wells in the unit?

1 A. Yes, as a matter of fact we do. Typically in
2 horizontal drilling it's difficult to get an assessment of the
3 success of the program from just one well. At this time we're
4 committed ourselves to drilling two wells in the unit initially
5 as a pilot program. The second location has not been selected
6 and may in fact somewhat be determined by the results of this
7 well that we initially planned to drill. But we do anticipate
8 drilling them. And as close as possible back to back manner.
9 At some point in the future, depending upon the success of the
10 initial well program, it would not be without reason to
11 consider that we would drill predominantly every section within
12 the unit area. We believe the area to be highly potential and
13 productive. And if successful we intend to fully develop it.

14 (Mr. Stovall is no longer present.)

15 Q. Does the applicant request special rules for this
16 project?

17 A. Yes. As a matter of fact we do. In order to assist
18 us in our plan with both the initial well and subsequent
19 drilling we're asking that the horizontal portion of any
20 wellbore located within the unit be located no closer than 660
21 feet to the outer boundary of a well unit. And what I mean by
22 well unit is what would -- I think the state would refer to as
23 a standard 320-acre proration unit.

24 Secondly, in the interest of allowing ourselves
25 flexibility with respect to well allowables and also well

1 locations we're requesting that our election we be entitled to
2 permit or to allocate up to two 320-acre units for each
3 horizontal well that was drilled. In effect that looks like or
4 would appear to be a 640-acre type spacing arrangement.
5 Although at this time we're not certain that that's the spacing
6 that we're really asking for in the area, and that's why we're
7 committed to leaving it at 320, with the option to combine two
8 320-acre units to the single well.

9 Third, for the purposes of drilling this well we're
10 asking for an unrestricted well allowable which would be
11 limited, of course, to statutorily I believe it's a 60-day
12 period. And that would be both on a gas and an oil ratio
13 basis.

14 So the intent for that request is this: we're
15 intending on drilling the well in an underbalanced manner,
16 which is now becoming fairly typical for wells drilled both in
17 the Austin chalk and even in the Bakken formation, North
18 Dakota, allow the well to produce while we're drilling. We
19 feel like if you bring the well into a balanced condition that
20 you perhaps damage the formation. So by drilling in an
21 underbalanced situation the well would be allowed to produce
22 while drilling.

23 Next, after expiration of the 60-day period we would
24 go to whatever the standard allowable is for the 320-acre unit,
25 or if we elect to dedicate two 320-acre units to the well, the

1 well would be allocated for full 640 acres.

2 And finally, probably as important as anything to us
3 at this time is receiving administrative approval to operate
4 within the unit area for setting up future horizontal wells.
5 The reason for this is that we anticipate after drilling
6 successful wells that we would be drilling our wells in a
7 back-to-back manner. And it would help us in our well planning
8 and the ability to go forward on a continuing basis.

9 Q. One thing I want to clarify when you requested the
10 variation from the normal setback requirements you asked for
11 660 feet from the outer boundary of a unit. That would depend
12 on whether you were drilling a 320 or 640-acre, would it not?

13 A. Yes.

14 Q. For a two section unit -- or a one section unit you
15 would like 660 feet from the outer boundary of that entire
16 section?

17 A. Yes, that's correct.

18 Q. And why do you request this relief from the normal
19 setback requirements?

20 A. Well, our initial plan, of course, we layout as our
21 engineer will explain, a proposed well plan and what we
22 anticipate to encounter as we're drilling the well. However,
23 in our experience we've drilled several horizontal wells, not
24 in New Mexico but in other areas. Our experience has been that
25 the initial plan doesn't always work out to be what the

1 ultimate look like of the wellbore is. So in order to allow
2 ourselves downhole motor problems or formation problems that we
3 may encounter we need the flexibility on the spot while we've
4 got the rig on location and we're drilling to be able to
5 operate and to drill our well in a manner which we would deem
6 to be reasonably responsible.

7 Q. Okay. Also, Mr. Ambler, you really don't have to
8 worry about correlative rights problems within the unit, do
9 you?

10 A. No, we really don't. In fact that's why we formed
11 the unit. We knew we were going to be doing horizontal
12 drilling and we didn't want to have these issues of correlative
13 rights cropping up. Of course inside of a federal unit all the
14 areas are pooled as one unit area.

15 Q. Now regarding setback requirements on the exterior
16 of the unit, do you have any objection to those being slightly
17 different for wells on the interior of the unit?

18 A. No, we sure don't.

19 Q. And to reiterate again, what is the reason for
20 requesting the administrative procedure for the additional
21 wells?

22 A. Well, as I've mentioned, we anticipate drilling
23 numerous wells in the unit area. And one point, I'll just give
24 you an economic reason, that if after you drill and complete a
25 well, let's say that you want to release your rig and then you

1 have to come back into the commission for an additional
2 approval to go drill the next well, well, that rig release
3 requires an economic cost. It's typically in this area you are
4 looking at about a 30,000 or \$40,000 rig move in and out of the
5 area. Because we really are further remote from the drilling
6 activity up around Farmington. And for a cost basis we would
7 like to leave a rig in the field and be able to drill these
8 wells in a back-to-back manner.

9 Also we have directional drilling tools which have
10 to be moved in and out. Once you are in -- your tools are
11 coming from Houston right now. And once they are in here
12 mobilization of that is an additional 10,000 or \$15,000 in and
13 out of the area. Once you get them in the area it's economic
14 to keep them there if you are going to plan on using them.

15 Q. So in other words, there is both economic reasons
16 for seeking the administrative procedure as well as ease of
17 administration of the unit?

18 A. That's correct.

19 Q. Briefly, although we're not getting into this today,
20 Mr. Ambler, what is the reason for seeking permission to
21 reinject produced gas?

22 A. Well, at this time as the commission I am sure is
23 aware, the field has never had a gas gathering system put in
24 place due to its -- the distance to a gas pipeline outlet. And
25 production from the field has been restricted by the state GOR

1 regulations.

2 Typically our experience has been with the nature of
3 the high output from horizontal wells, we would like to be able
4 to continue to produce the well and not have to restrict the
5 production of flow from it. And the way that we believe is
6 best able to accommodate this is to set up a small pilot
7 program and inject the gas into an existing well which we have
8 in Section 11. And in fact that is what we plan to do if we
9 make a nice well here, we will inject into the Section 11, I
10 believe it's the 1116 well in the southeast southeast of
11 Section 11.

12 Q. Okay. And what you just stated, I believe, that the
13 project area will just consist of Section 11?

14 A. That's correct.

15 Q. And do you seek expedited approval of Case 10099?

16 A. Yeah. Let me explain what the expedited approval is
17 for. We're in a funny situation now with this rig availability
18 because of all the coal gas drilling. We're having a lot of
19 problems getting our rigs lined up. We're forced to make a
20 commitment to a rig without having really a final approval from
21 the commission.

22 In addition, also on a rig availability situation,
23 we actually put a spudder rig on this location in July to
24 satisfy the BLM as far as spudding requirements for the unit
25 commitment well. And in fact we have a 60-day window within

1 which to bring in the big rig and commence the actually formal
2 drilling of the horizontal well, which 60-day period expires on
3 September 30th.

4 Q. Okay. And was notice given to the BLM of this
5 application?

6 A. Yeah. The BLM is aware of this application. And in
7 fact they are aware of the rights of the State to administer
8 the spacing of the well and what not. And we have given notice
9 to them that we would be here at this hearing.

10 Q. Okay. And I believe you forgot to bring that letter
11 along, but you did notify them in writing, did you not?

12 A. Yes, we've notified them in writing.

13 MR. BRUCE: Mr. Examiner, I would request permission
14 to submit that letter after the hearing as Exhibit No. 5.

15 HEARING EXAMINER: Okay.

16 (Thereupon, Exhibit 5 was
17 marked for identification.)

18 Q. (BY MR. BRUCE) Mr. Ambler, in your opinion is the
19 granting of this application in the interest of conservation
20 and prevention of waste and protection of correlative rights?

21 A. Yes.

22 Q. And were Exhibits 1 through 5 prepared by you or
23 under your direction?

24 A. Yes.

25 MR. BRUCE: Mr. Examiner, I move the admission of

1 Exhibits 1 through 5.

2 HEARING EXAMINER: Exhibits 1 through 5 will be
3 admitted as evidence.

4 (Mr. Stovall is now present.)

5 EXAMINATION

6 BY THE HEARING EXAMINER:

7 Q. Mr. Ambler, why was the surface location moved?

8 A. To give ourselves flexibility. When we initially
9 set up this well we intended to drill about a 2,000-foot
10 lateral in a north westerly direction. And there has been
11 quite a bit of recent success in drilling substantially longer
12 laterals in horizontal wells. In fact I believe a new record
13 has been set at some 4,900 feet here in the last three weeks.
14 And if we're in a drilling condition or situation where we're
15 drilling along, we're not getting the kind of shows, let's say
16 the fracturing of the well incoming into the wellbore like we
17 anticipate, and we want to go longer, in fact we're setting
18 ourselves up now perhaps to drill as much as say 3,000 feet or
19 maybe even 3,500 feet. By moving back further to the south we
20 give ourselves more room to remain within the legal 660-acre --
21 excuse me, 660-foot setback on our windowed area heading up in
22 a northwesterly direction.

23 Also for just geologic reasons and access reasons,
24 to get the full leg of that wellbore starting at a -- actually
25 at a start point closer to the well boundary, or the unit

1 boundary, then we were when we originally put it.

2 EXAMINATION

3 BY MR. STOVALL:

4 Q. Mr. Ambler, now I don't know if you went over the
5 unit agreement while I was out, but what's the participation in
6 the unit?

7 A. Well, the initial -- we're setting up what we call a
8 drilling block under a unit operating agreement. And we've set
9 it up for all of Section 11, which is a 640-acre drilling
10 block.

11 Q. And so the participation will be that drilling block
12 initially, is that your --

13 A. Yes, that's correct.

14 Q. And actually your surface location moves further
15 south, your new surface location further south towards Section
16 14; is that correct?

17 A. Yes, that's correct.

18 Q. And that tract is owned differently than your
19 initial drilling bore; is that correct?

20 A. It's owned differently, but all the interests are
21 committed to the unit under that tract.

22 Q. Is this a divided or undivided unit agreement? Are
23 you familiar with that terminology?

24 A. Yeah, it's a divided unit.

25 Q. Okay. So it could conceivably be different

1 participating areas and different interests and allocations in
2 that?

3 A. Yes.

4 Ask your question again. I am sorry.

5 Q. There could be -- it's not necessarily true that all
6 of the unitized area, would it be a common participation?

7 A. Not on the strength of one well, no. The
8 participating area expands, of course, in a federal unit as you
9 drill subsequent wells.

10 Q. Let me explain why we're concerned. Is the
11 advertisement is a different location than you are now
12 proposing. The original application was for 934 feet from the
13 south line.

14 A. Correct.

15 Q. Which, of course, puts your entire wellbore,
16 including the vertical portion of it and the surface location,
17 within an orthodox window.

18 A. The surface location, yes, is right, would be an
19 unorthodox location.

20 Q. Yeah. Now you now have moved. You say it is your
21 intent -- or let me ask you. Is it your intent that the
22 producing interval will not begin until it is within the
23 producing window?

24 A. Yes. The earliest on our curved drill rate, and our
25 engineer can explain it, but the top of the Mancos A formation

1 would be encountered approximately 800 feet from the south
2 line. That would be the earliest that we could encounter it if
3 everything goes right.

4 MR. BRUCE: Mr. Stovall, the bottomhole, if you
5 will, location of the wellbore would be within the parameters
6 outlined in the advertisement for Case 10099.

7 MR. STOVALL: Yeah. I am inclined to think an order
8 can be crafted to ensure that that is true, if you will.

9 MR. BRUCE: Yes.

10 THE WITNESS: That would be fine.

11 Let me point out, too, that all the owners of the
12 unit are on notice of our well and its location. In fact under
13 a federal unit everybody that's in the unit gets all the well
14 data and well information and are fully aware. In fact even by
15 the formation of the unit that they were notified of the
16 location.

17 The unit approval by the BLM in fact states just at
18 a location Southeast Quarter of Southwest Quarter of Section 11
19 of the surface location. And then has further definition for
20 how the horizontal proportion of the well will be drilled, what
21 angle and what distance.

22 Q. When did you develop your drilling plans for this
23 unit? When did you start working on the unit, most
24 specifically when did you develop your development -- when did
25 you design your development program?

1 A. With what engineering considerations or --

2 Q. When did you decide to drill this well?

3 A. We were in a mode of setting up for horizontal
4 drilling earlier in the part of 1990, looking for an optimal
5 location in New Mexico. Of course we've owned these properties
6 for some time. And it's just been a function of getting down
7 to what made the most geologic sense. That's why this unit was
8 formed in July of this year.

9 Q. The unit was formed, actually formed in July?

10 A. Yes.

11 Q. When was the decision to drill this specific well
12 made?

13 A. In July.

14 Q. Why was the application not filed until, when was
15 it, September -- August 27th, which made this the first
16 available docket --

17 A. Right.

18 Q. -- for your application with a September 30th
19 drilling deadline?

20 A. Well, the reason for that is, frankly, I guess there
21 was a misunderstanding upon who had authority to approve
22 horizontal drilling. And it was our understanding at the time
23 that the BLM in a federal unit with a fully approved unit,
24 that's where we -- in fact that's where we turned in our
25 drilling permit to and everything. And we now understand that

1 the state has jurisdiction over directional wells in New
2 Mexico.

3 Q. Have you operated in New Mexico previous, prior to
4 this time?

5 A. Yes.

6 Q. Who made you aware that this is within the state's
7 jurisdiction? How did you become aware of that? I guess I
8 should rephrase that.

9 A. I --

10 Q. How and when? Maybe that's even a better way to
11 phrase it.

12 A. I believe our drilling engineer made us aware of it.

13 Q. Do you know about when that became --

14 A. I suspect within a few days of making the
15 application for this hearing.

16 Yeah, let me explain, in Wyoming where we're doing
17 this, too, the State automatically suspends all orders inside
18 of a federal unit. And you only have to go to the BLM and you
19 do all of your hearings and everything through the BLM, and the
20 State does not interact in the process whatsoever.

21 Q. Thank you. I am glad you added that because I am
22 aware that the BLM does not operate the same in all states.

23 A. Right.

24 MR. STOVALL: I have nothing further at this time.
25 I'll make a determination as we progress with respect to

1 whether or not there are problems with that.

2 THE WITNESS: All right.

3 MR. STOVALL: One question I do have, and I don't
4 know if the Examiner covered it again while I was out, but
5 inasmuch as we do have to readvertise this case for the October
6 3rd hearing, what's that going to do as far as your September
7 30th drilling obligation deadline under the unit?

8 THE WITNESS: Well, we in fact have asked the BLM
9 for an extension. And the reason for asking for an extension
10 is to allow the State of New Mexico the time to rule on our
11 application.

12 HEARING EXAMINER: Has that been granted?

13 THE WITNESS: No.

14 HEARING EXAMINER: Do you anticipate that it will?

15 THE WITNESS: Yes.

16 HEARING EXAMINER: When would that extension be in
17 effect?

18 THE WITNESS: Well, we've asked for another 30-day
19 window up through October 30th, I guess it is.

20 MR. STOVALL: I have nothing further at this time of
21 this witness.

22 FURTHER EXAMINATION

23 BY THE HEARING EXAMINER:

24 Q. Did you give me -- you gave me a location where the
25 well will intersect the Mancos formation. Will that be covered

1 in more detail later on?

2 A. Yes.

3 Q. Is it your understanding that the lateral portion of
4 the wellbore will not be closer than 660?

5 A. Yes.

6 Q. To the outer boundary of Section 11?

7 A. Yes. Any well we drill in here that would be our
8 request.

9 Q. Do you know what the setback requirement is for the
10 Rio Puerco Mancos pool?

11 A. No, I don't.

12 MR. BRUCE: I presume it's the standard for 320-acre
13 units, Mr. Examiner.

14 HEARING EXAMINER: Okay.

15 MR. STOVALL: This is an oil pool, isn't it?

16 MR. BRUCE: It might be slightly different.

17 MR. STOVALL: Let's pull out the special pool rules
18 during a break just to -- I am not sure there is a standard for
19 320 oil wells.

20 MR. BRUCE: I do not recall what it was for the
21 Gavilan Mancos.

22 MR. STOVALL: That was definitely special pool
23 rules.

24 Q. (BY THE HEARING EXAMINER) Mr. Ambler, can you go
25 over once again the request of the option to be able to combine

1 two 320's and why that's necessary.

2 A. That really is again to allow flexibility in
3 locating the wellbores. I mean -- I'll just number them,
4 number one, allow us flexibility in drilling of the wellbores
5 so that, for example, if we wanted to drill up alongside a
6 center boundary line inside of a 640-acre unit that we would
7 not be required to have the 660-foot setback along that center
8 line.

9 Number two reason is until we drill several wells in
10 here we don't have a good understanding of things like
11 drainage, reservoir pressure, implications with respect to
12 productivity of the wells. And we believe that a wider spacing
13 pattern may be desirable until further information is gathered.

14 Number three, we set up our unit operating agreement
15 to provide for these 640-acre drilling blocks. And it makes it
16 nice, simple, square consensus.

17 Number four, our experience in other states has --
18 in fact we've gone through great detail of testimony in two
19 other states for 640-acre spacing of horizontal wells.

20 MR. STOVALL: May I ask you to -- excuse me.

21 HEARING EXAMINER: Go ahead.

22 FURTHER EXAMINATION

23 BY MR. STOVALL:

24 Q. Let me just ask you to -- and I understand it is an
25 answer you are just going to have to express an opinion on

1 probably without management confirmation at this point, and I
2 don't know how much authority you have, but if you are granted
3 the flexibility you request in developing this pool on a
4 horizontal with I assume substantial horizontal drilling, it
5 will be basically a horizontally developed oil pool at that
6 point, what would you anticipate doing with respect to
7 participating areas if you have this flexibility to basically
8 drill wells with minimal regard to artificial surface
9 boundaries and proration units and that sort of --

10 A. Well, it's not going to be circle tangent, I can say
11 that. I think frankly our intention would be to make
12 application to combine participating areas on each 640-acre
13 square that we have a well drilled on.

14 Q. When you say combined participating areas, what do
15 you mean?

16 A. Well, the BLM is going to require that anyway. As
17 soon as you have two producing wells out of the same pool
18 inside of a unit you'll combine participating areas for the two
19 wells. So if you set up, say, for example, we drill a well in
20 Section 11 and Section 14, the participating area for the two
21 wells would be Section 11 and 14. As you continue to develop
22 and expand out in your unit area, it would be our intent to do
23 that on a 640-acre basis. As we drill a well we would add to
24 the participating area.

25 Q. In other words, if I understand what you are saying

1 correctly, if you go to, let's use your 11 and 14 example, if
2 your second well is in Section 14 for purposes of allocating
3 drilling expense you would treat Section 14 as a separate
4 drilling block?

5 A. Yes.

6 Q. And only after a well is completed as a producer
7 would you then merge the participating areas or drilling blocks
8 into one and reallocate the interest in that way?

9 A. That's correct.

10 Q. So it would not be your intention to move on to 14
11 and then readjust the interest before drilling, but only after
12 production?

13 A. No. It's after drilling is the way it's set up in
14 the unit agreement.

15 Q. Is it, as far as you know, your intention to use a
16 step-out type development rather than exploring different
17 portions of the unit area?

18 A. It's going to be a step-out development, absolutely.
19 That's our plan right now. In fact I think we've permitted
20 about four or five different wells with the BLM. And they are
21 in Sections 6, 7, 12, 11, and 13.

22 MR. STOVALL: I don't think I have any further
23 questions.

24 MR. MORROW: I have a question to ask you.

25 * * * * *

EXAMINATION

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BY MR. MORROW:

Q. If you did assign 640 say to this well, would you do more horizontal development or a longer horizontal extension of the wellbore in order to fully drain that 640?

A. Yeah, let me explain that. And this you can get into with our engineer.

Our intent is to drill this and set a four and a half inch liner in the horizontal portion of the hole but not cement it. The reason for that is this: at some point in the future, let's say the well depletes rapidly or you are not happy with the production or for whatever reason, you may want to pull that liner and extend out the horizontal reach of your well at some point in the future.

There is also a possibility now, and this is being developed, it's new technology, to where you may actually drill another lateral out of the same well that you are in. So you've got that potential.

And lastly I want to say that even though there is only one well on that 640, that under our unit agreement you would still have the right to go in and infill drill subsequent wells inside the 640. At some point in the future if it's economically deemed feasible to do so that would be fully our intent to do so.

Does that answer your question?

1 Q. Yes, sir. I still would wonder whether or not you
2 would -- would you expect to assign 640 to this well?

3 A. Yes.

4 Q. As you have it planned now?

5 A. Yes.

6 MR. MORROW: That answers my questions.

7 MR. STOVALL: Let me get into another area.

8 FURTHER EXAMINATION

9 BY MR. STOVALL:

10 Q. One of the issues that comes up with respect to the
11 State established proration units and spacing and oil pools is
12 that all oil is subject to top allowables based upon depth and
13 proration unit size. How does that affect your drilling plans,
14 and do you have any recommendation? Because I don't think
15 there -- again I would have to check the Rio Puerco pool rules,
16 and I don't know what the depth racket allowable in that pool,
17 but do you have any recommendations in that area or thoughts?

18 A. Yeah, I am glad you asked the question. I don't
19 have a recommendation until we drill our well. And that's one
20 of the reasons, in fact, we've asked for the 60-day
21 unrestricted allowable upon drilling the well.

22 I know in other states, especially in Texas, they've
23 imposed on a horizontal well, they've devised a formula based
24 on distance of the well. And I believe the maximum allowable
25 you can get is 1,280 a day. But they've since even relaxed

1 that, because they do have several wells that are capable of
2 producing in excess of that.

3 What I'd like to do is state this: that we would
4 reserve or request that we be able to come back in the future
5 and present our data and our evidence in support of the type of
6 allowable that we might need for a horizontal well.

7 Q. A lot of what we're talking about is in the case
8 which, what is it, 10100, I believe, which is not actually
9 being heard today in terms of special operating rules. Are you
10 prepared or will you be prepared at the next hearing when that
11 case is actually heard to present a, if you will, a draft of
12 what you would like to see as operating rules?

13 A. That's difficult. That's part of the reason for the
14 difficulty in having it for this hearing. Until your well is
15 drilled and you know what you've encountered it's difficult to
16 be premature about something and come in. It's okay to set
17 out, you can set some parameters. But I'd much rather be more
18 specific and address what you have at the time rather than try
19 to say what you hope to have.

20 Q. Would it be better to continue that case until you
21 have some drilling and production experience in the area to
22 develop some rules?

23 A. Part of the reason for asking for the case
24 simultaneously with this one is this: we do not want to waste
25 the resource of gas out here. It's not our intention to sell

1 the gas. We want to be reinjecting it into the pool. We can't
2 tell you today if it's going to have an effect or not. But we
3 can tell you that it's better than flaring it. And so that was
4 part of the reason for asking to be able to reinject into that
5 wellbore as promptly as possible after completion of the well.

6 Q. It almost sounds -- I guess I am, once again as I
7 want to do, jumping in over my head into technical matters, at
8 least I am doing it with a landman so I don't feel nearly as
9 uncomfortable. It sounds like what you are doing is you are
10 going out there and you are doing kind of a -- it is in fact a
11 pilot project.

12 A. It is a pilot project.

13 Q. To see how to deal with a large commonly managed
14 area.

15 A. That's exactly right.

16 Q. And there are lots of different considerations.
17 Does it provide you the flexibility you need to kind of get
18 small increments of approvals to the point to where you know
19 and then you can come in and say okay, this is how the whole
20 package should be operated in terms of allowables, injection
21 drilling?

22 A. That's why we tried to design this application to
23 get us along on our program.

24 And let me back up for a minute, too. Not to over
25 emphasize the unit, but, you know, the first consideration in

1 any kind of a project of this magnitude where you have
2 diversity of ownership is to get it all under one house.
3 That's why we took the effort and made the effort to go to the
4 BLM. That's why -- frankly it's unusual that we have such a
5 high level of unit commitment that we do from the working
6 interest owners. I think that helps our case.

7 Now let me go on to what you are suggesting. We've
8 asked for this unrestricted gas or whatever, production
9 allowable for 60 days while we drill the well, which will allow
10 us to drill our well underbalanced. We've asked for the
11 ability to very quickly connect and reinject gas into a well
12 that's already in this same Section 11, which will allow us to
13 produce the well. And at the same time we're also asking for
14 approval to use the rig that we have in Section 11 to move on
15 to our next location, and that to be done on an administrative
16 process so that we don't have to pay this \$40,000 rig move back
17 in and out of there so we can move very quickly to get on with
18 our next well. If you think about, if you reflect back on my
19 testimony today, I think you will see that we've laid it out at
20 least with respect to the plans that we have.

21 Now, the part of the question I haven't answered is
22 what sort of an oil allowable do you have after that 60-day
23 period. I think those are the sort of the things you are going
24 to have to come in for and ask for later. I think we're
25 willing to subject ourselves to that. But with respect to what

1 we have in this specific application, we know those are the
2 things we need at this time.

3 Q. I guess I am concerned a little bit. And again
4 because of the fact it was a common application which was
5 broken out primarily in an attempt to meet -- to assist you to
6 meet your drilling deadline, to keep it simple it doesn't seem
7 to be working in this case. And that's not a criticism of
8 anything.

9 Based on the case we're actually hearing right now,
10 one other question I think I need to consider, and I am more
11 saying it's a question that I don't know the answer to at the
12 moment, is, you know, is this case provided sufficient
13 flexibility and framework just in the terms of the way it's
14 been advertised and docketed to provide for the additional
15 wells to be drilled under the conditions that you are seeking.
16 And that's expressing no opinion as to those conditions.

17 It's simply something we might think about,
18 Mr. Bruce, and at some point during the course of this have
19 some --

20 MR. BRUCE: Well, as we've stated the Case 10099 is
21 the most important. And we thought it was best to present all
22 of Mr. Ambler's testimony to give you a full picture of what
23 they plan on doing out there. But as we said, we'll be back
24 for the next case. Hopefully we'll be able to answer a few
25 more of your questions. I think what we've tried to do is

1 submit enough today to get approval for the horizontal, the
2 initial horizontal well, which is of most concern to the
3 applicant at this time.

4 MR. STOVALL: Yeah. And I do have a concern. My
5 biggest concern at this point is I think he's brought up a
6 valid point about once you start the drilling program you would
7 like to keep moving while you've got a rig.

8 THE WITNESS: Yes.

9 MR. STOVALL: And you'd like to, assuming the
10 program is approvable, we'd like to be able to do that for you.

11 THE WITNESS: I'd appreciate that.

12 MR. STOVALL: That's why I kind of got into this.
13 It is off beyond the scope of this case I think a little bit.
14 Hard to separate them in a lot of ways.

15 I am through now.

16 FURTHER EXAMINATION

17 BY THE HEARING EXAMINER:

18 Q. Just going briefly over what you expect to receive
19 or what are you asking for concerning this well would be the
20 660 setback, the unrestricted 60-day oil allowable well
21 drilling.

22 A. Oil and gas.

23 Q. I understand why that's necessary. Does it have to
24 be unrestricted?

25 A. Yes, I believe it does. We have no way of knowing

1 what we're going to encounter while drilling. And in a
2 drilling situation, our drilling engineer I am sure would be
3 happy to explain this, but as I understand it in a drilling
4 situation scenario to where you are producing oil and gas while
5 you are drilling, the only way to restrict it is to increase
6 your mud additives. By increasing your mud additives you are
7 adding some sort of a heavy mud to the environment that you
8 would be drilling in would imply, or potentially imply
9 formation damage, especially in the Mancos formation. We're
10 sensitive to that, we're concerned about it. That's part of
11 the reason why we're asking for an unrestricted --

12 Q. Now the 60 days, does that just apply to the time
13 the well is drilling?

14 A. While we're drilling, yes.

15 Q. It doesn't, when you are finished drilling that
16 doesn't aptly --

17 A. Yeah. See, when you are finished drilling your
18 pipes run and you can pull off the location and you can set
19 your well head and you can sit in there and wait until we come
20 before you again and tell you what we really want to do.
21 Because then you'll know what we have, and we will too.

22 Q. Okay. All you are seeking at this time is a
23 standard 320 oil and gas allowable for the well?

24 A. Yes.

25 Q. At this time. Okay. Basically the rest of the

1 stuff you are asking for would more or less fall into the rules
2 for the whole project?

3 A. Yes.

4 HEARING EXAMINER: I believe that's all I have.
5 Anything else?

6 The witness may be excused.

7 THE WITNESS: Thank you.

8 RICHARD STEPHEN SHUSTER,
9 the witness herein, after having been first duly sworn upon his
10 oath, was examined and testified as follows:

11 EXAMINATION

12 BY MR. BRUCE:

13 Q. Would you please state your name and city of
14 residence.

15 A. My name is Richard Shuster, S-h-u-s-t-e-r. And I am
16 a resident 24 Flora Way in Golden, Colorado.

17 Q. And what is your occupation?

18 A. I am a petroleum engineer, self-employed as a
19 consultant.

20 Q. And who have you been retained by in this case?

21 A. I've been retained by Veteran Oil & Gas and Sam Gary
22 Jr. and Associates.

23 Q. Have you previously testified before the New Mexico
24 Oil Conservation Division?

25 A. No, I have not.

1 Q. Would you please outline your background.

2 A. I am a registered petroleum engineer, or
3 professional engineer in Colorado with approximately 14 years
4 of experience. I worked with W. R. Grace, Grace Petroleum,
5 formerly known as the Columbus Corporation, in their operations
6 group, their acquisitions group as well as their reservoir
7 engineering group. I was primarily responsible in operations
8 for the artificial lift design and chemical treatment programs
9 in the Rocky Mountain area. Reservoir and acquisition group
10 was all over, all of their properties.

11 I then left, went to work for Scientific Software as
12 a consultant where I performed black oil and enhanced oil
13 simulations primarily for international clientele. Left the
14 industry briefly for about eight months, joined a company as
15 vice president of finance. Came back in as a consultant with
16 the Rider Scott Company in Denver doing economic evaluations,
17 again nationwide. Left Rider Scott to help Keen Eye Oil & Gas
18 sell their limited partnerships. And while at Keen Eye I
19 became responsible for all of the drilling and operation
20 activities for the company. They sold, I went to work for
21 Wintersol Oil & Gas as a reservoir production engineer handling
22 and the reservoir acquisition work and operations work in the
23 Paradox Basin, the Colorado portion of the San Juan Basin, and
24 Powder River Basin.

25 That was when the price of oil dropped and I spent

1 some time unemployed. Joined a small consulting firm in
2 Boulder where I assisted in operations, litigation support and
3 economic evaluations. In July, 1988, I formed my own practice
4 and have performed well site consulting services, drilling,
5 workover plans, economic analysis, and I've been designated as
6 an expert in the Texaco, for Texaco in their property tax
7 appeal and in their Bakersfield district. I am also designated
8 as an expert witness in an Illinois Basin case which appears to
9 be one that will be settled out of court.

10 Q. Okay. And are you familiar with the engineering
11 matters related to Case 10099?

12 A. Yes, I am.

13 MR. BRUCE: Mr. Examiner, is the witness considered
14 acceptable?

15 HEARING EXAMINER: He is.

16 (Thereupon, Exhibit 6 was
17 marked for identification.)

18 Q. (BY MR. BRUCE) Mr. Shuster, would you please refer
19 to Applicant's Exhibit No. 6. Describe how the initial well in
20 Section 11 will be drilled and also discuss the casing and
21 cementing program.

22 (Mr. Stovall is no longer present.)

23 A. I think the easiest part of this would be to turn to
24 the back page where it's graphical. I have a lot of trouble
25 just looking at tables and deciding where the wells go in.

1 Actually this well is nothing different than all the
2 other wells in the unit. We're going to drill it vertically to
3 about 3,500 feet. And an intermediate string of pipe will be
4 set at that depth. That will seal off all of the formations
5 with oil/gas/water production potential.

6 The casing will have a 24-inch hole, with 16-inch
7 conductor set, surface cemented to surface at about 175 feet
8 plus or minus. 12 and quarter inch hole will be drilled 3,200
9 feet and nine and five-eighths inch casing will be run and
10 cemented.

11 The last formation of concern is the point look out
12 estimated based on geologic prognosis at just about 3,140. So
13 that will be fine. 3,500 we kick off the well, as you can see
14 on the diagram. We reach the virtually horizontal portion or
15 80 degrees vertical at a depth of 3,979. And we'll drill at
16 that angle until we reach the desired length of our hole.
17 We anticipate reaching the top of the Mancos about 800 feet
18 from the south line of the section.

19 The mud program as Mr. Ambler stated, we will be
20 drilling an underbalanced system to help prevent formation
21 damage in the Mancos. One of the big reasons for this is in
22 pressure testing of the horizontal well the ascertainment of
23 formation damage is extremely difficult. Primarily because
24 with the very relatively shallow above and below depth of the
25 400 or 500 foot zone is the Mancos. Your pressure build-up

1 test where you can actually see what kind of damage you would
2 have would show boundary effects before you reach the transient
3 portion of your curve. You'll see a number of effects, and
4 it's very hard with the technology we have now to accurately
5 determine damage with a transient analysis testing program.
6 Therefore we want to keep those problems to a minimum. And in
7 the Austin chalk, Bakken formation, and even in the Niagaran
8 formation in Southeastern Wyoming they found that drilling
9 underbalanced does present a much nicer wellbore to work with
10 after you run your liner.

11 The liner will be run to the total, through the
12 total length of the hole and set in a manner that we could pull
13 the liner, plugg off if we need to the zones that were -- that
14 have failed to produce. We can lengthen the zones. We'll make
15 it operationally attractive to continue working from the same
16 vertical portion of the wellbore.

17 Q. Okay. Does this drilling plan conform to
18 conventional horizontal drilling procedures?

19 A. Yes. Technology is out there. We're not going to
20 reinvent the wheel.

21 Q. If you could briefly go into why you chose the
22 Mancos formation, or why the applicant chose the Mancos
23 formation for this drilling program, could you discuss that
24 briefly.

25 A. There have been a lot of articles, both some

1 published, many in-house articles on the Mancos, the fracture
2 systems within it. Anytime you have a fracture system it lends
3 to a horizontal well. A vertical well in a fractured system
4 will be nice if you hit the fractured system with the matrix
5 porosity behind it. If there is no matrix porosity you will
6 drain the fractures and that will be it.

7 Looking at recoveries in this field you can see that
8 there are wells that have hit fracture systems with matrix
9 porosity and reasonable permeabilities. Those wells are
10 performing fairly well. Other wells have hit just a fracture
11 system with porosity well into five percent permeability less
12 than half millidarcy, and those wells produce 4,000, 5,000
13 barrels, maybe 14 million cubic feet of gas, and that's it.

14 By drilling a horizontal well through a very thick
15 section you can encounter more horizontal fractures which will
16 enhance your production. The matrix contribution might be the
17 same as you would see in a vertical section hitting the same
18 fracture system. But by encountering more fracture systems the
19 economics, the overall economics of the well are enhanced, you
20 recover more oil that would have been left in the ground had
21 you just stayed with a conventional vertical program.

22 Q. Referring again to the draft on Exhibit 6, again
23 approximately how long do you anticipate the horizontal portion
24 of the wellbore will be?

25 A. Right now we're looking at about 2,000 feet. It

1 could be as much as three. We could back it off depending on
2 what type of shows we're getting, how the well is drilling,
3 where we are in relation to the lease boundaries. Monitoring
4 of the drill bit will be at a minimum every 30 feet. If we run
5 into problems we start inching towards a boundary we shouldn't
6 be there will be more measurements taken to ensure that we will
7 curve back to remain legal.

8 Q. Mr. Ambler went into this, but regarding future
9 wells will you again reiterate why the applicant requests
10 relief from the normal setback requirements and permission to
11 dedicate two units to one well?

12 A. Well, I think it's summed up in the term pilot
13 program. Drilling horizontally into the Mancos, we're not sure
14 exactly how good the wells are going to be. And by having this
15 permission in place it gives the flexibility to make sure that
16 we do optimize production for a given area.

17 Q. Okay. And how will you ensure the location of the
18 wellbore?

19 A. Again, measurements will be taken every 30 feet. If
20 we find we're moving off track, the motor will be adjusted to
21 move us back. We'll know within 30 feet where we are at all
22 times. Again standard, take the measurement right before you
23 start your kick off, probably more than once every 30 feet as
24 we make the curve, and then at a minimum every 30 feet. And
25 with adjustments made as needed.

1 Q. Will you comply with all requirements of Rule 111?

2 A. Yes, we will.

3 Q. What is the basic reason for drilling the horizontal
4 well?

5 A. Again, to encounter more of the fracture systems in
6 the Mancos. And again by encountering these fracture systems
7 the increased number of fracture systems the overall recovery
8 of the well should be increased.

9 Q. And regarding the administrative procedures that
10 have been requested, do you concur in the reasons set forth by
11 Mr. Ambler regarding the purpose for this request?

12 A. Yes. I think the three big reasons. Number one are
13 the economics of the well, moving rigs in and out of the area,
14 and this area is very expensive. The rig availability,
15 officially the Section 29 unconventional tax credit is over for
16 wells not spud by the end of this year. However, strong rumors
17 or if they extend that, the San Juan Basin coal gas seams will
18 continue to be prolific play in rig availability if they extend
19 it. There will be new players in and it will be hard to get a
20 rig.

21 Many people are trying horizontal wells in many
22 areas. And just the law of supply and demand, tool
23 availability could become a serious problem.

24 Q. Okay. In your opinion will the granting of this
25 application be in the interest of conservation and prevention

1 of waste?

2 A. Most definitely.

3 Q. And was Exhibit 6 prepared by you or under your
4 direction?

5 A. It was prepared under my direction.

6 MR. BRUCE: Mr. Examiner, I move the admission of
7 Exhibit No. 6.

8 HEARING EXAMINER: Exhibit No. 6 will be admitted as
9 evidence.

10 MR. BRUCE: Mr. Examiner, Mr. Stovall walked in and
11 handed us Special Rules for the Rio Puerco Mancos oil pool. If
12 I may, the normal setback requirement is 660 feet. However, I
13 think as we're requesting it, and if you need testimony on this
14 I think we're prepared to present it, of course, that pool rule
15 also requires that we be no closer than 330 feet to a quarter
16 quarter section line. And we'll need relief from that. And
17 also it requires that no wells be closer than 1,800 feet from
18 any other well. And that could potentially -- we may need
19 relief from that requirement also.

20 HEARING EXAMINER: Okay.

21 EXAMINATION

22 BY THE HEARING EXAMINER:

23 Q. Mr. Shuster, the direction in which the horizontal
24 well will be drilled, is that already predetermined and preset
25 and that will be the direction that it will be drilled in?

1 A. Yes, sir.

2 Q. That is in order to encounter the fractures at a
3 certain angle?

4 A. I don't think you can say which angle those
5 fractures are going to be at. The object is to encounter more
6 fractures with the horizontal well than you will with the
7 vertical wellbore. And in the zone that we're looking at it's
8 a continuous zone across the area. It's a very massive zone in
9 the 400 to 500-foot thickness range. You can be sure --
10 engineers shouldn't say sure, you should be fairly certain you
11 should be able to encounter a number of fractures for drilling
12 away from some of the production that might drain right now. I
13 don't think we have quite the data to ascertain depletion in
14 this area. Certainly the production at hand, cumulative
15 production for the wells indicates there is very little
16 depletion, so we should be drilling into some very nice
17 pressure areas for production.

18 Q. Well, I realize you are not a geologist, but do the
19 fractures within the Mancos formation, they are not in a
20 predominantly one direction?

21 A. To my understanding as an engineer, no. I have not
22 done an in-depth geological study to say yes or no.

23 Q. So that will not change. The direction of the well
24 will not change?

25 A. No, no.

1 Q. Just briefly going over again what you intend to do,
2 set your nine and five-eighths intermediate casing at what
3 depth?

4 A. 3,200 feet.

5 Q. Now, let's go back, surface casing will be what
6 size?

7 A. 16-inch conductor, and it will be at 60 feet. I
8 think I was near -- I said 170, and that was an offset well
9 with a little bit different elevation. It will be 60 feet.

10 Q. Okay. At 3,500 feet is where you intend to kick off
11 the well?

12 A. Yes, sir.

13 Q. And at what approximate rate, angle rate will you be
14 building the curve?

15 A. I believe it's 16 degrees per hundred feet.

16 Q. You'll approximately reach horizontal status at
17 about 3,979?

18 A. Yes, sir.

19 Q. Okay. From there you'll drill a distance of
20 approximately 2,000 feet laterally?

21 A. As the plan is now. This is a situation where as
22 we're getting the shows coming back, the fracture systems
23 encountered where we are relative to lease line, a slight
24 difference in angle might allow us to go 2,100 or back us off
25 to 1,900 to ensure that we do remain 660 from the lease line.

1 Q. Okay. Smith is going to be doing the drilling, or
2 they are providing the tools?

3 A. To be honest there is two companies we've talked to.
4 Once we make the decision to go it's going to base on tool
5 availability.

6 Q. I see. Both companies have experience in horizontal
7 drilling?

8 A. Yes, sir. That's one of the requirements that we do
9 have, is that the people we're dealing with have done this
10 before. We don't want to try a new company on a well like
11 this.

12 HEARING EXAMINER: Okay. I believe that's all I
13 have of the witness.

14 EXAMINATION

15 BY MR. MORROW:

16 Q. I want to know what weight mud do you plan to start
17 with?

18 A. Approximately, let's say zero to 3,200 we'll be
19 going with eight-five to eight-eight pound mud. And the
20 remainder of the hole it can creep up as high as 9.0 pounds per
21 gallon with no problems.

22 Q. How will you control the flow, flow of the oil
23 after?

24 A. The gas, we'll be sending it through separators-type
25 system where the gas will be sent off location and flared, the

1 oil will be routed to frac tanks which will be on location, and
2 hopefully trucked off as we drill the well.

3 Q. How will you close off angular space between the
4 drill pipe and the casing? Do you high drill or --

5 A. Yes, sir, I believe so. That was submitted to me by
6 the man that will be on location.

7 MR. MORROW: That's all I have.

8 HEARING EXAMINER: I believe that's all I have. The
9 witness may be excused.

10 MR. BRUCE: And these will be continued.

11 HEARING EXAMINER: Well, Mr. Bruce, my counsel left
12 me without giving me an opinion on whether we should continue
13 this to the 17th of October to correct the surface location.
14 Is that going to put your client in a bind?

15 MR. BRUCE: Well, let me talk with my client and if
16 I could talk with you later about it.

17 HEARING EXAMINER: Okay. For now --

18 MR. BRUCE: I'll be back here later today.

19 HEARING EXAMINER: Okay. For now the case will be
20 continued to the 3rd. If we deem it necessary to correct the
21 surface location it will have to be continued to the 17th. So
22 we'll get that straight later on then.

23 There being nothing further in Case No. 10099 it
24 will be continued to the October 3rd hearing.

25 I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 10099
heard by me on September 18, 1988 CUMBER COURT REPORTING
(505) 984-2244

David R. Cuta, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Diane M. Winter, 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.

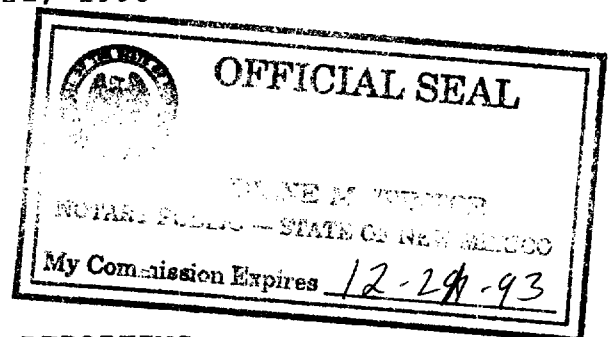
I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL October 1, 1990.

Diane M. Winter

DIANE M. WINTER
 CSR No. 414

My commission expires: December 21, 1993



CUMBRE COURT REPORTING
 (505)984-2244

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STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
CASE 10099 and CASE 10100

EXAMINER HEARING

IN THE MATTER OF:

Application of Samuel Gary Jr. and Associates,
Inc., for a Horizontal Directional Drilling
Project and Special Operating Rules Therefore,
Sandoval County, New Mexico.

Application of Samuel Gary Jr. and Associates,
Inc., for a Gas Reinjection/Pressure Maintenance
Project and Special Rules Therefore, Sandoval
County, New Mexico.

TRANSCRIPT OF PROCEEDINGS

BEFORE: JIM MORROW, EXAMINER

STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
October 3, 1990

A P P E A R A N C E S

1

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I N D E X

Page Number

Appearances

2

RICHARD STEPHEN SHUSTER, P.E.

Examination by Mr. Bruce

7

Examination by Hearing Examiner

18

Examination by Mr. Stovall

23, 26

Examination by Mr. Stovall

24

Certificate of Reporter

38

E X H I B I T S

APPLICANT'S EXHIBITS:

Exhibit A

9

1 EXAMINER MORROW: We'll call Case 10099
2 again.

3 MR. STOVALL: Application of Samuel Gary,
4 Jr. & Associates, Inc., for a horizontal directional
5 drilling pilot project and special operating rules
6 therefore, Sandoval County, New Mexico.

7 EXAMINER MORROW: Call for appearances.

8 MR. BRUCE: Mr. Examiner, Jim Bruce from
9 the Hinkle Law Firm representing the Applicant. I
10 have one witness to be sworn. And this could probably
11 be heard together with the next case, 10100.

12 EXAMINER MORROW: All right. We'll call
13 Case 10100.

14 MR. STOVALL: Application of Samuel Gary,
15 Jr. & Associates, Inc., for a gas reinjection pressure
16 maintenance project and special rules therefore,
17 Sandoval County, New Mexico. Okay. Mr. Bruce, your
18 witness was not sworn at the last hearing?

19 MR. BRUCE: Yes, he was. He testified.

20 MR. STOVALL: Okay. Well, let the record
21 reflect that he was previously sworn in this case and
22 continues under oath.

23 MR. BRUCE: Mr. Examiner, preliminarily,
24 Case 10099 was heard on September 17th but was
25 continued to this docket because a publication notice

1 had not been completed. I don't really have much
2 testimony from Mr. Schuster, my witness, regarding
3 Case 10099, but he'll be glad to answer any
4 questions you want.

5 One problem that Mr. Stovall has brought up
6 is that the case originally sought a well location 934
7 feet from the south line and 1975 feet from the west
8 line. At the last hearing my client wanted to change
9 the 934-foot figure to, I believe it was, 400 feet or
10 something like that.

11 MR. STOVALL: 450.

12 MR. BRUCE: 450 feet from the south line.
13 The 1975 figure remained the same. Unfortunately,
14 they were subsequently told and I found out late last
15 week that the BLM, because of certain time constraints
16 in connection with the San Ysidro Shallow Unit, would
17 not allow them to change that to repermit the well,
18 and therefore the Applicant is back at the original
19 well location which they have to commence, I believe,
20 by October 15th. They did get an extension on that.

21 Mr. Schuster can testify they do have
22 problems, well, not a problem, but they've contracted
23 for a rig and they would hope to start soon. That is
24 the problem with the case as it sits. We're not sure
25 how the case was advertised at this point.

1 MR. STOVALL: To summarize the advertizing
2 difficulty, I believe the original problem with the
3 case is that it didn't get in the paper in Sandoval
4 County.

5 MR. BRUCE: That's correct.

6 MR. STOVALL: At the last hearing the
7 change of location was requested, and it was indicated
8 they would readvertise it with the 450-foot location.

9 That advertisement has gone out for the
10 October 17th docket. The question we have is whether
11 or not the 934-foot location was ever advertised. So
12 we need to research that and determine whether we can
13 take it under advisement in this hearing.

14 I tried to locate that yesterday to
15 determine if we ever got the 934 in the paper. We'll
16 attempt to make that determination and get an answer
17 for you, and we can proceed at this point with
18 whatever it is you want to add to the case, and we'll
19 figure out what to do from there.

20 MR. BRUCE: Okay.

21 RICHARD STEPHEN SHUSTER P.E.

22 The witness herein, after having been previously duly
23 sworn upon his oath, was examined and testified
24 further as follows:

25

FURTHER EXAMINATION

2 BY MR. BRUCE:

3 Q. Just for the record, would you please
4 restate your name and city of residence?

5 A. My name is Richard Shuster, and I reside at
6 24 Flora Way, Golden, Colorado.

7 Q. The record, as noted, reflected that you
8 were previously sworn in. Are you familiar with the
9 engineering matters related in these two cases?

10 A. Yes, I am.

11 Q. Now, just briefly in Case 10099, you
12 testified regarding the drilling of the unit's initial
13 horizontal well in Section 11, is that correct?

14 A. Yes, sir.

15 Q. Once again for the record, would you just
16 briefly describe how the well will be drilled?

17 A. The well's current surface location is 934
18 from the south line, 1975 feet from the west line,
19 Section 11, 20 North, 3 West.

20 We're planning to drill the well vertically
21 to a depth of approximately 3500 feet. At that point
22 it will kickoff in a north/northwesterly direction,
23 about 15 degrees azimuth, and build at 12, 13 degrees
24 per 100 feet to an angle of about 80 degrees, the
25 angle at which we will penetrate the Mancos

1 formation.

2 Our horizontal or almost horizontal portion
3 of the wellbore, right now it's scheduled at about
4 2000 in length, based on where we are with the
5 bottom-hole location. It could be less, it could be
6 a little bit more, but right now our estimate is it
7 will be about 2000 foot in length.

8 Q. If permitted to do so by the OCD, what is
9 the schedule date for commencing this initial well?

10 A. The rig is mobilizing now and will be
11 available to spud on a Saturday, maybe Friday
12 afternoon.

13 Q. Now, regarding Case 10100 to a certain
14 extent, are there plans to drill a second unit well
15 this year?

16 A. Yes. And if the wells are successful, we
17 will continue the drilling program.

18 Q. And as currently envisioned, you would like
19 to commence the second well as soon as possible after
20 the first well is completed, is that correct?

21 A. That's correct.

22 Q. What is the reason for that?

23 A. One of the largest reasons is rig
24 availability. With the price as high as it is, many
25 people are trying to get their wells drilled and take

1 advantage of high prices and flush production. So rig
2 availability, not just in this area but everywhere, is
3 a real problem in drilling programs.

4 Q. Are there any additional wells currently
5 permitted by the BLM?

6 A. Yes. We have three wells being drilled,
7 Section 6, 20 North, 2 West; Sections 12 and 13, 20
8 North, 3 West.

9 Q. Regarding subsequent wells within the unit,
10 might some of them be drilled at nonstandard surface
11 locations?

12 A. On the surface, yes, based on our geologic
13 interpretation. Occasionally we will need to move one
14 way or the other outside the standard location in
15 order to penetrate the Mancos formation at an optimum
16 point in the reservoir as perceived by our geologist.
17 Although the surface location might not be standard,
18 the bottom-hole location will conform with the 660
19 setbacks as specified, and that will be monitored very
20 closely.

21 Q. Now, regarding these three wells you
22 mentioned, I refer you to Exhibit A and would you
23 describe that exhibit for the Examiner?

24 A. Exhibit A is essentially the same exhibit
25 as we presented last time for the well in Section 11.

1 These are the three wells, Section 6, 12 and 13, and
2 they are virtually the same.

3 Our goal is to drill vertically to
4 approximately 400 above the top of the Mancos and then
5 start our directional activities. In each case, based
6 on the geological interpretation, the direction is
7 approximately 15 degrees north/northwest to encounter
8 the optimum fracture. All three wells virtually have
9 the same design. The formation across the area we're
10 drilling is virtually the same, and we see no reason
11 to change our design at this point.

12 MR. STOVALL: Mr. Bruce, may I interrupt
13 for just a second here on a procedural question?

14 MR. BRUCE: Sure.

15 MR. STOVALL: The evidence that he's
16 presenting right now, is that in 10099 or 10100?

17 MR. BRUCE: Let me explain, if I could make
18 a brief statement. This has more to do with 10100.
19 These wells that Mr. Shuster is referring to aren't
20 officially part of the application for 10100. We're
21 just showing what we would like to do.

22 I think at the last hearing we put on
23 evidence with the landman, Mr. Ambler, plus Mr.
24 Shuster whereby we said we would like to get an
25 administrative procedure in place for future

1 horizontal wells, and we're just presenting this as
2 part of the information on what we plan to do in the
3 future. And, if possible, we would like to
4 subsequently apply administratively for approval of
5 these horizontal wells.

6 MR. STOVALL: If I'm not mistaken, I saw in
7 the advertising that went out for the October 17th
8 docket, additional applications for Samuel Gary, is
9 that correct?

10 MR. BRUCE: That is correct. I put those
11 on the docket, Mr. Stovall, just in case we didn't get
12 the administrative approval we were seeking, and I'm
13 trying to make sure we get approval for a subsequent
14 well in a timely fashion.

15 MR. STOVALL: Okay. My reason for
16 expressing concern, you're operating in tight time
17 frames, and I want to keep it as simple as possible
18 for the Examiners. You have two Examiners on this
19 case already, and you want an order out possibly
20 before we can take the case under advisement.

21 MR. BRUCE: For 10099.

22 MR. STOVALL: Okay. You're saying that is
23 just simply the single wellbore?

24 MR. BRUCE: That's the single well, 10099.

25 MR. STOVALL: And as far as you're

1 concerned now--

2 MR. BRUCE: I think we're okay on the
3 advertisement for Case 10100.

4 MR. STOVALL: As far as testimony in 10099
5 with respect to justification for that wellbore--

6 MR. BRUCE: That was essentially presented
7 at the last hearing and it's completed.

8 MR. STOVALL: Okay. I'll let you go ahead,
9 then. I'll have some additional questions as they
10 come to mind here, but I wanted to know where you were
11 going with it.

12 MR. BRUCE: This is presented more for
13 information purposes on these three wells, just on
14 future plans by the operator.

15 Q. (BY MR. BRUCE) Of the wells that are
16 permitted, and even any future wells in the unit, Mr.
17 Shuster, do the drilling procedures conform to
18 conventional horizontal procedures?

19 A. Yes, they do. As I stated last time, we're
20 not going to reinvent the wheel as we drill these. We
21 have experienced directional people on location to
22 make sure that the wells are done according to our
23 plans.

24 Q. You will comply with any Division
25 requirements that will ensure the location of the

1 wellbore?

2 A. Yes. Our plans are 30-foot measurements,
3 directional surveys. If we find we're moving in a
4 direction that could put us close to a lease line,
5 there will be measurements taken more often than 30
6 feet to ensure we know where our bottom-hole location
7 is at all times.

8 Q. Now, the Applicant has requested several
9 items. First, permission to dedicate up to two
10 320-acre units to one well. What is the reason for
11 this?

12 A. As Mr. Ambler discussed at the last
13 hearing, it's needed because of unitization. There's
14 no need to worry about impairing correlative rights.
15 The unit allows us to treat the 18,000 acres as one
16 tract.

17 In addition, the horizontal wells require
18 change from standard rules to permit the wells to be
19 drilled in a proper manner. As a result, special
20 rules regarding spacing unit size and setback limits,
21 give the needed flexibility to properly develop the
22 unit.

23 Q. And besides the 320-acre units, you also
24 require that a well be considered orthodox as long as
25 it's no closer than 660 feet to the outer boundary of

1 the unit, is that correct?

2 A. Right.

3 Q. Now, why was the Mancos formation chosen
4 for the horizontal drilling program?

5 A. The Mancos formation has two very nice
6 attributes for horizontal drilling. One, it's a very
7 thick stand or very thick zone, 4- to 600 feet. It
8 also has a high-degree fracturing which, in reviewing
9 production in the area, it's very evident that some
10 wells with a very nice fracture system will produce
11 100-, 200,000 barrels. Those wells that do not have a
12 developed fracture system or matrix porosity in the
13 area may be 4- to 5,000 barrels and a small amount of
14 gas.

15 By drilling horizontally, we can intersect
16 more of the Mancos reservoir, drain more fractures,
17 and potentially encounter more of the matrix porosity
18 zones that appear here and there within the Mancos.

19 Q. Now, you touched on it at the last hearing
20 but why does the operator request an unrestricted
21 allowable while completing the wells?

22 A. In a new project like this, we need to find
23 out what the wells will do on a horizontal basis. As
24 stated it's a pilot project, and we need to get as
25 much data as we could. As I asked Mr. Bruce, three or

1 four years would be nice to get the data an engineer
2 would need to evaluate it, but we're asking for as
3 much time as we can get to fully evaluate the
4 potential of the Mancos in a horizontal setting.

5 Q. Regarding an administrative procedure to
6 obtain approval for additional horizontal wells, what
7 is the main purpose of this request?

8 A. Rig availability has to be at the top. If
9 we lose a rig, there's no telling when we can get it
10 back in today's market. Since we have no correlative
11 rights to worry about, we're in real good shape with
12 that type of a situation.

13 Q. Okay. And do well economics and tool
14 availability also count?

15 A. Yes, the horizontal plays, as I'm sure
16 you're hearing more of, are becoming more and more a
17 thing to do. There are so many tools available for
18 horizontal drilling purposes or even directional
19 purposes, and just the physical availability of the
20 tools to do the job right is a serious concern of
21 ours. And by continuing the drilling program, it will
22 ensure that we keep the tools on location where we
23 have control over where they're going.

24 Q. For this reason you would request expedited
25 approval of the administrative procedure, is that

1 correct?

2 A. Yes, we would.

3 Q. Now, there are currently a number of
4 vertical wells, normal vertical wells within the unit
5 completed in the Mancos formation, are there not?

6 A. Yes, there are.

7 Q. What are the Applicant's plans for these
8 wells?

9 A. Currently there's 13 wells on production in
10 this unit. Our plans are to let them produce as we
11 continue this drilling program. We would request
12 permission to simultaneously dedicate the wells to the
13 units. None of the wells that we're drilling into are
14 prolific producers and, based on another case, the gas
15 reinjection plan that we will be talking on
16 eventually, we would like to keep the wellbores
17 available for disposal of the gas that will be
18 produced in the horizontal wells.

19 Q. Now, as to the wells, the simultaneous
20 dedication, would the operator shut in one of the two
21 wells on a unit until simultaneous dedication approval
22 is obtained?

23 A. Yes, we would.

24 Q. Now you mentioned the gas injection.

25 MR. BRUCE: We weren't planning to go into

1 that much, but if I could first, Mr. Examiner, this
2 case originally envisioned, 10100, a gas reinjection
3 project. In my prehearing statement I requested that
4 that portion of the case be dismissed. The reason for
5 that is we would like as prompt approval of the
6 special operating rules as possible, and prompt
7 consideration of those rules.

8 Q. Now, Mr. Shuster, the operator does plan on
9 pursuing the gas reinjection project, does it not?

10 A. Yes, it does.

11 Q. And you are preparing the appropriate forms
12 for submission to the OCD?

13 A. Right. The forms are being prepared. We
14 are trying to arrange a time where we can have the
15 state representative out on the well for the
16 injectivity test to be completed and submitted with
17 the form.

18 Q. In your opinion, are the granting of these
19 applications in the interests of conservation and the
20 prevention of waste?

21 A. Yes, it is.

22 Q. Was Exhibit A prepared by you or under your
23 direction?

24 A. Yes, it was.

25 MR. BRUCE: Mr. Examiner, I would move the

1 admission of Exhibit A.

2 EXAMINER MORROW: Exhibit A is admitted.

3 MR. BRUCE: I would also like to
4 incorporate the land testimony from Case 10099 which
5 was taken at the September 17th hearing in this
6 matter.

7 EXAMINER MORROW: It will be done.

8 MR. BRUCE: I have nothing further at this
9 point, Mr. Examiner. Before I turn over the witness,
10 I would request permission to submit a proposed order
11 to the Examiner within the next day or two.

12 EXAMINER MORROW: We welcome that.

13 EXAMINATION

14 BY EXAMINER MORROW:

15 Q. Mr. Shuster, what would you consider
16 development of a 640-acre unit? This 640 that you
17 propose to assign to a horizontal well, how would you
18 develop that 640 with the horizontal well?

19 A. Basically, my recommendation is as shown in
20 the horizontal wells. We are drilling on a
21 320-spacing unit. At this time we really don't know
22 what a horizontal well in this area will drain. We've
23 seen what the vertical wells will do, most of which
24 have encountered limited fracture systems and porosity
25 systems and have not been prolific producers. There

1 are a few that have the nice porosity back-up to the
2 fracture system and are well in excess of what one
3 would consider a marginal well.

4 By drilling on 640 acres and testing and
5 seeing what the potential is, we then have the ability
6 to come back and downspace if we need, but right now
7 just drill it as if it would be 320, evaluate the well
8 on a 640 or one-well-per-section basis.

9 Q. What I was getting at is whether or not you
10 plan to configure the well so that portions of it
11 would be located in each of the 320s that you would
12 assign to it, whether or not you can do that?

13 A. Yes.

14 Q. You would plan to do that?

15 MR. BRUCE: If I could interrupt, Mr.
16 Examiner, some of the wells may be like that, is that
17 correct?

18 THE WITNESS: Right.

19 MR. BRUCE: But not all of them?

20 THE WITNESS: Right. We're looking more in
21 our development for encountering the optimum fracture
22 system and, in some cases, we will--the development
23 will be based and requested upon the nature of the
24 fracture system we're targeting.

25 Q. (BY EXAMINER MORROW) The administrative

1 exception rules that you're requesting, how would you
2 propose that those be written? I know you're going to
3 submit a draft order, but how do you envision that
4 those would be handled by the OCD? Would notice be
5 required, and--

6 A. I would like to defer, if I could, that
7 question to Mr. Bruce.

8 EXAMINER MORROW: There are some
9 administrative exception rules in the Basin Fruitland
10 Coal Field. Are you familiar with those?

11 MR. BRUCE: I'm afraid so, Mr. Examiner.

12 EXAMINER MORROW: Would you anticipate
13 something similar to those?

14 MR. BRUCE: What we would like, Mr.
15 Examiner, is at least four wells on the interior of
16 the unit where we can do it without notice and
17 hearing. It is a 100-percent committed unit, as Mr.
18 Ambler has testified.

19 As to units on the exterior, as to well
20 units on the exterior of the San Ysidro Shallow Unit,
21 we understand and I believe Mr. Ambler testified to
22 that effect, that notice and possibly hearing may be
23 required to protect any offsets outside the unit.

24 Q. (BY EXAMINER MORROW) Mr. Shuster, do you
25 think the current wells in the field are draining the

1 320 at this time?

2 A. No, sir, I do not.

3 Q. And the 13 wells I believe that you said
4 are producing now, is that all the wells that there
5 are in the field, or in the unit?

6 A. No. There are 13 producing wells and
7 probably, I believe, about 10 or 12 plugged and
8 abandoned wells. Some wells did produce a small
9 amount of oil before they were plugged.

10 Q. Does this unit enclose all the field or are
11 there other portions of the field that aren't in the
12 unit?

13 A. In reviewing it, it enclosed the entire
14 field.

15 MR. BRUCE: If I may, I think the pool is
16 larger than the unit.

17 MR. STOVALL: That's correct, and I think
18 the exhibit was submitted in the previous hearing and
19 in 10099 it shows that. The unit, if I understand and
20 am not mistaken, is fully contained within the pool--

21 MR. BRUCE: That's correct.

22 MR. STOVALL: --and it's not coterminous
23 with the pool.

24 MR. BRUCE: That is correct.

25 EXAMINER MORROW: It's your memory that

1 there's a map in there that shows where the pool is
2 and where--

3 MR. STOVALL: Yes. I've forgotten which
4 exhibit number it is, but it was submitted in Case
5 10099, I believe. Is that not correct, Mr. Bruce?

6 MR. BRUCE: There is Exhibit 3 in Case
7 10099 which outlines the unit and which also indicates
8 which wells are or were completed in the Mancos within
9 the unit. And if--I believe the special pool rules
10 were submitted as an exhibit which give the extent of
11 the Rio Puerco Mancos Pool.

12 MR. STOVALL: In fact to summarize it, all
13 of the unit is within the pool boundaries? There's no
14 part of a unit that goes outside the--

15 MR. BRUCE: That is correct.

16 MR. STOVALL: We're talking about a
17 subdivision basically within it.

18 EXAMINER MORROW: So the rule changes that
19 you've proposed, would they apply to the entire field
20 or only to this portion of the field?

21 THE WITNESS: The entire field? I'm a
22 little confused as to exactly what-- The land
23 portions, the land--

24 MR. BRUCE: Well, we would only have it
25 apply to the unit.

1 EXAMINER MORROW: And how long do you think
2 the unrestricted allowable would be needed? You said
3 as long as possible, but how long is that?

4 THE WITNESS: 60 days, I think. I think we
5 can get a very good answer in 60 days towards the
6 development for future drilling.

7 MR. STOVALL: A follow-up question on that.

8 EXAMINATION

9 BY MR. STOVALL:

10 Q. Based on the producing history of wells in
11 that pool, do you think you can produce over and above
12 a 320 depth bracket allowable with a horizontal well?

13 A. We'll be encountering so much more zone and
14 the potential for additional fracture systems and
15 matrix porosity development, I think the chance
16 definitely does exist.

17 Q. In other words, you're an optimist, right?

18 A. Well, yeah. An engineering optimist is
19 kind of an oxymoron. But, no, in reviewing this
20 horizontal play with the Austin Chalk in Texas or the
21 Niobrara play in Southeastern Wyoming, or the Bakken
22 play in the North Dakota area, this play is probably
23 one of the better ones that is available--this
24 specific pool. There are other Mancos/Gallup areas
25 that people are trying this in.

1 We've got the formation, we've got the
2 pressure, we've got the productive capability, and by
3 drilling horizontally we can basically--if you'll
4 stack a couple of reservoirs on top of each other, by
5 cutting an additional hypotenuse of a triangle amount
6 of a section and looking at how the other horizontal
7 plays have compared with the vertical well and the
8 horizontal well, yes, I think there is a chance that
9 we can substantially increase our productive capable
10 of a single wellbore.

11 EXAMINER MORROW: Do you know if gas is
12 being sold from or would be--well, you're going to
13 reinject it. Scratch that question.

14 THE WITNESS: In answer to your "almost
15 question," there is no gas market out here so
16 therefore well be reinjecting it.

17 EXAMINER MORROW: Mike, do you have some
18 questions? You rassled with this earlier.

19 MR. STOGNER: Yes.

20 EXAMINATION

21 BY MR. STOGNER:

22 Q. Who will be the unit operator?

23 A. Sam Gary, Jr. & Associates, will be the
24 operator of record.

25 Q. Are there some present wells operating out

1 there at this time in the unit area?

2 A. Yes, there are.

3 Q. Who are they operated by?

4 A. I believe the official name is Gary
5 Williams Oil Producer, and they're the same company.
6 I'm not sure exactly how the name changes come through
7 on the forms.

8 Q. Then how will the forms been submitted?

9 Under Samuel Gary or the Gary Williams Company?

10 A. Most likely--it will be Sam Gary, Jr. &
11 Associates.

12 Q. Those present wells will be changed at some
13 later date?

14 A. Right.

15 Q. I believe there is a stipulation, is it
16 Rule 2 or Rule 4 that require only one well per
17 proration unit? Would some of these existing wells be
18 within a proration unit that covers a horizontal well,
19 and, if so, will these vertical wells be plugged back?
20 temporarily abandoned? How do you propose to meet
21 that special stipulation in the special rules?

22 A. Most likely the wells will be plugged
23 unless we feel the wellbore will be required for a gas
24 injection program that will be in place here.

25 Q. So, as far as two producing wells, you do

1 not anticipate any of that being the case?

2 A. No, sir.

3 MR. STOGNER: I have no other questions.

4 FURTHER EXAMINATION

5 BY MR. STOVALL:

6 Q. Let me go back and follow up a little bit
7 with what Mike was asking.

8 The existing vertical wells in the pool,
9 will they be unit wells or will they continue to be
10 operated on the--

11 A. The unit wells, the way the unit is set up
12 is based on horizontal completions so, no, they will
13 not be unit wells.

14 Q. If they continue to produce, then, it will
15 be on a tract proration unit basis?

16 A. Right.

17 Q. If I remember from the last hearing on the
18 horizontal, at least the initial horizontal well that
19 you're proposing, you are proposing a 640-acre
20 drillbore, is that correct? Participating area?
21 Maybe we'll call it that. The cost will be borne by
22 the 640 acres, and production will be allocated in the
23 same manner?

24 A. I believe that was the testimony Mr. Ambler
25 had given.

1 Q. I'm not sure I'm entirely clear what you're
2 looking for as far as additional wells. What type of
3 drilling blocks? I assume no less than 320?

4 A. Right.

5 Q. Are you seeking the ability to make them
6 larger if you determine that's necessary?

7 A. Yes, sir. I apologize for having to defer
8 so many of the land-type questions on the allowables
9 to Mr. Bruce, but--

10 Q. I understand, and I guess I'm sorry Mr.
11 Ambler is not here, perhaps, to answer some of these
12 questions. Let me explain. The concern we've got, if
13 you drill a horizontal well within a 320-acre standard
14 proration unit, yet under the sense of the unit
15 operations you've created a 640-acre intrasharing
16 unit, so to speak, there is the concern about the
17 waste issue that the oil underlying the additional 320
18 acres may not get produced. What would be your
19 initial response to that?

20 A. I think at that point in time we could come
21 back and request permission to drill that second well
22 to recover the reserves that would be lost by the
23 single wellbore.

24 Just on a technical basis I don't know what
25 the filing requirements are for spacing changes, but

1 at the point in time where we have the substantial or
2 enough history to determine the ultimate recovery of
3 the first wellbore, we can then determine the amount
4 of a section it will drain, and we can see what type
5 of a loss we will be looking at, if any, on the
6 remaining 320 acres. Now, that's just a technical
7 issue that has nothing relative to what the orders for
8 spacing units would say.

9 Q. What I'm coming to, for example, in this
10 first well I assume you have permitted it with the
11 BLM, is that correct?

12 A. Yes, sir.

13 Q. And on the acreage dedication plat, what
14 did you show as the acreage dedication on that well?

15 A. I would have to defer that to Mr. Bruce.

16 MR. STOVALL: Do you have that available?

17 MR. BRUCE: We will get that for you.

18 Q. Where I'm coming from, you have a certain
19 advantage in unit operations as you have some
20 flexibility because of the creation of participating
21 areas you can ensure the protection of correlative
22 rights across a wide area by creating these
23 participating areas and sharing, so the correlative
24 rights issue is minimized.

25 I could see, for example, that you could

1 dedicate in the proration-unit sense, a proration unit
2 being that tract of land from which the oil is being
3 produced and to which production limitations apply and
4 have a different participation in it, which in some
5 ways occurs in a lot of units. Is that what you would
6 anticipate might happen?

7 A. It sounds like a logical solution to what
8 we're looking at.

9 Q. I'm sort of offering it as an alternative,
10 more in terms of trying to get an explanation.

11 A. Right.

12 Q. Let's get simpler now.

13 A. Please.

14 Q. I'm making my common mistake of getting too
15 far into this. In terms of establishing
16 administrative process for the approval of wells, what
17 would be your response to a process that would provide
18 for an administrative approval of a well which was
19 drilled entirely within a legal drilling window, based
20 on--is this a 660 setback in this pool?

21 MR. BRUCE: Yes, it is. The current pool
22 rules provide for a 660 setback.

23 Q. --which was the surface location and of the
24 horizontal well all within that 660 window. Is that
25 acceptable or do you need more flexibility than that,

1 or are you able to address the issue?

2 MR. BRUCE: I think, if I may just be
3 allowed to speak, I think that's acceptable. The only
4 thing that I might point out is that some of these
5 wells, and I think this is what Mr. Morrow was getting
6 at, is that some of these wells may start off in
7 one-half section and drip north/northwest into another
8 section. So if you're saying only administrative
9 approval for a 320-acre unit, we would like to make it
10 as broad as possible.

11 EXAMINER MORROW: I believe you requested a
12 change to 640, so your question probably applies to
13 640, I believe?

14 MR. STOVALL: Well, I guess that's what I'm
15 trying to ask. I'm trying to formulate exactly what
16 it is you're requesting in terms of the ability to
17 administratively approve it.

18 MR. BRUCE: Well, I think the formation or
19 the application said 320 or 640 at the operator's
20 option. So some of these wells may, indeed, be
21 dedicated to a 320-acre unit.

22 Q. (BY MR. STOVALL) If you get this
23 flexibility, again we're getting into the land
24 questions and please feel free to tell me if you don't
25 know the answer--don't speculate too wildly--the

1 protection of correlative rights really becomes a
2 certain point of issue but again that's dealt with by
3 the participating areas.

4 Would you anticipate that to be a common
5 participating area? How are you doing that in order
6 to gain this flexibility? What protection are you
7 going to give all around as far as developing
8 participating areas, participation in the wells, and
9 in relation to other wells that have been developed in
10 a similar manner? Does either of you have the
11 knowledge or understanding of that?

12 MR. BRUCE: I'm not sure I-- Are you
13 saying drilling a well that is located entirely on one
14 320 but dedicating 640 acres to it, what protection is
15 there?

16 MR. STOVALL: For example, if the first
17 well is drilled and 640 acres dedicated to it, in
18 terms of a drilling block even a proration unit, then
19 the next well is drilled, if it's adjacent, that's one
20 issue. Should it be the same drilling block as the
21 first? The participating area, I think that's the
22 common language of the Unit Agreement, as the first,
23 and incorporated into that expands the participating
24 area and provide for participation on that basis as
25 opposed to, say, a noncontiguous tract developed with

1 a horizontal well? How would you deal with the
2 participation in that? Are you been able to respond,
3 or is it in the Unit Agreement?

4 MR. BRUCE: I believe there's something in
5 the Unit Agreement regarding participating areas.

6 MR. STOVALL: My purpose here in asking you
7 this is to make sure we have an order that's not
8 inconsistent with your Unit Agreement; hopefully quite
9 consistent with it.

10 MR. BRUCE: Under the Unit Agreement which
11 was submitted as Exhibit No. 2 in Case 10099 on
12 September 17th, paragraphs 10 and 11, or Sections 10
13 and 11 talk about participation, participating areas.
14 And the participating area, as I read it, is to be
15 that part of the unit or that part of, say--well, I
16 suppose of the unit that is regarded as reasonably
17 proved to be productive. I don't know how these
18 things work in practice, but it should officially
19 include an area that would be reasonably drained by a
20 well that is drilled.

21 MR. STOVALL: Taking that one step further,
22 under unit operations there may be one or more
23 participating areas. If you start out with an initial
24 exploratory well and step out, it's not uncommon to
25 expand the existing participating area to include

1 those. If you do a distance step out from an existing
2 participating area, you may form a second
3 participating area.

4 Have you discussed that? Are you in a
5 position that either of you could respond?

6 Where are the wells going to be drilled?
7 Maybe that's the easiest way to get to it. (Pause)
8 Where was the first well?

9 MR. BRUCE: In Section 11. And then Mr.
10 Shuster talked about the next three wells that have
11 been permitted with the BLM are in Section 6, to the
12 east, and then Sections 12 and 13.

13 MR. STOVALL: So actually they would be
14 kind of a next area step out except for Section 6?

15 MR. BRUCE: Yes, and I'm not sure which is
16 to be the second well. Do you?

17 THE WITNESS: No, I don't.

18 MR. STOVALL: Okay. I won't ask you to
19 answer questions that you can't. What I'm concerned
20 with is making sure of any administrative approval
21 that would approve, particularly that horizontal well
22 and the 640 doesn't have the potential for a waste.

23 MR. BRUCE: And Mr. Ambler did testify in
24 the last hearing. He was open to suggestion to
25 whatever limitations the Division may impose that seem

1 reasonable to it, the operator will abide by.

2 MR. STOVALL: Mr. Bruce, a quick question
3 on the notice issue. In Case 10099, I assume you
4 provided notice of some form written on--I think you
5 gave us something. Basically, though, we're talking
6 all unit participants, right? as being those that
7 would be the only people entitled to notice, isn't
8 that correct, since 10099, the horizontal well, is the
9 middle of a unit?

10 MR. BRUCE: Well, we did not give notice
11 because they were all aware that the initial well--you
12 know, of all the plans.

13 MR. STOVALL: I'm just trying to solve this
14 location/notice problem for you, if we can.

15 Let me ask you this: Have all the working
16 interest owners in the unit and the single royalty
17 owner been advised pursuant to the Unit Agreement of
18 the current state of the Applicant's intention to
19 drill the well from the 934 location?

20 MR. BRUCE: Yes, they have. And if you
21 want, I will get a letter to this effect and submit it
22 post haste.

23 Exhibit No. 2 in Case 10099 is a letter
24 from the BLM to Samuel Gary, Jr. & Associates, which
25 approves the unit and which also provided for a

1 horizontal well. It does not give the footage
2 location, but it does say it will be in the southeast
3 of the southwest of Section 11.

4 The Unit Agreement itself, which was signed
5 by all the working interest owners, did provide for a
6 horizontal well, and they were all notified of the
7 well location. The reason for moving it back was just
8 the BLM requirement that they commence the well by
9 October 15th, and the BLM said there was not time to
10 permit a new location at 450 feet from the south line
11 before the October 15th date arrived; and, therefore,
12 they said drill, or so goes the unit.

13 EXAMINER MORROW: What we were discussing
14 is whether or not you would be willing to proceed at
15 your own risk at this time, subject to curing the
16 notice problems and getting final approval at a later
17 date?

18 MR. BRUCE: I think we would.

19 MR. STOVALL: Because the only people
20 entitled to notice are people who are in the unit.
21 The only correlative rights issue involved, as I see
22 it, is the working interest owners in the section
23 surrounding Section 11 who, while they're unit
24 members, will not be participating in this first
25 well. Would that be a fairly correct assessment of

1 that?

2 MR. BRUCE: Yes.

3 MR. STOVALL: And that kind of gets me back
4 to where I was going before, that as you step out,
5 then those become less of a concern because they can
6 be brought into the participating area and they share
7 in all the glories and benefits and risks and hazards
8 of that participation.

9 MR. BRUCE: Hopefully, yes.

10 MR. STOVALL: So the correlative rights
11 issue gets resolved by inclusion into the
12 participating unit, and then we're only concerned with
13 our resources being developed.

14 MR. BRUCE: We'll take care of that notice,
15 and let me get in touch with you in a day to make sure
16 I'm doing the right thing according to your thoughts.

17 EXAMINER MORROW: The witness may be
18 excused.

19 MR. BRUCE: Thank you for accepting our
20 confused testimony.

21 EXAMINER MORROW: We'll take both Cases
22 10099 and 10100 under advisement, except that
23 10099----

24 MR. STOVALL: I recommend, Mr. Examiner,
25 that we leave the record open for the moment to

1 clarify the notice issues.

2 EXAMINER MORROW: Is that 10099, or--

3 MR. STOVALL: Do we have a problem with
4 10100?

5 EXAMINER MORROW: I don't believe we do.

6 MR. STOVALL: Okay. We could take 10100
7 under advisement, and leave 10099 open until we
8 clarify the notice requirement.

9 EXAMINER STOGNER: Do you have that
10 correct, Ms. Court Reporter?

11 COURT REPORTER: Yes, I do.

12 (Thereupon, the proceedings concluded.)

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CERTIFICATE OF REPORTER

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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 October 15, 1990.

Carla Diane Rodriguez
CARLA DIANE RODRIGUEZ
CSR No. 91

My commission expires: May 25, 1991

I do hereby certify that the foregoing is a
a complete and true transcript of the proceedings in
the Court case in Case No. 10099. + 10100
heard by me on Oct 3 1990.
[Signature] Examiner
Oil Conservation Division

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STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
CASE 10099

EXAMINER HEARING

IN THE MATTER OF:

Application of Samuel Gary, Jr. and
Associates, Inc., for a Horizontal
Directional Drilling Pilot Project
and Special Operating Rules Therefore,
Sandoval County, New Mexico.

TRANSCRIPT OF PROCEEDINGS

BEFORE: MICHAEL E. STOGNER, EXAMINER

STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO

October 17, 1990

ORIGINAL

1 P R O C E E D I N G S

2 EXAMINER STOGNER: This hearing will come
3 to order. I'll call Case 10099.

4 This is the application of Samuel Gary, Jr.
5 & Associates, Incorporated, for a horizontal
6 directional drilling pilot project and special
7 operating rules therefore, Sandoval County, New
8 Mexico.

9 This case was advertised several hearings
10 ago at a location, and then that location was changed,
11 and the case was heard somewhere down the line, and
12 the location was changed back to its original. There
13 have been several advertisement errors.

14 However, in consultation with our General
15 Counsel and Division Director, they both feel that
16 this case may be taken under advisement at this time.

17 I might add that this case will appear
18 again on the Examiner's Hearing scheduled for October
19 31st, but nothing will be done at that point.

20 If there are no questions on that case,
21 we'll move on.

22 (Thereupon, the proceedings concluded.)
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25

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 October 17, 1990.

Carla Diane Rodriguez
CARLA DIANE RODRIGUEZ
CSR No. 91

My commission expires: May 25, 1991

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner Hearing of Case No. 10089,
heard by me on 17 October 1990.
[Signature], Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
CASE 10,099

EXAMINER HEARING

IN THE MATTER OF:

Application of Samuel Gary, Jr., and Associates,
Inc., for a Horizontal Directional Drilling Pilot
Project and Special Operating Rules Therefor,
Sandoval County, New Mexico

TRANSCRIPT OF PROCEEDINGS

BEFORE: MICHAEL E. STOGNER, EXAMINER

STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO

October 31, 1990

ORIGINAL

A P P E A R A N C E S

FOR THE DIVISION:

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

* * *

I N D E X

Proceedings

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Reporter's Certificate

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1 WHEREUPON, the following proceedings were had
2 at 1:55 p.m.:

3 EXAMINER STOGNER: Call Case Number 10,099.

4 MR. STOVALL: Application of Samuel Gary,
5 Jr., and Associates, Inc., for a horizontal directional
6 drilling pilot project and special operating rules
7 therefor, Sandoval County, New Mexico.

8 EXAMINER STOGNER: This case was previously
9 heard and was taken under advisement on the October
10 17th, 1990, hearing. It appears today on this docket.

11 At this time I'll call for any additional
12 appearances, if there are any.

13 MR. STOVALL: Mr. Examiner?

14 EXAMINER STOGNER: Yes, sir.

15 MR. STOVALL: I'll point out that this case -
16 - and I don't know what record was made at the October
17 17th hearing, but this Application got a little bit
18 messed up as far as location.

19 The original location called for a well that
20 I think was 950 something, and then they -- from the
21 south line. They switched it to 450 feet, then they
22 switched back to 950 feet, and that was the Application
23 that was taken under advisement at the October 17th.

24 And in effect, what we are doing is
25 dismissing the Application in as far as it relates to a

1 surface location 450 feet from the south line. And the
2 case of 900 and whatever feet, as originally applied
3 for, has been taken under advisement.

4 EXAMINER STOGNER: Thank you. And there
5 again, that appears on today's docket, so it's
6 preliminary. We called it, and this case will be taken
7 care off.

8 (Thereupon, these proceedings were concluded
9 at 1:56 p.m.)

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CERTIFICATE OF REPORTER

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

I, Steven T. Brenner, 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 transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

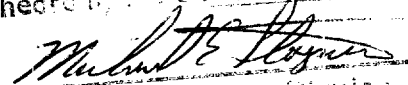
I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL November 3, 1990.



STEVEN T. BRENNER
 CSR No. 106

My commission expires: October 14, 1994

I do hereby certify that the foregoing is
 a complete and correct transcript of the
 the proceedings before the Oil Conservation Division No. 10079
 heard by me on 31 October 1990.

 Michael H. Boyer, Examiner
 Oil Conservation Division