

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

IN THE MATTER OF THE HEARING CALLED
BY THE OIL CONSERVATION DIVISION FOR
THE PURPOSE OF CONSIDERING:

Case No.: 14642

APPLICATION OF BLACK HILLS GAS RESOURCES
INC FOR THE CREATION OF THE JICARILLA
MANCOS FORMATION PROJECT AREA, AN EXCEPTION
TO THE SPECIAL RULES AND REGULATIONS FOR THE
BASIN-MANCOS GAS POOL AND TO RULE 19.15.16 NMAC,
RIO ARRIBA, NEW MEXICO

COPY

REPORTER'S TRANSCRIPT OF PROCEEDINGS
EXAMINER HEARING

BEFORE: DAVID K. BROOKS, Legal Examiner
WILLIAM JONES, technical Examiner

DATE: June 23, 2011
Santa Fe, New Mexico

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This matter came on for hearing before the New
Mexico Oil Conservation Division, DAVID K. BROOKS,
Legal Examiner, and WILLIAM JONES, technical Examiner,
on Thursday, June 23, 2011, at the New Mexico Energy,
Minerals and Natural Resources Department, 1220 South
St. Francis Drive, Room 102, Santa Fe, New Mexico.

REPORTED BY: Irene Delgado
Paul Baca Professional Court Reporters
500 Fourth Street, NW, Suite 105
Albuquerque, NM 87103

A P P E A R A N C E S

FOR THE APPLICANT:

MICHAEL FELDEWERT
HOLLAND & HART
110 N. Guadalupe, Suite 1
Santa Fe, NM 87501

I N D E X

DAVE THORNQUIST

Direct Exam by Mr. Feldewert 04

RICHARD WHITE

Direct Exam by Mr. Feldewert 19

EXHIBITS 1 -6 WERE ADMITTED 14

EXHIBITS 7 - 12 WERE ADMITTED 35

1 EXAMINER JONES: Now we will call Case 14642,
2 application of Black Hills Gas Resources Incorporated
3 for the creation of the Jicarilla Mancos Formation
4 Project Area, and exception of the special rules and
5 regulations for Basin-Mancos Gas Pool and to Division
6 Rule 16, Rio Arriba County, New Mexico. Call for
7 appearances.

8 MR. FELDEWERT: If it please the Examiner,
9 my name is Michael Feldewert with the Santa Fe office
10 of Holland and Hart appearing on behalf of Black Hills
11 Gas Resources Inc. I have two witnesses here.

12 EXAMINER JONES: Any other appearances?

13 (No response.)

14 EXAMINER JONES: Will the witnesses please
15 stand, and the two witnesses please stand and state
16 your names.

17 MR. THORNQUIST: Dave Thornquist.

18 MR. BLAKE: Richard White.

19 EXAMINER JONES: Will the court reporter
20 please swear the witnesses?

21 (Witnesses duly sworn.)

22 EXAMINER BROOKS: Okay. The Division has
23 received a letter by e-mail from the Oil and Gas
24 Administration of the Jicarilla Apache Nation in
25 support of the application. They do not indicate that

1 they copied you, Mr. Feldewert.

2 MR. FELDEWERT: Mr. Examiner, we actually
3 received that. We actually this morning marked it as
4 Exhibit 2A to our presentation.

5 EXAMINER JONES: I didn't assume you would
6 object to it.

7 MR. FELDEWERT: That was a good assumption.

8 DAVID CHARLES THORNQUIST

9 (Having been sworn, testified as follows:)

10 DIRECT EXAMINATION

11 BY MR. FELDEWERT:

12 Q. State your full name for the record,
13 please.

14 A. David Charles Thornquist.

15 Q. By whom are you employed and in what
16 capacity?

17 A. I am employed by Black Hills Exploration
18 and Production, and I am a senior landman.

19 Q. How long have you been with Black Hills?

20 A. I have been employed by Black Hills for
21 two and a half years.

22 Q. Would you review for the -- have you
23 testified before this Division?

24 A. I have not.

25 Q. Okay. Would you review for the Examiner,

1 please, briefly, your educational background.

2 A. I graduated from the University of
3 Oklahoma in 1981 in their petroleum land management
4 program.

5 Q. What did you do after that?

6 A. Following that I was employed by Texas Oil
7 and Gas for six years in their Rocky Mountain Division
8 both in Billings and in Denver.

9 Q. And then following your stint with Texas
10 Oil and Gas, what did you do?

11 A. I spent over 20 years in the real estate
12 development business, and then came back in 2008, and I
13 have been employed with Black Hills for two and a half
14 years.

15 Q. What, since you came back to the oil and
16 gas industry in 2008, what has been your area of
17 responsibility for Black Hills?

18 A. I am responsible for three different
19 assets for Black Hills, one being in North Central
20 Montana, another being in Western Colorado, and I'm
21 also involved in the San Juan Basin for Black Hills.

22 Q. Have your responsibilities included the
23 New Mexico portion of the San Juan Basin?

24 A. Yes, they have.

25 Q. And what has been your primary focus since

1 returning to the industry with Black Hills in 2008, oil
2 or gas?

3 A. Oil and gas. Gas, primarily.

4 Q. Gas, okay. Are you a member of any
5 professional organization?

6 A. I am. I'm a member of the Denver
7 Association of Petroleum Landmen.

8 Q. How long have you been a member of that
9 association?

10 A. Just over two years.

11 Q. Are you familiar with the application
12 filed by Black Hills in this case?

13 A. I am.

14 Q. Are you familiar with the project and the
15 land in the subject area?

16 A. Yes, I am.

17 MR. FELDEWERT: Mr. Examiner, I tender
18 Mr. Thornquist as an expert witness in petroleum land
19 matters.

20 EXAMINER JONES: Mr. Thornquist, I see three
21 witnesses on the prehearing statement. You are one of
22 them, and the other two are going to be -- or just one
23 more, Mr. White?

24 MR. FELDEWERT: Just one more, Mr. White.

25 EXAMINER JONES: Mr. White. He is so

1 qualified.

2 EXAMINER BROOKS: And we'll pardon you for
3 being a Sooner.

4 Q. Would you identify, briefly, just what
5 Black Hills seeks with this application?

6 A. Black Hills is seeking an exception to the
7 special rules for the Basin-Mancos Pool.

8 Q. What do you seek to change with respect to
9 the special rules for the Basin-Mancos Gas Pool?

10 A. We seek to eliminate the 660 setback of
11 the interior of the project area.

12 Q. When you say "Project area," is there an
13 area of property that you internally within the company
14 consider it a project area?

15 A. Yes:

16 Q. And what is the name within the company of
17 this particular project area?

18 A. We are calling it our Jicarilla Mancos
19 Formation Project Area.

20 Q. You mentioned you want to eliminate the
21 660 feet setbacks within this particular area. Are you
22 intending to maintain the setback with respect to the
23 exterior boundary of this area?

24 A. Yes, we are.

25 Q. And what else do you seek under this

1 application?

2 A. We also seek the authority to use the
3 point where the directional wellbore penetrates
4 producing interval as the penetration point under Rule
5 16, rather than the point where it first penetrates the
6 pool at the top of the Mancos.

7 Q. And do we have a geologist here today
8 that's going to explain the reason for that exception?

9 A. We do.

10 Q. Why don't you turn to Exhibit 1. And does
11 this generally identify the location of the area
12 internally that you have described as the Jicarilla
13 Mancos Formation Project Area?

14 A. This is the area in which we are proposing
15 our project area; yes.

16 Q. And is a legal description of this acreage
17 set forth in the application?

18 A. Yes, it is.

19 Q. Now, this particular area that you refer
20 to as the Jicarilla Mancos Formation Project Area, is
21 it under common ownership?

22 A. Yes, it is.

23 Q. Who are the principal -- I guess it's
24 contract owners -- within this area?

25 A. Black Hills having 80 percent under five

1 of the contracts, Energen having 20 percent under five
2 of the contracts, and Black Hills under two contracts
3 having 100 percent.

4 Q. How many contracts in total are involved
5 in this Jicarilla Mancos Formation Project Area?

6 A. We have seven.

7 Q. When you say "contracts," they are
8 contracts with what entity?

9 A. With the Jicarilla Apache Nation.

10 Q. Okay. I want to skip for now Exhibits 2
11 and 2A. Would you turn to Exhibit Number 3 for us,
12 please. And identify for the Examiner what this -- let
13 me ask you this: Does Exhibit 3 identify your -- your
14 project area in your proposed development plan?

15 A. Yes; it does.

16 Q. Okay. Why don't you describe for the
17 Examiner, using this exhibit, your -- your -- the
18 ownership situation of your project and then the
19 exceptions that you seek in this case.

20 A. Looking at the exhibit, you will see two
21 primary color codes.

22 Q. So we are on Exhibit 3?

23 A. Exhibit 3. Sorry.

24 EXAMINER JONES: Thank you.

25 A. You will see two primary color codes. The

1 blue represents the five contracts whereby Black Hills
2 and Energen are the working interest owners. In that
3 division Black Hills has 80 percent; Energen has 20
4 percent. Down at the south end or bottom of the page,
5 you will see a yellow block. That is where Black Hills
6 has 100 percent, and these -- this represents our
7 interest in the deeper zones, or, in this case, the
8 Mancos Formation.

9 Q. Now, is your -- you call this your
10 Jicarilla Mancos Project Area. Is it outlined then in
11 orange?

12 A. It is outlined in orange.

13 Q. And comprises both the blue and yellow
14 areas?

15 A. Yes, it does.

16 Q. Does this exhibit also show your proposed
17 horizontal wellbores?

18 A. Yes, it does.

19 Q. Now, what is -- is the hashed area on
20 here, is that the 660 setback from the exterior
21 boundary of your project area?

22 A. Yes, it is.

23 Q. What is the area in green, with the green
24 hashes in the middle?

25 A. The green hashed area, which is located

1 towards the center, that is a project area of an
2 existing well that Black Hills just drilled in the
3 Mancos. It has not yet been completed as of yet, but
4 has been drilled horizontally. The red or orange area
5 within the green is the producing area.

6 Q. Now, did you seek administrative approval
7 for that particular well?

8 A. Yes, we did.

9 Q. And did you -- did you seek exceptions
10 with respect to the 660 setback requirements
11 administratively?

12 A. Yes, we did.

13 Q. For that individual well?

14 A. Yes.

15 Q. And would the approval of this application
16 avoid the need for the company to obtain similar
17 exceptions to each of the wells shown within this
18 project area?

19 A. Yes, they would.

20 Q. Now, let's go back to Exhibit Number 2,
21 then. You mentioned Energen being one of the interest
22 owners under these contracts. Is Exhibit Number 2 a
23 letter from Energen noting its approval of your
24 application here today?

25 A. Yes.

1 Q. It's already been alluded to, I think, on
2 the record here today, but did the company then also
3 discuss this application with the Jicarilla Nation, and
4 is Exhibit 2A a letter dated June 22, 2011, from the
5 director of the Oil and Gas Administration for the
6 Nation approving this application?

7 A. Yes.

8 Q. Now, will the granting of this blanket
9 exception to the 660 setback requirements within this
10 project area impair the correlative rights of any
11 interest owner?

12 A. No.

13 Q. Why is that?

14 A. Because we have provided a 660 setback
15 around the outer boundary of our project area.

16 Q. And within the project area, is anyone
17 affected by the elimination of the 660 setback? Is
18 that area, affected area of common ownership?

19 A. No.

20 Q. Is there a common ownership with respect
21 to the area for which you seek the exception?

22 A. Yes.

23 Q. Okay. All right.

24 A. I'm sorry. Yes.

25 Q. All right. And I think we already

1 mentioned that your geologist is then going to explain
2 the reason for the exception which we seek the change
3 of penetration point under Rule 16.7?

4 A. Yes.

5 Q. Are you aware of any precedent for seeking
6 a change in the definition of the penetration point
7 under Rule 16.7?

8 Q. Let me refer you to Exhibit Number 4.

9 A. Okay. Yes, Williams Production Company in
10 2009 for the Santa Rosa Unit.

11 Q. They obtained an exception from the
12 Division for a change in the penetration point under
13 Rule 16.7?

14 A. Yes.

15 Q. And is Exhibit 4 a copy of Order Number
16 R-13204 under which the Division granted that exception
17 in December of 2009?

18 A. Yes.

19 Q. And you seek a similar exception with
20 respect to your Jicarilla Mancos Formation Project?

21 A. Yes.

22 Q. In your opinion, will the approval of a
23 similar application be in the best interest of
24 conservation and prevention of waste and protection of
25 correlative rights?

1 A. Yes, we do.

2 Q. Did your company provide notice to the
3 entities listed at the bottom of Exhibit Number 3?

4 A. We have provided them all with the notice.

5 Q. Okay. And the entities primarily to whom
6 you gave notice outside the Nation were parties to the
7 west of your project area, correct?

8 A. That is correct.

9 Q. Is Black Hills Exhibit Number 5 the
10 Affidavit of Notice to these entities?

11 A. Yes.

12 Q. And is Black Hills Exhibit Number 6 the
13 affidavit of publication in the Rio Grande SUN for this
14 application?

15 A. Yes.

16 Q. And were Exhibits 1 through 6 prepared by
17 you or compiled under your direction or supervision?

18 A. Yes.

19 MR. FELDEWERT: Mr. Examiner, I would move
20 the admission into evidence of Exhibits 1 through 6.

21 EXAMINER JONES: Exhibits 1 through 6 will be
22 admitted.

23 (Exhibits 1 - 6 admitted.)

24 MR. FELDEWERT: That concludes my examination
25 of this witness.

1 EXAMINER JONES: I'm going to ask one
2 question and pass you off to David. This is going to
3 be treating the Basin-Mancos, one little portion of the
4 Basin-Mancos Pool differently than the rest of the
5 pool. Is our district in Aztec, did you talk to them
6 at all about this?

7 WITNESS: You know, I'm not exactly sure. I
8 know that we have had conversations with them on
9 multiple issues relating to different things in water
10 and so on and so forth, but they, as far as I'm
11 concerned, or as far as I know, they are very much
12 aware of what we are doing by our applications.

13 EXAMINER JONES: Okay. Good enough. I will
14 pass you over to David.

15 EXAMINER BROOKS: Unless I missed something,
16 which is entirely probable that I did, you are asking
17 really for only two things, abolishing internal
18 setbacks.

19 WITNESS: Correct.

20 EXAMINER BROOKS: And moving the penetration
21 point from where it's defined in existing OCD rules to
22 a point that will be defined by the way the well was
23 constructed?

24 WITNESS: That is correct.

25 EXAMINER BROOKS: Is that an accurate

1 description?

2 WITNESS: Yes.

3 EXAMINER BROOKS: So I can understand for
4 sure exactly what you are doing here, because I had
5 some problems with it, going to Exhibit 3, you said
6 that the area that you were asking to apply this to was
7 outlined in orange, and there are quite a lot of orange
8 lines on there, so I'm not sure where it is. You've
9 got an area in blue color and an area in yellow color
10 and an area that is -- at one time was a magenta color
11 here. So can you tell us what's in and what's out?

12 WITNESS: Yes. What is in is the area within
13 the blue and in the yellow.

14 EXAMINER BROOKS: Okay, so you're --

15 WITNESS: Those are the areas in which Black
16 Hills has the deep rights to drill Mancos wells.

17 EXAMINER BROOKS: And those are complete --
18 that's -- that's the complete definition of the area
19 that you want to -- that you want to apply these
20 special rules to?

21 WITNESS: Yes, sir.

22 EXAMINER BROOKS: Now, there are no section
23 numbers on here so far as I can tell. Can you kind of
24 get us located here?

25 WITNESS: Let me -- all right. So we have

1 Township and Range 29 -- Township 29 North, 3 West,
2 which would be our areas of Sections 3 through 10.

3 EXAMINER BROOKS: 29 North, 3 West?

4 WITNESS: Yeah. And 30 North, 3 West.

5 EXAMINER BROOKS: 30 North, 3 West, and 29
6 North, 3 West. Okay. Where is the boundary between
7 the two on this map?

8 WITNESS: If I can, I've got a larger map of
9 this.

10 EXAMINER BROOKS: Well, I think --

11 WITNESS: Mr. Examiner, to make it easier for
12 you --

13 EXAMINER BROOKS: I think Mr. Jones pointed
14 out to me that Exhibit 1 is what has -- has this area.
15 Now, is the -- the area depicted on the insert on what
16 appears to be an inset portion on Exhibit 1, is that
17 the same as the area in blue and yellow? The area in
18 green on Exhibit 1, is there --

19 WITNESS: The area in green is similar to
20 the --

21 EXAMINER BROOKS: Similar?

22 WITNESS: Well, it's exact, actually. That's
23 the area --

24 EXAMINER BROOKS: That's what I wanted to
25 know, is it exact?

1 WITNESS: Yes, it is.

2 EXAMINER BROOKS: So that gives us -- that
3 gives us the township and range, so we know where we
4 are, and that's okay. I'm trying --

5 MR. FELDEWERT: Mr. Examiner, if I may
6 interrupt to make it easier. It's also in our
7 application we identify the township, range and
8 sections.

9 EXAMINER BROOKS: Right. Okay. Very good.
10 I appreciate that. Now, in this yellow portion, Black
11 Hills owns 100 percent, and the blue, Energen owns an
12 interest. Is this a joint application to Black Hills
13 and Energen, or where do you stand on that feature?

14 WITNESS: This is -- this is an application
15 that Black Hills submitted that Energen had approved.
16 They are also a working interest owner in the same
17 percentage in the well that I had identified earlier --

18 EXAMINER BROOKS: Okay.

19 WITNESS: -- that we drilled, which we call
20 464-29-7 -- or our -- I'm sorry, it's 464-30-724.

21 EXAMINER BROOKS: But they have approved the
22 inclusion of this -- has Energen then approved the
23 inclusion of this yellow area that Black Hills has 100
24 percent in this common project area?

25 WITNESS: I believe they have by their letter

1 that they did not object to that.

2 EXAMINER BROOKS: Okay. And that letter is
3 in the file? Is it in the case? Is it an exhibit?

4 MR. FELDEWERT: Exhibit A2.

5 EXAMINER BROOKS: Exhibit 2, okay. Yeah, I
6 see it. Okay, good. I think that's -- now, I am -- I
7 do have an interest also in how you are going to define
8 the penetration point, but I take it that's something
9 else you can take up with your other witness?

10 WITNESS: Yes, he will be presenting that.

11 EXAMINER BROOKS: Very good. No further
12 questions.

13 EXAMINER JONES: Thank you. Thank you.

14 MR. FELDEWERT: Call our next witness.

15 RICHARD JOSEPH WHITE

16 (Having been sworn, testified as follows:)

17 DIRECT EXAMINATION

18 BY MR. FELDEWERT:

19 Q. Would you please state your full name for
20 the record.

21 A. Richard Joseph White.

22 Q. And please tell the Examiner by whom you
23 are employed and in what capacity?

24 A. I am the exploration manager for Black
25 Hills Exploration and Production.

1 Q. How long have you been with Black Hills?

2 A. Seven years.

3 Q. Have you previously testified before this

4 Division?

5 A. Yes, I have.

6 Q. Was your work history and credentials as a

7 petroleum geologist accepted and made a matter of

8 public record?

9 A. Yes.

10 Q. Have you conducted a study and analysis of

11 the area at issue in this application?

12 A. Yes.

13 Q. Are you prepared to share the results of

14 your work with the Examiners?

15 A. I am.

16 MR. FELDEWERT: Tender Mr. White as an expert

17 witness in petroleum geology.

18 EXAMINER JONES: He is so qualified.

19 Q. I think, Mr. White, you want to first turn

20 back to Exhibit Number 1.

21 A. Yes.

22 Q. I'm understanding that there is some

23 information on Exhibit 1 that's helpful to your

24 analysis. Why don't you share that with the Examiner?

25 A. Thank you. On Exhibit 1 I would like to

1 point out that the subject leases are located on the
2 west side of the Jicarilla Apache Indian Reservation.
3 The dotted black line running from the northwest to the
4 southeast across the Indian reservation indicates the
5 location of the basin access for the San Juan Basin.
6 And I would like to show that all of the subject leases
7 are on the east flank of the San Juan Basin, and that
8 the structural dip across the whole subject lease area
9 is from the northeast to the southwest.

10 Q. Why is that important to your analysis?

11 A. That is important because the structural
12 dip dictates the direction which we will plan to drill
13 our horizontal wells.

14 Q. What direction is that?

15 A. It will be updip, so from the west to the
16 east.

17 Q. Now, you mentioned leases, and I think
18 that's a -- an appropriate term, but I think they have
19 also been referred to as contracts in this case,
20 correct?

21 A. Correct.

22 Q. All right. Okay. With that said, would
23 you then turn to what's been marked as Black Hills
24 Exhibit Number 7?

25 A. Yes.

1 Q. And identify that for the Examiners,
2 please, and explain why it's important to your
3 analysis.

4 A. Exhibit 7 is a paleographic map of the
5 continent of North America prepared by Dr. Blakey at
6 Northern Arizona University in Flagstaff. This is a
7 paleographic map at the time of the Mancos Formation
8 deposition approximately 85 million years ago. You can
9 see the entire Four Corners area has been submerged by
10 a continental seaway that extends from the Arctic Ocean
11 to the Gulf of Mexico. This is a Marine submersion
12 that was continental in nature, and I submit this to
13 show that the Mancos Formation is continuous across all
14 Rocky Mountain basins.

15 Q. Okay. Would you then turn to what's been
16 marked as Black Hills Exhibit Number 8 and explain to
17 the Commissioners why this is important to you?

18 A. Exhibit 8 shows the stratigraphic cross
19 section across the San Juan Basin, and the red
20 rectangle indicates the section described as Mancos by
21 the United States Geological Survey. The upper end --
22 the upper limit of the Mancos is the lower Mesa Verde
23 Sand Formation. The base of the Mancos is defined as
24 the top of the Dakota Formation. I would also like to
25 show that the Mancos Formation in the San Juan Basin is

1 characterized by several sub-members. It is not a
2 uniform rock type throughout the entire interval.

3 If I can go further then, Mike, I would like
4 to show that our interval of interest for the targeting
5 of our horizontal wells is shown on the section as the
6 base of the Niobrara. If you note, the base of the
7 Niobrara on the east side of the cross -- or the right
8 side of the cross section, it's from the base of the
9 Niobrara to the base of the El Vado Sandstone shown in
10 the upper portion of that red rectangle.

11 Q. On this particular exhibit, have you
12 marked the area with a blue box?

13 A. I have.

14 Q. And then drawn an arrow to point to it?

15 A. I have.

16 Q. Would it be the big blue arrow?

17 A. Correct.

18 Q. And that area is within the rectangle
19 shown, the long rectangle shown in red?

20 A. Yes, it is.

21 Q. Anything else about this exhibit?

22 A. No, sir.

23 Q. Okay. Let's turn to what's been marked
24 here as Exhibit Number 9. Could You identify that for
25 the Examiners? I think it's comprised of two pages.

1 A. Yes, it is. The two pages are two
2 stratigraphic cross sections across the subject lease
3 area. The first is a north to south stratigraphic
4 cross section, and the second is an east to west
5 stratigraphic cross section. In both cross sections we
6 see the top of the Mancos shown by the letters MNCS,
7 and the base of the Mancos is not on the section, but
8 it is below the Greenhorn sub-member showing GRHN. You
9 can see the various members designated on both of these
10 cross sections.

11 Again, our subject interval for our lateral
12 or horizontal wells is from the base of the El Vado
13 sand member that's the EVDO base, and the base of that
14 blue section of the lower Niobrara. It is marked by
15 that blue bracket.

16 Q. Have you bracketed your target interval on
17 both Page 1 and on Page 2?

18 A. Yes, I have.

19 Q. And so your targeted interval, if I'm
20 understanding this, is well below the top of the Basin-
21 Mancos Pool?

22 A. Yes, it is.

23 Q. Anything else with respect to Page 1 or
24 Page 2 of this Exhibit Number 9?

25 A. No, sir.

1 Q. And let me ask you just real quick for the
2 record, the area that you have marked here with a blue
3 bracket on Page 1 and 2 on Exhibit 9 corresponds to the
4 area that you have marked with the blue square on
5 Exhibit Number 8?

6 A. Yes, they are the same.

7 Q. Okay. Would you turn to what's been
8 marked as Exhibit Number 10. This again is a two-page
9 exhibit, and please identify that to the Examiners and
10 explain why it's important to you.

11 A. The first page of Exhibit Number 10 is a
12 tectonic fracture model for the San Juan Basin,
13 prepared by Lorenz and Cooper in 2001. It indicates
14 the San Juan Basin has been subjected to compression
15 from the north and south by the San Juan Uplift and the
16 Zuni Uplift to the south. This compression has
17 generated extensional fractures that trend parallel to
18 the maximum stress direction, and that would be north
19 and south of the San Juan Basin. Page 2 then of
20 Exhibit Number 10 is a map of actual surface
21 measurements of fracture orientations around the
22 perimeter of the San Juan Basin, and these fracture
23 directions are exhibited by the rose diagram and are
24 shown to be just off of north south -- north 5 degrees
25 east.

1 Q. Now, keeping Exhibit 10 in mind, if we
2 turn to Exhibit Number 11, is this a general depiction
3 of the type of horizontal drilling that you intend to
4 do, intend to engage in within the project area?

5 A. Yes, it is.

6 Q. And do the black lines, vertical black
7 lines correspond to the fracture points that you just
8 described in Exhibit Number 10?

9 A. Yes, they do.

10 Q. Okay. Why is that important then to your
11 well drilling program?

12 A. By orienting our well from west to east,
13 perpendicular to the maximum stress -- stress direction
14 and the direction of the fractures, it allows us to
15 plan the well to intercept the greatest number of
16 natural fractures.

17 Q. And does this exhibit then also identify
18 the area of your target interval which you just --
19 which you also described in Exhibits 8 and 9?

20 A. It does. The target interval is shown in
21 the green rectangle that crosses the entire cross
22 section, and it's -- the big green rectangle has orange
23 shading.

24 Q. Okay. Then using this exhibit, would you
25 then demonstrate to the Examiner why you are seeking

1 this section to the penetration point, a definition of
2 penetration point that currently exists within Rule 16?

3 A. I can.

4 EXAMINER BROOKS: You are looking at Exhibit
5 11 now?

6 MR. FELDEWERT: Yes, sir.

7 A. The target interval was chosen because
8 this interval is a section of lower shale content that
9 allows us to drill a horizontal well through this
10 interval with the greatest likelihood of a competent
11 hole that is not going to be prone to caving in, so
12 this is a horizontal program.

13 Under the current rule, the Mancos Formation
14 penetration point is defined as the top of the Mancos
15 Formation. We are clearly targeting an interval that
16 is about 15 hundred feet below the top of the Mancos
17 Formation, and in order to expose the wellbore to a
18 horizontal aspect of this formation, we need to build
19 angle and intersect that lower formation some distance
20 from the top of the Mancos as described on the map.

21 In most cases the distance from the
22 penetration point of the top of the Mancos to the
23 penetration point of our target interval is 6 to 900
24 feet dip distance, separation.

25 Q. Why is that important then to meet the --

1 change the definition of the penetration point within
2 the rule for purposes of this project?

3 A. Because in order to construct these wells,
4 we need to case the section of the well that is through
5 the turn, and we case at the point where we reach the
6 horizontal leg -- the horizontal portion of the wells.
7 That case interval is not exposed to completion. That
8 case interval is behind pipe, and those resources will
9 not be developed under -- under this plan.

10 Q. So, in your opinion, without the exception
11 to the current definition of the Rule 16, you are
12 concerned there would be some wasted resources?

13 A. That's correct.

14 Q. Anything else about Exhibit Number 11?

15 A. None.

16 Q. Okay. All right. With all of that in
17 mind, then, I want to then turn to Exhibit Number 12,
18 which is three pages. And I want you to use this
19 exhibit and focus then the Examiners and explain to
20 them why you are seeking approval, first, for the non-
21 standard location, in other words, eliminating the 660
22 foot setbacks within the project area, and, secondly,
23 why you need this exception to Rule 16 in more detail.

24 A. Correct. Okay. On Page 1, I would like
25 to focus your attention first to the inset map to

1 describe what the various elements of the page are
2 representing. First the east and west boundaries of
3 the sections are indicated by those black lines on the
4 right side of those blue triangles -- I'm sorry -- the
5 blue rectangles, and these are blue bands across the
6 entire map.

7 So after that, the surface location of each
8 well is indicated by the red circles. The horizontal
9 section is indicated by the red line, and the case
10 portion of the horizontal well is indicated by the
11 black band.

12 Q. Let me stop you right here before we get
13 too far. If I'm understanding you, this would be the
14 developed plan that would be required under the
15 existing rules with the existing setbacks, correct?

16 A. Yes, that is correct.

17 Q. Okay. All right. And just to orient
18 everyone, the second page would be the development plan
19 under your proposed rule?

20 A. That is correct.

21 Q. And then the third page is a comparison of
22 the two?

23 A. Yes.

24 Q. With that in mind, why don't you continue
25 your discussion of what would -- the development plan

1 that would be required within this area under the
2 current rule.

3 A. Under the current rule.

4 Q. Page 1.

5 A. So we will go back and continue describing
6 the elements of this plan. The blue rectangle
7 represents the area that will not be developed due to
8 the 660 foot offset on the west side of every section
9 line. The yellow rectangle represents the 660 foot
10 offset on the east side of every section line, and then
11 the green rectangle represents the band that will not
12 be developed because that section of the formation will
13 be behind the casing.

14 So then looking at the map, we have broken
15 out a 16-section model area to describe what the
16 development will look like throughout the entire area,
17 but we focused on the 16-section model so that we can
18 compare apples to apples on a development under the
19 current spacing rule and our proposed rule.

20 You can see the color bands, the blue and the
21 yellow associated with the section offsets, and the
22 green associated with the casing, the case section of
23 the wells. The red band then is the 660 foot offset
24 associated with the outer boundary of the leases.

25 So under this plan, development will require

1 the drilling of 32 wells. 25 of those wells will be
2 drilled from new locations -- we would not be able to
3 use existing locations -- and 1980 feet of each lateral
4 section will not be developed because of the section
5 offsets and the case toll portion of the wells.

6 Q. That's what you anticipate will occur if
7 we do not get the exceptions we seek under the
8 application?

9 A. Yes.

10 Q. So that's Page 1. Would you then turn to
11 Page 2, and this is the development plan that is --
12 would be implemented if we obtain the exceptions that
13 we seek under the application, correct?

14 A. It is.

15 Q. Why don't you then explain how that
16 differs from Page 1 and what conclusions you reach?

17 A. Yes, under our proposed rule, again we are
18 looking at that same 16-section model area. The red
19 band showing the 660 foot offset around the exterior
20 boundary of the leases is the same, so that is not
21 entered as any portion -- any difference between the
22 two plans.

23 In this development plan under the proposed
24 rule, 98 percent of the resources are developed by
25 drilling only 25 wells, and we can go back and look at

1 how these wells are shown. Again, the red circles
2 indicate a surface location of the wells. The red
3 lines show the horizontal section, and the black bars
4 show the case toll portion of the wells.

5 So the difference you can see is these wells
6 are allowed to drill across section lines. And, in
7 fact, they're overlapping in the sense that the lateral
8 or horizontal well from one well develops the case toll
9 portion the resources are lost by an adjacent
10 horizontal well.

11 So again, the entire area is developed with
12 only 25 wells. Every one of those wells is using an
13 existing drilling pad, so we minimize the surface,
14 additional surface disturbance and we develop 98
15 percent of the resource.

16 Q. So you mention this overlapping,
17 Mr. White. If I look at this Exhibit 12 on Page 2, and
18 I look down at the bottom of that corner, there is
19 Sections 24, 19, and 20, do you see that?

20 A. I do, sir.

21 Q. Is that where the -- is that an example of
22 where there is an overlap of the adjacent wellbore,
23 horizontal wellbore with the black cased area?

24 A. Yes, it is.

25 Q. And allowing the exceptions that we seek

1 in this case would allow the black cased area to be
2 produced, whereas, without the exceptions the black
3 cased area would not be produced?

4 A. Yes.

5 Q. And did -- you is Page 3, then,
6 essentially a side-by-side comparison that you put
7 together for the -- for the Examiners that shows the
8 differences between what would be required under the
9 existing rule and what would be required under our
10 proposed exceptions?

11 A. Yes, it is.

12 Q. And what conclusions have you reached with
13 respect to your examination concerning the number of
14 wells and the development of the area?

15 A. We believe that this is going to be a much
16 more efficient development of the natural resources in
17 this area. Under the proposed rule we would develop 98
18 percent of the resources with only 21 wells, 11 wells
19 fewer than we would under the current rule, and none of
20 those 21 wells would be new surface locations. Every
21 one of them would be off of existing drilling pads, so
22 we would minimize surface disturbance. We would
23 develop essentially all of the resources with
24 two-thirds of the wells.

25 Q. Now, you mentioned that what is shown on

1 Exhibit Number 12 is a subset of the entire area shown
2 in Exhibit 3, correct?

3 A. Correct.

4 Q. Does the exhibit that you just walked
5 through with respect to the proposed development plan
6 uniformly extend across the entire project area
7 identified in exhibit Number 3?

8 A. Yes, it does.

9 Q. So all the benefits you describe would
10 extend across the entire project?

11 A. They do.

12 Q. Okay. In your opinion, will the granting
13 of this application allow for more efficient production
14 of the reserves in this Jicarilla Mancos Project Area?

15 A. Yes, it will.

16 Q. And you believe that the approval of this
17 application will be in the best interest of
18 conservation and prevention of waste and protection of
19 correlative rights?

20 A. I do.

21 Q. Were Exhibits 6 through 12 prepared by you
22 or compiled under your direction and supervision?

23 A. Yes, they were.

24 MR. FELDEWERT: I move the admission of
25 Exhibits 6 through 12.

1 EXAMINER JONES: Exhibits 6 through 12
2 admitted.

3 (Exhibits 6 - 12 admitted.)

4 MR. FELDEWERT: And that concludes our
5 examination.

6 EXAMINER JONES: That, on the last page of
7 Exhibit 12, there is a little blurb in the upper left
8 corner on the right-hand side. It's blue. What is
9 that? For some reason you have to -- you're going to
10 voluntarily sit --

11 WITNESS: The --

12 EXAMINER JONES: Yes, that one.

13 WITNESS: The blue area there is the area
14 that will not be developed under the new proposed rule
15 if we use only existing surface locations. That will
16 be developed with a new location to the west of Section
17 6, so we would drill across the boundary -- the section
18 boundary in Section 6 and develop those resources, but
19 that would be require another well location.

20 So my purpose for showing that was so that we
21 could show only the use of existing drilling pads.

22 EXAMINER JONES: Okay. Well, you know, it's
23 a shame that some acreage in the southeast of New
24 Mexico is not operated by big groups like this for
25 project areas. The operators can't get along down

1 there.

2 WITNESS: That is a shame.

3 EXAMINER JONES: I see exactly what you are
4 doing, and I, for both reasons, and I don't have any
5 more questions. I will pass it over to David.

6 EXAMINER BROOKS: Okay. I want to call your
7 attention to -- well, first of all, how are you going
8 to complete exist -- are you going to be using -- the
9 cased area you have as the intermediate casing,
10 basically, are you going to be using production string
11 casing through your horizontal shaft, or is it going to
12 be open hole?

13 WITNESS: It is cased. It is cased and
14 cemented.

15 EXAMINER BROOKS: Okay. So I would call your
16 attention to your Exhibit Number 2 which is a copy of
17 the OCD's Order Number R-13204, which I --

18 MR. FELDEWERT: On Exhibit 4?

19 EXAMINER BROOKS: Pardon me?

20 MR. FELDEWERT: Exhibit Number 4?

21 EXAMINER BROOKS: Exhibit Number 4, that's
22 right. I'm sorry. Thank you. If you would look at
23 Page 4 -- Page 3 of that exhibit under the -- well, I
24 will let you find it first, Exhibit 4, Page 3.

25 MR. FELDEWERT: May I approach the witness?

1 EXAMINER BROOKS: You may.

2 WITNESS: Yes, sir.

3 EXAMINER BROOKS: Under the bold caption, "It
4 is therefore ordered that," and look at ordering
5 Paragraph 1. Would you be happy if we used similar
6 language to what's used there to grant your request?

7 WITNESS: So this --

8 EXAMINER BROOKS: Or do you have any
9 criticisms of that language?

10 WITNESS: This is the casing -- so I'm clear,
11 this is the casing shoe on the end of the intermediate
12 section -- of the intermediate casing and then behind
13 the horizontal well.

14 EXAMINER BROOKS: Yeah. This says, "The
15 casing shoe of the cemented intermediate string."

16 WITNESS: I would agree to that, yes.

17 EXAMINER BROOKS: Okay. You think that
18 adequately describes where you want to place the
19 penetration hole?

20 WITNESS: Yes, sir, it does.

21 EXAMINER JONES: The intermediate string
22 would be which one, though? I mean --

23 WITNESS: We would need to be clear that,
24 yes, in the case where there could be several
25 intermediate strings, this would be the last

1 intermediate string before the horizontal well is
2 drilled. Okay, so --

3 EXAMINER JONES: But to kick off?

4 WITNESS: The kickoff would be up shallower.

5 EXAMINER JONES: Okay. You are talking about
6 the intermediate before that you case off after you
7 build through the curve?

8 WITNESS: Yes, sir.

9 EXAMINER JONES: Okay. And that's what was
10 meant by this, David?

11 EXAMINER BROOKS: Well, that was what was
12 intended. I think I can speak advisedly to that,
13 because while Mr. Warnell wrote this order, he and I
14 consulted on that language, but if you have a -- if you
15 can give us any improvement on it, we would be happy to
16 hear any suggestions.

17 EXAMINER JONES: Well, it will be cased
18 through the -- you're not going to run casing. Are you
19 going to run casing through the horizontal part?

20 WITNESS: We do run casing through the
21 horizontal part.

22 EXAMINER JONES: In all instances?

23 WITNESS: That is our current plan. We are
24 doing that scenario right now on our first well out
25 there. We have no reason to suspect that that will

1 change in the future, so --

2 EXAMINER JONES: But the language could have
3 been then, instead of intermediate, it could have been
4 at the end of the build when you are horizontal. Is
5 that correct?

6 WITNESS: Under this case, they are the same.
7 So, yes, at the -- at the end of the build, the casing
8 at the end of the build section would be the
9 penetration point.

10 EXAMINER JONES: That is what you are
11 proposing and that's what you advertised for?

12 WITNESS: Yes, sir.

13 EXAMINER BROOKS: Okay. I have no further
14 questions.

15 EXAMINER JONES: I think that's it.

16 MR. FELDEWERT: Mr. Examiner, I just had a
17 discussion with the engineer, and I don't think there
18 is a need to call him to the witness stand, but here is
19 what I would propose. I think it would be worth
20 everyone's while if we would go back and take a look at
21 the language that you referenced here in this order,
22 and just to make sure that it would cover the needs,
23 and to the extent that it would not, we can call for
24 some proposed language by way of a letter to supplement
25 the record.

1 EXAMINER BROOKS: We would be happy to
2 receive that.

3 MR. FELDEWERT: So I don't want to
4 necessarily delay the resolution of the case, and I can
5 certainly get this to you in short order, but I can let
6 you know one way or the other whether this language
7 will work or --

8 EXAMINER BROOKS: That's fine. We are going
9 to be working on language for a statewide rule, as you
10 know, but that's going to be months ahead of time, and
11 we don't want to delay this case to coordinate what's
12 going on with the statewide ruling.

13 EXAMINER JONES: We appreciate you doing this
14 and coming up here.

15 WITNESS: Thank you very much.

16 MR. FELDEWERT: Thank you.

17 EXAMINER JONES: With that, we will take case
18 14642 under advisement and we'll break for lunch. Off
19 the record.

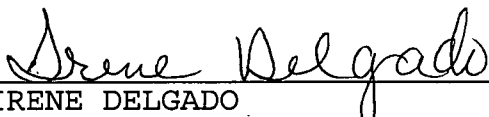
20 * * * * *

21 I do hereby certify that the foregoing is
22 a complete record of the proceedings in
23 the Examiner hearing of Case No. _____
24 heard by me on _____, Examiner
25 _____, Oil Conservation Division

REPORTER'S CERTIFICATE

I, IRENE DELGADO, NM CCR 253, DO HEREBY CERTIFY that on June 23, 2011, I did, in stenographic shorthand transcribe the proceedings set forth herein, and that the foregoing pages are a true and correct transcription to the best of my ability.

I FURTHER CERTIFY that I am neither employed by nor related to nor contracted with (unless excepted by the rules) any of the parties or attorneys in this matter, and that I have no interest whatsoever in the final disposition of this matter.


IRENE DELGADO
New Mexico CCR 253
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