

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

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

APPLICATION OF ROBERT L. BAYLESS, CASE NO. 15946
PRODUCER LLC FOR APPROVAL OF THE
LA JARA MANCOS UNIT, CREATION OF
A NEW POOL FOR HORIZONTAL DEVELOPMENT
WITHIN THE UNIT AREA, AND FOR
ALLOWANCE OF 660-FOOT SETBACKS FROM
THE EXTERIOR OF THE PROPOSED UNIT,
RIO ARRIBA COUNTY, NEW MEXICO.

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

January 25, 2018

Santa Fe, New Mexico

BEFORE: WILLIAM V. JONES, CHIEF EXAMINER
LEONARD LOWE, TECHNICAL EXAMINER
DAVID K. BROOKS, LEGAL EXAMINER

This matter came on for hearing before the
New Mexico Oil Conservation Division, William V. Jones,
Chief Examiner, Leonard Lowe, Technical Examiner, and
David K. Brooks, Legal Examiner, on Thursday, January
25, 2018, at the New Mexico Energy, Minerals and Natural
Resources Department, Wendell Chino Building, 1220 South
St. Francis Drive, Porter Hall, Room 102, Santa Fe, New
Mexico.

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APPEARANCES

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EXHIBITS OFFERED AND ADMITTED

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15

16 Robert L. Bayless, Producer LLC Exhibit
Numbers 1 through 7 (attached)

17

18 Robert L. Bayless, Producer LLC Exhibit
Numbers 8 through 18 42

19 Robert L. Bayless, Producer LLC Exhibit
Number 19 (attached)

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1 (8:31 a.m.)

2 EXAMINER JONES: Call Case Number 15946,
3 application of Robert L. Bayless, Producer LLC for
4 approval of the La Jara Mancos Unit, creation of a new
5 pool for horizontal development within the unit area and
6 for allowance of the 660-foot setbacks from the exterior
7 of the proposed unit, Rio Arriba County, New Mexico.

8 Call for appearances.

9 MS. RYAN: Elizabeth Ryan, with Carson Ryan
10 in Roswell, New Mexico, on behalf of the Applicant.

11 MR. HALL: Scott Hall, Montgomery &
12 Andrews, Santa Fe, on behalf of Southland Royalty
13 Company.

14 EXAMINER JONES: Any other appearances?

15 MS. RYAN: The Jicarilla did enter an
16 appearance.

17 EXAMINER JONES: We have a letter from --

18 MR. DeHERRERA: Guillermo DeHerrera. I'm
19 the Director of the Apache Nation, and I will testify at
20 the appropriate time.

21 EXAMINER JONES: Would you like to sit
22 up here, maybe next to Mr. Hall?

23 MR. DeHERRERA: Certainly.

24 EXAMINER JONES: Who has witnesses?

25 MR. HALL: No witnesses.

1 MR. DeHERRERA: No.

2 MS. RYAN: I have three.

3 EXAMINER BROOKS: Well, he (indicating)
4 said he was going to testify. The director of the
5 Apache Nation said he was going to testify.

6 MR. DeHERRERA: That's correct.

7 EXAMINER BROOKS: So you'll need to be
8 sworn also.

9 EXAMINER JONES: Will the court reporter
10 please --

11 (Mr. DeHerrera, Mr. Newell, Mr. Coryell and
12 Mr. Thomas sworn.)

13 MS. RYAN: I'd like to call my first
14 witness.

15 EXAMINER JONES: Okay.

16 CRANFORD D. NEWELL, JR.,
17 after having been first duly sworn under oath, was
18 questioned and testified as follows:

19 DIRECT EXAMINATION

20 BY MS. RYAN:

21 Q. Please state your name for the record.

22 A. My name is Cranford D. Newell, Jr.

23 Q. And what is your -- who is your employer, and
24 what is your position?

25 A. My employer is Robert L. Bayless, Producer LLC.

1 I'm currently employed as the land manager.

2 **Q. And how long have you been in that position?**

3 A. I have been in that position for four years and
4 have been employed by Bayless for six years.

5 **Q. And can you briefly describe your roles and
6 responsibilities in that position?**

7 A. I'm responsible for the day-to-day management
8 and administration of the land department. I'm
9 responsible for lease maintenance, acquisition,
10 divestitures and other similar responsibilities for the
11 land department for Bayless.

12 **Q. And does your area of responsibility include
13 this area in northwest New Mexico?**

14 A. Yes, it does.

15 **Q. How many total years of experience do you have
16 in the oil and gas industry?**

17 A. Nine-and-a-half years.

18 **Q. Have you previously testified before the
19 Division?**

20 A. Yes, I have, last year in another unitization
21 hearing.

22 **Q. And were you admitted as an expert in the
23 matters at that time?**

24 A. Yes, I was.

25 **Q. Are you familiar with the land matters involved**

1 **in this case?**

2 A. Yes, I am.

3 MS. RYAN: Mr. Examiner, I request that
4 Mr. Newell be admitted as an expert in oil and gas
5 matters.

6 EXAMINER JONES: Any objection?

7 MR. HALL: No objection.

8 EXAMINER JONES: He is so qualified.

9 MS. RYAN: thank you.

10 **Q. (BY MS. RYAN) Mr. Newell, I'd like to bring**
11 **your attention to Exhibit Number 1. Can you identify**
12 **Exhibit Number 1 to me?**

13 A. Yes, I can. Exhibit 1 is a map of the proposed
14 La Jara Mancos Unit.

15 **Q. Does this reflect the outer boundaries of the**
16 **proposed unit?**

17 A. Yes, it does.

18 **Q. What lands are involved here?**

19 A. The proposed unit contains approximately
20 10,718.92 acres of federal lands administered by the
21 Bureau of Land Management and approximately 159.66 acres
22 of fee minerals. These lands are located within
23 Township 29 North, Range 4 West in Rio Arriba County,
24 New Mexico.

25 **Q. And what is Bayless requesting today?**

1 A. Today we are requesting three things: First
2 being the approval of the La Jara Mancos Unit; the
3 second, working with existing pools in place, those
4 being the Basin-Mancos Pool and the Campo-Gallup Pool,
5 which require a 660-foot setback; and finally, no
6 internal setbacks within the unit.

7 **Q. Does Bayless expect to primarily produce gas**
8 **within this unit?**

9 A. Yes, it does.

10 **Q. Is that why you are asking for the standard**
11 **660-foot setbacks, consistent with the pool rules?**

12 A. Yes. Bayless believes the standard 660-foot
13 setbacks from the outer boundary of the unit is
14 sufficient to prevent waste, to protect correlative
15 rights and otherwise be in the best interest of
16 conservation.

17 **Q. Next is Exhibit 2. Can you identify that?**

18 A. Yes, I can. Exhibit 2 is our proposed
19 Federal/Fee Exploratory Unit unit agreement for the
20 development and operation of the La Jara Mancos Unit in
21 Rio Arriba County.

22 **Q. And does it conform to the federal form?**

23 A. It conforms to the federal form.

24 **Q. Are there -- has it been revised recently?**

25 A. Yes. It has been revised recently. On request

1 from the Farmington BLM Office, we inserted both
2 contraction language and also language dealing with the
3 PA boundary.

4 **Q. Mr. Newell, what is the unitized interval?**

5 A. The unitized interval includes all formations
6 from the top of the Mancos Shale Formation down to the
7 base of the Mancos Shale Formation.

8 **Q. Will the geologist testify here later about the**
9 **formation interval?**

10 A. Yes. Mr. George Coryell will testify to that.

11 **Q. All right. Let's look at Exhibit B on Exhibit**
12 **2. Can you identify Exhibit B?**

13 A. Yes, I can. This is a breakdown of the leases
14 and interests within the unit as submitted to the BLM.

15 **Q. And is this breakdown what the records reflect**
16 **currently?**

17 A. Yes, it is. There are two changes that have
18 occurred since the ownership decks were done by our
19 title analyst. The ownership reflected by Synergy
20 Operating is now owned by NueVida Resources, LLC, and
21 the interest owned by WPX, as stated in Exhibit B, is
22 now owned by LOGOS Resources.

23 **Q. Thank you.**

24 **How many leases are involved in the unit?**

25 A. There are 14 federal oil and gas leases, 13 fee

1 mineral owners, of which two are currently released.

2 **Q. What has been your contact with the unleashed**
3 **mineral interest owners?**

4 A. We have not had any contact with the unleashed
5 minerals owners except to notify them of this hearing.

6 **Q. And what percentage of the area do the owners**
7 **and mineral owners make up?**

8 A. Approximately .49 percent of the unit is what
9 they make up. Without these owners, Bayless is going to
10 have over 85 percent committed for the unit.

11 **Q. Does Bayless hold all the interest in the**
12 **leases?**

13 A. No. Bayless owns and operates approximately 64
14 percent of the proposed unit. There are other interest
15 owners in addition to the unleashed mineral owners.

16 **Q. And did all these other owners receive direct**
17 **notice of this hearing?**

18 A. Yes, they did.

19 **Q. What commitment to the unit do you anticipate?**

20 A. We currently anticipate over an 85 percent
21 commitment.

22 **Q. The BLM will be a signatory for the unit; is**
23 **that correct?**

24 A. Yes. We anticipate the BLM will approve the
25 unit based on recent discussions with the Farmington BLM

1 Office.

2 Q. And have you received preliminary approval from
3 the BLM?

4 A. Yes. We did receive a letter of designation
5 from the BLM.

6 Q. Okay. Let's refer to Exhibit 3. Can you
7 identify Exhibit 3?

8 A. Yes. Exhibit 3 is the letter of designation we
9 received from the BLM on November 20th, 2017.

10 Q. Thank you.

11 Is it your understanding that the BLM
12 understands the nature of the unitized area development
13 plan?

14 A. Yes. The Farmington BLM Office is well aware
15 of the nature of the proposed unit and believes it will
16 prevent waste -- prevent waste, protect rights and
17 otherwise be in the best interest of conservation.

18 Q. In this particular unit, will there be only one
19 participating area that is the same size as the unit
20 boundaries?

21 A. Yes, that's correct. Later in our case,
22 Mr. John Thomas will testify to the operational
23 reasoning for that.

24 Q. Okay. What operational benefits is provided to
25 Bayless in developing and producing with the unit?

1 A. Eliminating offsets from the outer boundary of
2 each project area and having only the 660-foot setbacks
3 from the outer boundary of the unit, thereby having no
4 internal setbacks, provides Bayless the opportunity to
5 be flexible in locating our wells in any manner we need
6 in order to logically maximize reservoir drainage and
7 maximize potential recovery.

8 **Q. What's the benefit to a small working interest**
9 **owner?**

10 A. For a small working interest owner, it would
11 reduce geologic and operational risk by giving them an
12 opportunity to participate in more wells at a smaller
13 interest.

14 **Q. What about the effect on service disturbance?**

15 A. It will reduce service disturbance as well.

16 **Q. Has Bayless drilled an initial unit well?**

17 A. No, it has not. With this particular unit,
18 Bayless will be required to drill an earning well within
19 six months, so approximately the date of June 1st.

20 **Q. Let's turn to Exhibit Number 4. Can you**
21 **identify that exhibit?**

22 A. Yes, I can. It's the preliminary plan of
23 development.

24 **Q. Okay. Can you show us on Exhibit 4 roughly**
25 **where the initial unit horizontal well will be located?**

1 A. Yes, I can.

2 And I apologize -- or, you guys have color
3 copies. Okay.

4 In Section 26, in the northwest of the
5 northeast, you will see the surface location for our
6 initial pad, and the bottom-hole location for our
7 initial well will be located in Section 21.

8 **Q. Do you have permits approved already for the
9 initial well or any additional wells?**

10 A. Yes, it does. We have an initial permit.

11 **Q. And you -- so does your drilling schedule
12 coincide to commence drilling about June 1st?**

13 A. Yes, it does.

14 **Q. And in the original application, you're
15 requesting to form a new pool which covers the entire
16 unit area? Is that what Bayless is requesting today?**

17 A. No. At this time we are requesting to be in
18 the existing pools and have the statewide rules for
19 horizontal wells apply to our operations in these pools.
20 Consistent with statewide horizontal rules, we are
21 asking for the 660-foot setbacks from the outer boundary
22 of the unit with no internal setbacks.

23 **Q. And will anyone else be testifying today in
24 more detail about the applicable pool rules?**

25 A. Yes. Mr. John Thomas will later testify on the

1 pools, as he is more knowledgeable in that area.

2 Q. Even though he's going to testify in more
3 detail, are you aware of -- outside of the Basin-Mancos
4 Pool, is there another pool located in the unit area?

5 A. Yes. There is one other located within the
6 unit boundary, the Campo-Gallup Pool that is located in
7 parts of Sections 11, 12 and 13.

8 Q. And are you requesting any exceptions to that
9 pool today?

10 A. No, we are not.

11 Q. Okay. And will your operations representative
12 discuss how Bayless and the Aztec District Office will
13 work to address this Campo-Gallup Pool to drill the
14 wells in Sections 11, 12 and 13?

15 A. Yes. Part of Mr. Thomas' testimony will cover
16 our proposal for downhole commingling.

17 Q. Okay. Let's turn to Exhibit Number 5. Can you
18 identify that?

19 A. This is the draft of the Affidavit of Notice of
20 this hearing.

21 Q. Okay. And was it drafted by my law firm?

22 A. Yes, it was.

23 Q. With whom did Bayless provide notice of this
24 hearing?

25 A. Both to all parties located within the unit and

1 also offset operators and working interest owners in any
2 Basin-Mancos wells that were in adjacent spacing units
3 to the exterior of our unit.

4 **Q. One of the offsetting spacing units includes**
5 **wells located in the Jicarilla Apache Reservation; is**
6 **that correct?**

7 A. Yes.

8 **Q. And did all these parties receive the notice**
9 **letter identified in the affidavit?**

10 A. Yes. Delivery was attempted to the last known
11 addresses for all parties.

12 **Q. Did the Jicarilla Apache Tribe file a**
13 **pre-hearing statement?**

14 A. Yes. To my knowledge, they did.

15 **Q. Did they object to the formation of this unit?**

16 A. My understanding at this time is that they are
17 concerned about drainage with regard to our 660-foot
18 setbacks not being enough.

19 **Q. Okay. Will another Bayless representative**
20 **testify in more detail about the lack of drainage,**
21 **setback, spacing and location of the laterals?**

22 A. Yes. Mr. Thomas will cover that in his
23 testimony.

24 **Q. Okay. And back to referencing the letters that**
25 **went out notifying the parties of this hearing, did**

1 these letters also provide an email address and
2 telephone number if anybody who received notice had any
3 questions?

4 A. Yes, they did.

5 Q. In addition, identified by the return -- the
6 green return receipts that are included in Exhibit 5?

7 A. Yes, they are.

8 Q. Okay. Did Bayless provide notice of this
9 hearing in a newspaper of general circulation?

10 A. Yes, it did.

11 Q. What was that paper?

12 A. The "Rio Grande Sun" in Espanola January 11th,
13 2018.

14 Q. And is that Affidavit of Publication -- is that
15 Exhibit Number 6?

16 A. Yes, it is.

17 Q. Okay. And in order to belt-and-suspenders the
18 notice, was notice by publication served on all parties
19 that also received direct notice?

20 A. Yes, to my knowledge.

21 Q. Are there any issues that we need to identify
22 for the Division regarding lease maintenance issues?

23 A. Yes, there is. Federal Oil and Gas Lease
24 Number NMNM-18321 was due to expire on November 29th,
25 2017. If you refer back to Exhibit 1, this is reflected

1 as Tract Number 5.

2 Q. Okay. And so did you file a request for
3 suspension of this lease with the BLM?

4 A. Yes, we did. On October 27th of 2017, Bayless
5 filed a request for suspension, and it was received by
6 the BLM office and it's currently being processed. In
7 recent discussions with the Farmington BLM Office, we
8 have no reason to believe that the suspension will not
9 be granted.

10 Q. Is that request for suspension marked as
11 Exhibit 7?

12 A. Yes, it is.

13 Q. Thank you.

14 Were Exhibits 1 through 7 prepared by you
15 or compiled at your direction and supervision?

16 A. Yes, they were.

17 MS. RYAN: That's the end of my direct
18 questioning at this time.

19 EXAMINER JONES: Okay. Mr. Hall?

20 MR. HALL: I have no questions.

21 MR. DeHERRERA: No questions.

22 EXAMINER JONES: Mr. Brooks?

23 EXAMINER BROOKS: I don't believe I have
24 any questions either.

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CROSS-EXAMINATION

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BY EXAMINER JONES:

Q. Is Synergy and LOGOS --

A. LOGOS. I think it's pronounced "Lagos," yes.

Q. LOGOS.

Who did you talk to with those two companies?

A. As far as -- in what regards?

Q. I mean, Synergy sold to --

A. To NueVida.

Q. -- to NueVida?

A. Yes.

Q. When did that happen; do you remember?

A. I don't remember the exact date of closing or when title transferred in that, but it was some point after we ran title. They were not reflected in the county records when we ran our title at that point. I can't tell you the exact date of when those --

Q. So the title you show is for Synergy?

A. Correct. At the time we ran title, Synergy was still listed as the owner at that time.

Q. What about WPX and LOGOS?

A. At the time we ran title, WPX was listed as the owner as well for that tract.

Q. Okay.

1 A. But what we have been told since then through
2 industry news or other means is that -- we know for a
3 fact that NueVida had purchased Synergy's interest in
4 this area by speaking with representatives from NueVida
5 and also with Tom Mullins from Synergy. And in the
6 recent press releases regarding WPX's divestiture in
7 certain areas, we have reason to believe that LOGOS will
8 now be the owner of that interest in that unit boundary.

9 **Q. Okay. But the original owners, you have -- did**
10 **they -- have they told you they want to join in the unit**
11 **before they transferred the interest?**

12 A. We had not had any commitment from those
13 owners.

14 **Q. Any commitment, but you had communication with**
15 **them?**

16 A. We have had communication. Yes. Specifically,
17 I can't speak to WPX. I know we had specific
18 communication with Synergy.

19 **Q. Okay. And so they've got one -- one tract as a**
20 **fee tract, and it's all split up; is that correct?**

21 A. Correct. The one tract that you'll see kind of
22 cutting through Sections 1 and 12 of our proposed unit
23 boundary, it's a fee strip there that is composed of
24 several fee tracts, as you stated.

25 **Q. Okay. And those owners, have you talked to**

1 **them?**

2 A. We've had conversations with those -- with the
3 owners of the leaseholds, yes. And with the unleased
4 mineral owners, we have not had any conversations, as I
5 said, besides notifying them of this hearing.

6 **Q. Okay. The BLM won't approve until you get the**
7 **85 percent anyway; is that correct?**

8 A. Correct.

9 **Q. Have they given you what is called a letter --**

10 A. We had a designation of approval order.

11 **Q. Designation of approval.**

12 A. Yeah. That was issued to us, as I believe,
13 back in November of 2017 approving -- that was just
14 after we had held an area-and-depth meeting with the
15 Farmington BLM Office, Joe Hewitt and his group. So we
16 received that letter, a designation of approval, on the
17 20th of November in 2017.

18 **Q. Okay. Did the communication with the BLM and**
19 **the unit agreement, was that representative of a**
20 **resource management unit, or what type of unit --**
21 **federal unit are you talking about here?**

22 A. I guess I don't know what the term of the unit
23 would be. We are using a general federal exploratory
24 form that has been suggested to us to use by the BLM
25 Office in Farmington. As I'm sure you are aware, there

1 were meetings held in Santa Fe back in December
2 regarding units known as RDUs. This is not termed an
3 RDU unit. We have included specific language as
4 suggested by the BLM. So it would be, in my estimation,
5 termed a "federal exploratory unit."

6 **Q. Okay. Under our rules, a participating federal**
7 **exploratory unit can be designated a project area.**

8 A. Uh-huh.

9 **Q. And you're asking for that project area --**
10 **well, first of all, the PA for the unit, are you**
11 **expecting it to be right off the bat?**

12 A. Once our obligation well is drilled and deemed
13 an economic or earning well, the PA boundary would be
14 set to the same as the unit boundary.

15 **Q. But they've agreed to do that?**

16 A. The Farmington BLM Office has approved and
17 given us encouragement to move forward in that regard.
18 And Mr. Thomas will also testify later on about some of
19 the operational reasonings that we're dealing with, the
20 Carson National Forest, et cetera, of why that set PA is
21 necessary in this instance.

22 **Q. Are you asking for -- so we can do this as long**
23 **as the Feds finally grant the PA for the whole unit.**
24 **But are you asking for that -- for this to be a project**
25 **area prior to that or despite that?**

1 MS. RYAN: So the plan -- and, of course,
2 we received instruction from the Division on this, but
3 to file the C-102 and set up spacing as these wells are
4 drilled. But we're asking for the only outer -- you
5 know, offsets to go from the outer boundary of the unit
6 instead of the outer boundary of some specific spacing
7 unit applied to each well.

8 Q. (BY EXAMINER JONES) Okay. And the business of
9 having two pools, you'll deal with that whenever the
10 drilling happens --

11 A. Correct.

12 Q. -- I take it?

13 A. Correct. And our operational engineer, who is
14 here with me today, Mr. John Thomas, will testify
15 further on those pools and how that would be handled.

16 Q. He's the one who had the conversations with our
17 pools person, Kate Pickford, in Aztec?

18 A. Yes. To my understanding, that is correct.

19 Q. Okay. But you're expecting 85 percent, but
20 you've got to get the LOGOS' interest and also the
21 successor to WPX also -- WPX and --

22 A. Correct.

23 Q. -- and the successor to Synergy to get that?

24 A. Correct. We've had several conversations with
25 the current working interest partners that would be part

1 of the unit, those being NueVida, Southland. We've had
2 conversations. And we do expect to have 85 percent
3 commitment level.

4 Q. Okay. And the unleased mineral owners, are you
5 attempting to sign them or --

6 A. Not at this time, we are not.

7 Q. You're not?

8 A. Not at this time, we are not.

9 EXAMINER LOWE: I don't have any questions.

10 MS. RYAN: I have one follow-up question.

11 REDIRECT EXAMINATION

12 BY MS. RYAN:

13 Q. Mr. Newell, in order to cover any basis with
14 regard to record ownership, make sure that the prior
15 owners and the current owners, has WPX -- each, WPX and
16 LOGOS, were both notified directly of this hearing?

17 A. Yes. Yes.

18 EXAMINER JONES: I should have asked that
19 myself. Thank you very much.

20 THE WITNESS: Yes.

21 MS. RYAN: Thank you.

22 THE WITNESS: Thank you.

23 MS. RYAN: I'd like to call my next
24 witness.

25 EXAMINER JONES: You're bringing George on

1 right now?

2 MS. RYAN: I'm bringing George on.

3 MR. CORYELL: Hello.

4 GEORGE CORYELL,

5 after having been previously sworn under oath, was
6 questioned and testified as follows:

7 DIRECT EXAMINATION

8 BY MS. RYAN:

9 Q. Please state your name for the record.

10 A. My name is George Coryell.

11 Q. Who is your employer and what is your position?

12 A. I'm employed by Robert L. Bayless, Producer LLC
13 as a senior geologist.

14 Q. Can you describe your roles and
15 responsibilities in that position?

16 A. Yes. I am responsible for all geologic aspects
17 of a -- a member of exploration, development and
18 production prospects -- projects, which nearly all are
19 in the states of New Mexico, Utah, Colorado and Wyoming.

20 Q. How many total years of experience do you have
21 in the oil and gas business?

22 A. Over 40.

23 Q. Have you previously testified before the
24 Division?

25 A. Yes, about a year ago in another unitization

1 hearing and least twice in the late '90s when I was
2 employed by Mountain Oil Company.

3 Q. At the 2017 hearing, were you admitted as an
4 expert geologist?

5 A. Yes, I was.

6 Q. Are you familiar with the application filed in
7 this case?

8 A. I am.

9 MS. RYAN: Mr. Examiner, I would ask that
10 he be admitted as an expert geologist.

11 EXAMINER JONES: Any objection?

12 MR. HALL: No objection.

13 MR. DeHERRERA: No.

14 EXAMINER JONES: So qualified.

15 Q. (BY MS. RYAN) Mr. Coryell, have you conducted a
16 geologic study of the lands that are the subject to the
17 applications?

18 A. Yes, I have.

19 Q. Okay. Would you please turn to what's been
20 marked as Bayless Exhibit Number 8, and can you identify
21 that for the Division?

22 A. Yes. It's a type log for the La Jara Mancos
23 Unit.

24 Q. Is this the same as the type log that is
25 Exhibit C for the unit agreement?

1 A. Yes, it is.

2 **Q. Okay. And does it identify the unitized**
3 **interval?**

4 A. Yes. It defines the top and base of the Mancos
5 Shale, which is a unitized interval. The Mancos top is
6 equivalent to the base of the Point Lookout, a
7 sandstone, and the Mancos base is equivalent to the --
8 sandstone as shown by the measured depths on that well
9 identified on the exhibit.

10 Let's see. Please note the top of the
11 Greenhorn Limestone of the Mancos Shale. That's my
12 structural datum. And the reason for this is it's
13 probably the most consistently identified top by San
14 basin geologists.

15 Let's see. I also note the Gallup top. I
16 refer to the Gallup as a whole. It'll be from that top
17 of the Gallup as shown to the top of the Juana Lopez.
18 So the main pay zones will be within that Gallup that
19 we'll be targeting.

20 So internally, as I mention, there are two
21 pay zones in there colored in red. The lower one is the
22 A pay, which is also equivalent of the WPX olive zone,
23 which I'll file and VP designation of the black zone.
24 Those would be our two main targets, and those are the
25 ones currently being drilled by the industry in this

1 area.

2 There's also two others that have been
3 identified by WPX that have not yet been exploited at
4 all by the industry. Those are at the upper part of the
5 Gallup. They identify the red zone in parentheses as
6 marked, and within the Juana Lopez, I refer to that as
7 the cyan zone. So there are other opportunities beyond
8 these two pays, but definitely these, 2A and B,
9 referring to the A and B pays, will be our main targets
10 initially for quite a while, as with the rest of the
11 industry.

12 So those pays, we try -- I use those to be
13 more simple and in ascending order. And also the
14 initial wells, which I'll discuss, drilled by WPX in the
15 Basin in 2010, I believe, were designated the A and B
16 and in those zones. So that's what I used. It's easier
17 to remember B equals black.

18 Let's see. That's -- I think that's all I
19 have to say about that paragraph.

20 **Q. Does the proposed unitized interval extend**
21 **across all the acreage that Bayless seeks to unitize?**

22 A. Yes, it does.

23 **Q. Have you prepared an isopach map to demonstrate**
24 **that?**

25 A. Yes, I have.

1 **Q. Let's turn to what's marked as Bayless Exhibit**
2 **9. This looks like a regional location map. Can you**
3 **discuss that?**

4 A. Yeah. This is a map of the San Juan Basin, and
5 it shows the location of the mapped area, which is
6 outlined in blue. All the maps will be within that
7 area. And also the red outline inside is the outline of
8 the La Jara Mancos Unit. What it really shows is nearly
9 the entire mapped area is within the Mancos gas maturity
10 window.

11 **Q. Okay. Will you next turn to Exhibit 10, which**
12 **is labeled "Industry Activity," and discuss this map,**
13 **what it indicates?**

14 A. All right. This is from the key maps we have
15 here. This map really talks about the success of the
16 three major players so far in the Basin, and I've got
17 three -- there are key wells for each company mapped in
18 red, and I'll just briefly discuss it to give you a
19 history and what we think happens down in our unit.

20 Initially, as I mentioned, WPX drilled in
21 the center there, marked by the box, WPX Rosa units, 634
22 A and B, and which are the A and B pays as I defined
23 them. They're both about a mile-long lateral. They
24 drilled them and completed them at the end of 2010. And
25 today, each well, very consistently and comparably in

1 each zone, has cumed about 3.2 Bcf since then, so very
2 consistent.

3 So about a year later, Black Hills E & P
4 drilled down on the east side there, on the right-hand
5 side there, the Jicarilla 464-30 724, and that was
6 drilled in the upper part -- very upper part of the A
7 pay, very tight. They drilled almost a mile in that
8 well, and, again, very consistently. I mean, that's
9 produced a little over 3.1 billion cubic feet of gas.

10 So I got very excited. And at that time,
11 we thought, well, we -- I think we have the same rocks
12 down where we are, so we were interested in -- we
13 thought we had a pretty big asset.

14 But the big deal came when BP, last May,
15 completed theirs up there at the left-hand -- at the
16 top, upper, left-hand corner there, their 602 Com 1H
17 well. That, I'm -- I'm defining a little better. I
18 think that's probably actually in the lower part of the
19 B pay, so I've revised that space. I got ahold of a
20 recently released survey that was held confidential.

21 So I'm starting to learn a little bit more.
22 And every time I learn something about this well and
23 what's going on in this area, I get more excited about
24 what's going on. And I'll -- with mapping, I'll show
25 you why indeed I'm more excited about that.

1 But I think that was probably the lower
2 part of the B pay. And they announced a 30-day IP of
3 12.9 -- excuse me -- yeah, 12.9 million cubic feet per
4 day in there, and that got everybody real excited about
5 the area. And I just checked the average rate for
6 October, which is the last date I have, and it turns out
7 they're averaging 12.8. So it's holding up pretty darn
8 well. It's got a five-month cum of 1.8 Bcf. So that's
9 going to be a very fine well.

10 We're kind of starting to get a feel now,
11 with long laterals drilled by WPX and that sort of
12 thing, that we might have -- to expect 1.5 billion cubic
13 feet of gas per 1,000 feet of lateral is not -- is not
14 unreasonable. It's probably -- it might be considered.
15 So a 10,000-foot lateral, you can expect a 15 Bcf well
16 pretty easily. And that's just one zone. So you can
17 see why now we're very excited about this.

18 And so anyway, what I'm going to do is I'm
19 going to have some maps here demonstrating how all this
20 is consistent down into our -- the unit area, as to
21 why -- in red there. And the A to A -- the A to A prime
22 cross-section, I'll show you momentarily, runs through
23 those wells. It kind of relates, you know, to where
24 they -- where they drilled in the zone. Then we'll run
25 down with B to B prime down into the -- into the unit,

1 and by doing that, we'll run also through the location
2 of the type log and show you what that looks like. And
3 the reason that type log is outside the unit, by the
4 way, is that's where I have the best, good, high-quality
5 logs to, you know, really define the interval and the
6 quality of the intervals.

7 Within the unit, all those wells were
8 drilled -- about eight wells drilled in the '70s, and so
9 they didn't have quite the quality of wells. In there,
10 I talk a little bit about that.

11 So I think that concludes, unless there are
12 any questions.

13 **Q. Well, let's refer to the next two exhibits**
14 **Numbers 11 and 12. Can you describe them?**

15 A. Yeah. Oh, yes. So what I'm going to do here
16 is -- the following exhibits are a set of maps and cross
17 sections which really demonstrate three points that I
18 really want to impart to you, first, that the
19 Mancos-Gallup interval is a pervasive gas resource play
20 that's part of the Apache Basin. And, therefore, our
21 unit is not necessarily defined by geology. It's just
22 in a -- in a total consistent system and -- and that
23 it's administrative -- the boundaries are actually
24 administratively defined by various boundaries, you
25 know, that are either the Jicarilla Nation boundary or

1 other unit boundaries that are already in place.

2 And second of all, you know, the outline
3 encompasses a high-graded gas area, which can be
4 reasonably explored, developed and managed by Bayless.

5 And the third thing I really want to --
6 like to get across is that the potential of the unit is
7 geologically comparable to nearby industry activity, you
8 know, very much so.

9 Okay. So let's take a look at Exhibit 11,
10 as I've been requested to do. And that is a structure
11 map on top of the Greenhorn that I mentioned in the type
12 log, Greenhorn Limestone member. And what this shows is
13 that -- well, first of all, the axis -- the deep axis to
14 the Basin is probably running north-south through about
15 the eastern part of the unit, roughly, and then it takes
16 a left-hand turn up there in that orange color up there.
17 And these are 250-foot contour intervals. So if you
18 look at where those -- the industry activity has been on
19 there, along A to A prime, there is not a whole lot of
20 elevation difference. Maybe no more than 200 feet or
21 less between the -- there's more like probably 100
22 between our unit area and where the industry activity
23 has been going on.

24 So if we move on to the next map, which is
25 actually a depth map, to Greenhorn in the area, actually

1 we find that in the unit area, we actually have more
2 depth or overburden over the -- over the Mancos in here.
3 And so the whole point of these maps really is to say
4 we're in the same maturity type window and the same
5 system in here, and we can expect this to be all gas
6 prone here -- consistently through here.

7 So that's the main purpose of these maps,
8 and also that there is really nothing you can identify
9 as structural complications in here.

10 **Q. Thank you.**

11 **Let's refer to the next three exhibits**
12 **labeled "13," "14" and "15." Can you identify each of**
13 **these?**

14 A. Sure. These are a set of three cross sections
15 I referred to earlier, and they're marked on your -- you
16 can see where they are on your last map, and they're
17 mapped in all maps I'm going to show.

18 And the first one, A to A prime, runs
19 through -- again, as I mentioned, through the wells --
20 activity of the wells. As I pointed out, you know,
21 where -- where it looks like they were actually within
22 the pay as they drilled through them, again, in that BP
23 well on the left -- and let me clarify that any of the
24 wells that I refer to in this industry partner drilling,
25 these are old vertical wells that are very close to the

1 horizontals, because I don't necessarily have.
2 horizontal -- or vertical logs for those horizontals.

3 So the BP -- and, again, this was made
4 three or four months ago, before I had some survey data.
5 So actually now I'm thinking that BP is really more in
6 the very basal part of the B pay in here where I'm
7 showing the A on the cross section, which is pretty
8 exciting and I'll tell you why -- you'll see why in a
9 moment.

10 WPX, again, both had two wells in there,
11 and they each drilled their pay zones. And then the
12 Black Hills was in the upper part of the A.

13 You can see that the thickness of the A and
14 B in this cross section are pretty consistent, both
15 pays, so we're both pretty strike -- depositionally
16 striking on these two pays along this cross section.

17 The next one, if you refer to Exhibit 14,
18 is the B to B prime. Now, this one takes you from
19 that -- from the cross section, A to A prime, down
20 through the type log and into the La Jara Mancos Unit.
21 A couple of interesting things on this. First of all,
22 I'll note, the A pay is pretty consistent in thickness
23 going down there, but the B pay is significantly
24 thickening as you go down into that. So that's
25 important.

1 Also, the 29 -- the first well drilled by
2 Conoco in the unit and the first well drilled in the
3 unit, I believe in 1973, is the one with the B, cross C.
4 That's where we're going to cross with the C cross
5 section there, labeled in the La Jara Mancos Unit. That
6 one -- that well was drilled into the -- well,
7 as soon as it hit the B pay, it started kicking mud out
8 of the hole and flowing gas, and actually they had to
9 leave a fish in the hole and plug back. So actually all
10 that log from above the Mancos on down into the B pay
11 where they had to stop is all just sample log because
12 they weren't able to get actual logs in there. The gas
13 went off the charts when they went into that. So that's
14 definite -- definite pay, and it's right where it should
15 have been in there. So a few others wells have -- where
16 completed, have produced some gas in there but not
17 tremendous amounts.

18 So then let's just take a look at the next
19 exhibit, Exhibit 16 -- excuse me -- Exhibit 15 where
20 cross -- where it says "BXC" [sic] there, through that
21 same well and come back up towards -- from the southwest
22 up towards the Black Hills well -- the location of the
23 Black Hills well. And, again, it shows what our gas
24 show was, the Black Hills there, the well on the
25 right-hand side and the three wells that are within the

1 La Jara Mancos Unit identified. This is showing that
2 the -- where the A pay is changing. The B pay is
3 compensating above it. All these sections are hung on
4 the top of the B pay, by the way. So variations --
5 going on to very positive variations across the area
6 into our unit.

7 So that's really about all I have to say on
8 that.

9 **Q. Okay. Great.**

10 **Well, then let's move on to our final set**
11 **of exhibits with you, Exhibits 16, 17 and 18. Are these**
12 **three isopach maps?**

13 A. Yes. These are -- I have three isopach maps
14 here that are pretty key and tie -- kind of tying that
15 all together.

16 The first one is the Gallup pay interval
17 isopach, thickness of that interval. And what that
18 shows is that -- you can see the actual thickening
19 across -- this is -- it's striking, as you'd expect,
20 from -- the depth of the strike is from the northwest to
21 the southeast, which is what you would expect, in the
22 San Juan Basin from the -- as the sea actually
23 transgresses. It probably represents high to
24 transgressive -- excuse me -- high to regressive
25 sequences in here. But it's very much going out to the

1 north-northeast. That's where the sea is generally in
2 this -- in this area.

3 But what this is showing is there is a
4 variation of the thickness of that unit, and actually
5 you're a little thinner -- well, where you have the WPX
6 and the BP wells, it actually, in terms of thickness,
7 strikes very well and is very consistent to what you
8 find in the unit. So that is very consistent in here,
9 and we can expect a similar kind of rocks and amount of
10 pay.

11 Now, if you go to Exhibit 17, that is
12 the -- excuse me ---- yes. That's the B pay interval
13 isopach. Now, this is very different, a little bit of
14 rotation, depositional strike here. So what industry's
15 been playing, the B pay is very consistent, but
16 significant thickening down into our unit area. In
17 fact, it appears to be twice as thick in our area than
18 it does where industry is playing. So this -- this is
19 pretty exciting, and that's why I mentioned, when I
20 realized maybe the pay in the BP well is up in the B,
21 but we may have twice as much available pay in there
22 contributing to the zone.

23 The last map and isopach that I have to
24 show you today is Exhibit 18. Now, this is the total
25 Gallup, again from the top of the Gallup down to the top

1 of the Juana Lopez. So it includes those two pays, plus
2 what WPX calls the red pay above.

3 And this is a -- just a net pay, meaning
4 the amount of resistive rock above 20 ohm meters. And
5 the contour is 50 feet. So where -- within the total
6 Gallup, up where industry is playing, say up somewhere
7 between 225 to 275 feet of net pay within the total
8 Gallup. Down in our unit, we're talking more like 375
9 to 400 feet of total net pay. So we're very comparable,
10 maybe better.

11 And this is a pervasive system in here that
12 you don't necessarily define a unit by boundaries. You
13 just get it where you think it's a good place to be and
14 you get it as big as you can within the administrative
15 limits, and that's actually why we're looking within
16 that. It doesn't -- it makes most sense and allows us
17 to develop this prudently, to have a very -- have a lot
18 of flexibility within the unit, you know, how we space
19 our wells and center it, what orientation we have them.
20 And Mr. Thomas will be talking about this a little bit
21 more, but the orientation of wells initially would be
22 east-west because the pervasive -- the maximum stress
23 direction is north-south in here. And, therefore, we
24 would expect our extension in the north-south direction
25 in here. And that's what industry's been doing. As you

1 can see, they've been drilling mostly east-west.

2 So that concludes my discussion of the
3 maps.

4 Q. Okay. Thank you.

5 Previously we mentioned a couple of pools
6 that are involved in this particular unit area. What
7 are those pools again?

8 A. Oh, yeah. The Basin-Mancos Pool and the
9 Campo-Gallup Pool, And the Campo-Gallup Pool covers a
10 small amount of acreage.

11 Q. Are you familiar with the technical and
12 reservoir characteristics of the hydrocarbons produced
13 in these pools?

14 A. I am in general.

15 Q. Do they have similar pressure gradients?

16 A. Yes, they do.

17 Q. Are the fluids compatible?

18 A. Yes.

19 Q. Is Bayless expecting the wells in the unit to
20 be gas wells?

21 A. Yes, we are.

22 Q. Are the technical characteristics with these
23 current pools in the unit area essentially identical?

24 A. Yes, they are.

25 Q. Are these pools within the same vertical

1 horizon?

2 A. Yes. They're all within the same formation,
3 the Mancos Shale.

4 Q. Do you expect any cross-flow issues in the
5 area?

6 A. No, because the greatest consistent -- being no
7 cross-flow, they're all within the unitized interval.

8 Q. Will unitization of the unit area in the
9 Basin-Mancos and the Campo-Gallup Pools, for purposes of
10 horizontal well development, prevent waste and loss of
11 reserves?

12 A. Yes, because the efficient placement of the
13 wells will be based on geology.

14 Q. In your study of this area, did you observe any
15 faults, pinch-outs or other geological impediments that
16 would prevent this unitized area from being efficiently
17 and effectively developed with horizontal wells?

18 A. No, I did not.

19 Q. Okay. And in your opinion, will approval of
20 this application be in the best interest of
21 conservation, the prevention of waste and the protection
22 of correlative rights?

23 A. Yes, it will.

24 Q. Were Bayless Exhibits 8 through 18 prepared by
25 you or compiled under your direction and supervision?

1 A. Yes, they were.

2 MS. RYAN: Mr. Examiner, I request that you
3 admit Exhibits 8 through 18 into evidence.

4 MR. HALL: No objection.

5 MR. DeHERRERA: No objection.

6 EXAMINER JONES: Exhibits 8 through 18 are
7 admitted.

8 (Robert L. Bayless, Producer LLC Exhibit
9 Numbers 8 through 18 are offered and
10 admitted into evidence.)

11 MS. RYAN: Okay. I'll turn him over for
12 questioning.

13 MR. HALL: I have no questions.

14 MR. DeHERRERA: I have some questions, if
15 I'm allowed.

16 CROSS-EXAMINATION

17 BY MR. DeHERRERA:

18 Q. Sir -- and I apologize for not remembering your
19 name, and I don't have the docket in front of me or your
20 report.

21 You spoke real highly about the gas window
22 and the consistency of the production of those wells
23 both of WPX, the Black Hills well, the BP well, et
24 cetera, and your testimony was all about how consistent
25 the production is. What about the fracturing? Where is

1 this gas coming from? What's the length of your -- the
2 laterals, I think you've described, are going to be
3 one-mile laterals. But how far will that fracking go?
4 You know, what's the length of this? How do we know
5 where that gas is coming from? There is no limitation.
6 Once you frac that well, hell, it could go for a long
7 ways. And that's our concern, on behalf of the Nation,
8 is the drainage.

9 A. Uh-huh.

10 Q. Clearly -- and so in my testimony a little
11 later on, I'll give you some background for that
12 question.

13 But you didn't speak to the fact about
14 where is this gas coming from. What's the expectation
15 for that fracking to go, what, 600, 800, 1,000 feet,
16 2,000 feet. Where is that gas coming from?

17 A. I will speak to the geologic aspects of this,
18 and I'll let Mr. Thomas later in his testimony speak to
19 more of the engineering aspects of the actual fracking
20 process and what we think it will do. But, of course,
21 that's based on geology, so I'll give you my take on
22 that.

23 Yes. First of all, there are several parts
24 to that. The consistency I spoke of between the wells
25 was, as I showed on my maps -- they were actually

1 very -- they have very similar thicknesses along the
2 strike, you know, along that A to A prime. Now, I think
3 it'll be as good or better as we move south in our unit.

4 As to the fracturing, very good question.
5 So first of all, the source of -- the source of the gas
6 itself, I believe, is totally within -- this is a
7 resource play, and so there are certain zones -- these
8 target zones that have a little more better reservoir
9 characteristics and act as a sink for migration, and
10 very slow migration in most cases, through the rock as
11 sourced by the entire Mancos Shale itself. It has the
12 capability of sourcing its gas, and that's where we
13 believe the gas is coming from.

14 As far as fracturing and directions of
15 where will these fracs go, as I mentioned, the regional
16 stress in the Basin as a whole and throughout the
17 Basin -- and this is due to the entire Colorado Plateau
18 moving north during the Laramide time 60 million -- some
19 60 million years ago -- is north-south. Therefore, it
20 would form north-south fracturing in general --
21 extensional fracturing. And that means because you
22 press something north-south, it opens up east-west,
23 basically. You're squashing something, so you've got
24 increased volume that way (demonstrating).

25 So we would expect actual -- in a

1 fracture-type situation -- fracking situation that the
2 tendency would be for fractures to go more north-south
3 than they would go east-west, and that's why we drill
4 east-west, to try and cross as many of these natural
5 extensional fractures as possible.

6 And so, therefore, if you're thinking --
7 let's think of a north-south boundary between our unit
8 and your lands to the east. So as we come -- as the toe
9 of -- say a toe of our -- we come within 660 feet as our
10 prescribed offset, which would be as close as we would
11 get, the fracturing would tend to go north-south along
12 the border, not to go to the east onto your lands.

13 And as far as -- it certainly makes a
14 difference on the effectiveness of natural fracturing,
15 but we don't expect those fractures to go much of a
16 distance at all, I mean as far as maybe 300 feet or so.
17 And since I'm getting into engineering territory, I'm
18 going to let Mr. Thomas speak more definitively about
19 that. But that's why we expect initially to space wells
20 within the same zone at 660 -- 660 feet. So there would
21 not be intervention.

22 However, the industry already is spacing
23 wells within the same zone -- parallel wells at 330 feet
24 and actually not finding interference but actually
25 enhancing production in the various wells. So I don't

1 think there is any -- much danger -- the conclusion here
2 is there is not much danger of fracturing. It will go a
3 little bit to the east -- in the east-west direction,
4 but not -- not nearly as much as we'll go in the
5 north-south direction. And I'll let -- I think
6 Mr. Thomas can elaborate on this further in more detail.

7 Q. I don't have too much more, but can I follow up
8 on a couple of others things?

9 A. Sure.

10 Q. Number one, I beg to differ with you on the
11 impact from those wells west of the reservation because
12 we have had notice from BLM that we are eminent [sic]
13 drainage from the wells that are 330 feet, but it's
14 further south, and I'll speak to it a little later.

15 Did I hear you say correctly that the
16 heel -- the toe you expect to be on the -- would be on
17 the east side of those laterals --

18 A. It depends. Initially, we have --

19 Q. -- which is right next to the reservation, the
20 toe would be.

21 A. 660 feet away from it. That would be as close
22 it would get.

23 Q. Thank you.

24 A. Yeah.

25 EXAMINER JONES: Mr. Brooks?

CROSS-EXAMINATION

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BY EXAMINER BROOKS:

Q. Well, this is probably an engineering question. I've heard a lot of testimony about the way -- the direction the wells would be -- wells would be drilled in the Mancos. And is that something you can speak to, or is that strictly an engineering question?

A. As far as just azimuth of the wells?

Q. Yes.

A. I can speak -- yes, from a geologic point, I can. As far as length of fractures and stuff, I'd probably defer to him.

Q. Okay. In this area, it looks as though you have some that are northeast to southwest and some that are -- if I'm correctly interpreting these symbols, some that are northwest and southeast, but fairly close to north and south, what I'm seeing in these lines in here. I don't know those --

A. Which exhibit are you looking at?

Q. I'm looking at Exhibit 18.

A. Okay. Let me just take a look. I think I can answer your question.

Q. And this is in the gold --

A. Yeah. I can speak to that. The reason -- what you're seeing there are -- actually, these are all

1 wells, and so you're looking at, actually, some
2 Fruitland -- Fruitland wells in -- in the ones in the
3 unit. There are horizontal wells drilled in the
4 Fruitland by Black Hills here, and that's what you're
5 seeing. There are no -- there are no -- there's only
6 eight actual Mancos penetrations. And if you refer to
7 Exhibit 4, I believe -- yeah. I'm not going to --
8 Exhibit 4 should show it, the preliminary plan of
9 development there. The actual well symbols in there,
10 not just the circles, the actual well symbols, show the
11 only vertical penetrations within the unit, and --
12 Mancos penetrations -- excuse me -- and there are about
13 eight of them in here, I believe.

14 **Q. Yeah.**

15 A. And there are no horizontal wells in the
16 Mancos, in the unit.

17 **Q. Within the unit?**

18 A. That's correct.

19 **Q. Do you have an opinion as to what would be the**
20 **most prospective orientation for horizontals within this**
21 **area?**

22 A. Oh, I definitely do. That'll be east-west.
23 Now, that doesn't say that -- you know, we'd like to
24 experiment some different azimuths maybe, you know, as
25 we get into development, after we drill the first --

1 some -- some number of wells --

2 **Q. Yeah.**

3 A. -- in here, that certainly we -- up in the
4 Piceance Basin, for example, drilling in there and the
5 Mancos/Niobrara interval. There's been -- you get
6 different results sometimes. It just depends on --
7 there are different -- there are different engineering
8 ideas about what fracking does at different azimuths
9 related to the stress direction. And in this instance,
10 though, I think it should -- there's been excellent
11 success. It's just like, Well, how did BP do it? Well,
12 they drilled east-west. Well, we like the BP well, so
13 we're going to start out drilling east-west (laughter).

14 **Q. Well, how do you characterize the pay intervals**
15 **in the Mancos' -- the Mancos is an interbedded -- or the**
16 **productive -- the most productive areas in the Mancos**
17 **are interbedded with sands and shales?**

18 A. That's correct.

19 **Q. And the denser shales that are not as much**
20 **interbedded have not really been explored; is that**
21 **correct?**

22 A. Generally, that's accurate. And they're more
23 the source and what you'd like to see someplace where
24 you can get porosity. An ideal resource play is -- is
25 as much porosity you can get with low permeability,

1 actually. So any -- and over time -- it takes a long
2 time for this gas to migrate to the very tight shales to
3 actually produce them. It migrates into that porosity,
4 but it can't go anywhere once it gets in there. It
5 doesn't tend to migrate up to the outcrop or the Basin.
6 So basically the gas that you see in the rock -- in the
7 reservoir rock, in the tight sandstones within that
8 rock, was generated very close by, and that makes an
9 ideal resource play, as we say, in which you can get
10 highly repeatable horizontal -- it's perfect for
11 horizontal drilling.

12 **Q. Okay. But apparently it's not possible -- is**
13 **it true that it's not possible to extract the resource**
14 **through conventional techniques because they don't draw**
15 **far enough into -- they don't draw the resource out of**
16 **the shales?**

17 A. When you say conventional, do you mean vertical
18 wells?

19 **Q. Vertical wells, yeah, completed as they were**
20 **some years ago.**

21 A. Exactly. So you think of a hole that's about
22 this big (demonstrating) --

23 **Q. Yeah.**

24 A. -- or 8 inches in diameter, say, or less,
25 5-inch casing or something. You put that down into a

1 tight zone a couple hundred feet thick. You only have
2 that little circle going down through that -- through
3 that 200-foot-thick interval. If you get in the middle
4 of it and you get in the sweetest spot of that interval
5 and you drill horizontally, all of a sudden instead of
6 just 200 feet of zone, you have 10,000 feet of exposure
7 to the rock in the reservoir. So that's the fundamental
8 difference why you get just a little bit out of -- or
9 just a show out of a vertical well in here, and you can
10 produce tremendous amounts of gas by drilling right down
11 the heart of the pay.

12 **Q. Well, I understand that. What I'm trying to**
13 **get to is why is that so much more true apparently in**
14 **the Mancos than it is in the formations that are more**
15 **permeable?**

16 A. Oh, excellent, an excellent question. Oh,
17 yeah, absolutely. And that's why I said the ideal
18 horizontal target is something that doesn't have the
19 permeability and all that.

20 **Q. Right.**

21 A. The best vertical reservoir is the -- it's the
22 good porosity and permeability. So when you drill into
23 that -- put that little hole in that rock, you can still
24 draw from, you know, 500 feet out or 1,000 feet out
25 because it's able to flow through the rock with the

1 permeability.

2 Q. But it doesn't tend to do that in the Mancos
3 even though -- even if the zone you're considering is
4 itself a sand?

5 A. Well, because the sand itself, it's very tight
6 and dirty and fine-gained --

7 Q. Yeah.

8 A. -- and it's not a quality -- what we call a
9 quality sandstone reservoir.

10 Q. Thank you. I think that's all I have.

11 EXAMINER JONES: Do you want to go next?

12 EXAMINER LOWE: Sure.

13 CROSS-EXAMINATION

14 BY EXAMINER LOWE:

15 Q. What was your title again?

16 A. Senior geologist.

17 Q. Senior geologist.

18 How close is the mention of -- is this
19 reservation close to where your -- your interest?

20 A. Yes. The eastern mountain [sic] is right on
21 the boundary of the Jicarilla Apache Reservation. Yes.

22 Q. Okay. That's all my questions.

23 CROSS-EXAMINATION

24 BY EXAMINER JONES:

25 Q. Since you're planning on 660 setbacks, you're

1 **okay with 660 setbacks?**

2 A. 660 setbacks, we think would be -- will protect
3 the rights of the Indian lands, yes.

4 **Q. And if you do get closer than 660, you would**
5 **notify the encroached-on tracts --**

6 A. Oh, absolutely.

7 **Q. -- and apply for an exception?**

8 A. Oh, we -- in fact, yeah, that's -- and I'll
9 defer to John Thomas, Mr. Thomas, on that. But we will
10 do everything in our power to avoid that ever happening.
11 If it does, we'll definitely rectify the situation
12 somehow.

13 **Q. Are you planning on doing any more testing on**
14 **the stress orientation? That's an engineering question.**
15 **But as far as the fracture orientation, talk to the**
16 **geologist on that?**

17 A. There's been a lot of work on that, a lot of
18 both subsurface and outcrop work on that, and so I think
19 we have a very good handle on that.

20 **Q. Okay.**

21 A. And so I'll probably -- us, as a company, would
22 not do that, but that's the kind of thing that is being
23 gathered all the time. And, in fact, I believe that
24 both WPX and BP has done that type of work.

25 **Q. But you're not planning on any pilot holes to**

1 **do any coring or sidewalls or anything?**

2 A. That's -- that -- we've discussed that, how to
3 do that, you know, what kind of data we will need to
4 make sure, but we have good well control where our
5 initial wells will be.

6 **Q. But considering you've got all these partial**
7 **pay targets, you know --**

8 A. Oh, yes.

9 **Q. -- for evaluation of all those --**

10 A. Absolutely. No. I mean, at some point, yes,
11 we will have to -- especially if we move beyond the A
12 and B pay, which are very highly correlative and very
13 well defined, but the other pays are not so much, and
14 yes, we would have to evaluate those.

15 **Q. The pay zone for that Campo-Gallup Pool, is**
16 **that -- where is that?**

17 A. It's in the Gallup -- the Gallup that I --
18 it's -- it's -- there have been perforations throughout
19 the Gallup in wells in there. So that would be the top
20 of the Gallup down to the top of the Juana Lopez where
21 the perforations have mainly been.

22 **Q. Okay. That's a big interval?**

23 A. It is a big interval.

24 **Q. So they just look for a sand and perforate it?**

25 A. Yeah. They would just perforate the most

1 resistive, the best gamma ray, you know, whatever they
2 had at the time. Again, there's not that many -- there
3 are only three wells in that pool.

4 **Q. Only three wells in that pool?**

5 A. Yes.

6 **Q. And they're oil wells?**

7 A. No. They're gas wells.

8 **Q. Okay.**

9 A. They were gas wells.

10 **Q. They were gas wells.**

11 **The consistencies that everybody is talking**
12 **about for this gas leg of the Mancos, why is that? Why**
13 **is it so consistent on recovery -- reservoir recovery**
14 **with length?**

15 A. That's a really good question. Well, it's been
16 consistent on the eight, ten, dozen wells that have been
17 drilled so far. And as I showed on my cross section, A
18 to A prime, I think there are two reasons for that.
19 Number one is the strike -- both zones are very
20 consistent thicknesswise and probably qualitywise. And
21 the reason probably qualitywise and thickness is
22 depositionally -- again, this is a -- this is a marine
23 deposition. It's a -- again, probably a high stand to
24 regressive sequence in there where you have maximum
25 depth. So, therefore, you get maximum organics and all

1 that, but you'll also get deposition of enough clastics
2 and carbonate to -- to have a good reservoir that's both
3 brittle and has some porosity in it. But it's very
4 consistent because this is big a marine strike along
5 anamarine shelf slope.

6 **Q. So it's shelf deposits?**

7 A. Yeah. Yes.

8 **Q. It's not sand dunes on the edge of the --**

9 A. Yeah. It's -- it's out in the marine section.
10 Yeah.

11 **Q. Out in the marine section.**

12 A. And that's why you have the consistency of
13 lithology and quality of the rock.

14 **Q. What about maturity between the BP area and**
15 **this area? You're not worried about getting into an**
16 **area that you make more CO2 or anything like that, a**
17 **little too hot?**

18 A. Oh, no. No. I think, again, structurally,
19 we're very consistent in here that we're going to
20 have -- it's going to be very -- it's thermally very
21 similar.

22 **Q. Okay.**

23 A. Yes, sir.

24 **Q. The type log, is that on the OCD Web site; do**
25 **you know?**

1 A. I probably got it from there.

2 **Q. Okay.**

3 A. Yeah.

4 **Q. That's a good sign.**

5 A. We had digitized it also. We had -- but we
6 take -- the raster log, yes, we got from the OCD Web
7 site, I believe. I'm thinking I did. And then we
8 digitized it so we could do calculations and things like
9 that.

10 **Q. Your first well, are you going to drill in the**
11 **upper part of the B zone?**

12 A. Right -- that's -- we're debating on that. I
13 think we would -- I would like to probably start with a
14 lower zone, and the concept is to drill east-west and do
15 kind of a spacing where you drill 600 feet -- excuse me.
16 You drill a -- say, an A-zone well, and then you move
17 over 330 feet and you drill a B-zone well. So you're
18 drilling kind of an accordion -- or a V pattern. And
19 then you come the next 300 feet -- 330 feet. You go
20 back down to the A. So within any particular pay zone,
21 you have a separation of 660 feet.

22 **Q. Okay.**

23 A. But between -- between horizontal wellbores,
24 you have 330 feet. Does that make sense to you?

25 **Q. It does.**

1 A. Yeah.

2 **Q. Are you expecting mainly natural fractures, or**
3 **are you -- fracture swarms, or are you going to --**
4 **unlike the Horseshoe Gallup, you're going to have to**
5 **hydraulically fracture this rock?**

6 A. On the Horseshoe Gallup, yeah, that's got
7 natural fracturing. It's open.

8 In here, I would expect that you have --
9 you don't have naturally open-flowing fractures in most
10 cases. You may get something, and they would be
11 mainly -- what you'll get is a weakness. And so when we
12 stimulate, the tendency will be to go north-south
13 over -- over going east-west. So I see, you know, an
14 extensional weakness north-south, but not necessarily
15 open fractures. There may be a heel fracture, that sort
16 of thing, which is fine because those are an inherent
17 weakness.

18 **Q. Do you know what mud weight you're going to**
19 **drill?**

20 A. Oh, now you have to talk to Mr. Thomas about
21 that (laughter).

22 **Q. Okay. I don't want to waste time.**

23 You mentioned the Niobrara and the
24 **Piceance. Is that Williams Fork, or is that Corsican**
25 **[sic] you're talking about?**

1 A. No. The Niobrara equivalent is what they're
2 doing, most of the horizontal drilling, in the -- in the
3 Piceance. That is in the Mancos. That would be in
4 the -- that would be what we probably call the Gallup.
5 And this is not a true Gallup. This is a faux -- the
6 Gallup terminology is kind of a historical driller's
7 terminology. It's not the true Gallup sands in the
8 Upper Mancos as -- there is -- between the two.

9 **Q. Steve Hayden would be smiling.**

10 A. I defer to Broadhead 2015 or something like
11 that.

12 **Q. Oh.**

13 A. He has a very good paper of the stratigraphy of
14 the Mancos that would kind of help you see that.

15 **Q. Okay.**

16 A. And it's also El Vado. You've heard of that?
17 The El Vado is there.

18 **Q. Yeah.**

19 A. It's equivalent to that.

20 **Q. Yeah. I wasn't familiar with the names we used**
21 **to use.**

22 A. Yeah. It's --

23 **Q. Okay.**

24 EXAMINER JONES: Anything else?

25 MS. RYAN: That concludes my examination of

1 this witness. I'd like to call my next witness.

2 EXAMINER BROOKS: Let's take a break.

3 EXAMINER JONES: Quick break.

4 (Recess, 9:42 a.m. to 10:08 a.m.)

5 EXAMINER JONES: Okay. Let's go back on.

6 MS. RYAN: I'd like to call my last

7 witness.

8 JOHN THOMAS,

9 after having been previously sworn under oath, was
10 questioned and testified as follows:

11 DIRECT EXAMINATION

12 BY MS. RYAN:

13 Q. Can you please state your name for the record?

14 A. John Thomas.

15 Q. And who is your employer, and what is your
16 position?

17 A. Robert L. Bayless, Producer LLC, and I am the
18 production and asset manager.

19 Q. And can you briefly describe your
20 responsibilities in that role?

21 A. I manage all of our operated and nonoperated
22 field operations. I'm the engineering manager over
23 drilling, completion and production for operated
24 properties and regulatory compliance work.

25 Q. And does that area of responsibility include

1 **this area in northwest New Mexico?**

2 A. It does.

3 **Q. How long have you been employed there?**

4 A. Ten years.

5 **Q. Have you previously testified before the**
6 **Division?**

7 A. I have.

8 **Q. Was that about this time last year?**

9 A. It was.

10 **Q. And were you admitted at that time as an expert**
11 **petroleum engineer?**

12 A. I was.

13 MS. RYAN: I'd ask that Mr. Thomas be
14 admitted as an expert in petroleum engineering
15 operations.

16 EXAMINER JONES: Any objection?

17 MR. HALL: (Indicating.)

18 MS. RYAN: Thank you.

19 **Q. (BY MS. RYAN) Are you familiar with the**
20 **application filed in this case?**

21 A. I am.

22 **Q. And you are the Bayless representative,**
23 **correct, who has been dealing with all the regulatory**
24 **agencies --**

25 A. I am.

1 **Q. -- with respect to this unit?**

2 **Let's talk about who you have been working**
3 **with specifically.**

4 A. So, initially, the unit -- we worked with the
5 Farmington BLM Office, and I've been working with Joe
6 Hewitt, geologist, in the Farmington BLM Office, Dave
7 Mankiewicz with the Farmington BLM. In November, we
8 presented an area-and-depth meeting and received our
9 logical designation letter from them.

10 I have also had meetings and presented the
11 unit concept to the Aztec NMOCD Office. I had, earlier
12 this month, a meeting with Ms. Kate Pickford, a
13 geologist with the Aztec NMOCD, Brandon Powell and
14 Charlie Perrin discussing some of the issues with
15 pooling rules, the boundary and some of the issues that
16 have come up in other areas and how they would best like
17 us to administrate that and handle that.

18 I have also been working with the US
19 Forestry Service, J.J. Miller and Rachel Miller.

20 **Q. And referring to each of those agencies and the**
21 **personnel, are they supportive of Bayless' request to**
22 **the Division today?**

23 A. They are.

24 **Q. We've talked about a couple of pools that are**
25 **located within the unit, the -- would you please say**

1 **again which pools we're talking about?**

2 A. The main, larger pool in the area is the
3 Basin-Mancos Gas Pool, and then we have a smaller pool
4 in the area, which is the Campos-Gallup Pool. The
5 Basin-Mancos Gas Pool is spaced on 320-acre spacing,
6 with 660 external setbacks, and the Campo-Gallup Pool is
7 spaced on 160 acres with 660-foot setbacks.

8 **Q. So in that regard, let's turn to Exhibit Number**
9 **19. Can you identify that exhibit and what it**
10 **illustrates?**

11 A. Yes. This exhibit is a preliminary plan of
12 development. And as a plan of development, it's just
13 showing surface locations, and it also is identifying
14 the Campo-Gallup Pool, which is in Sections 11, 12 and
15 13. All of the rest of the acreage in the unit is in
16 the Basin-Mancos Gas Pool.

17 **Q. Is the Campo-Gallup Pool represented by the**
18 **purple-dotted-line boundary?**

19 A. Yes, it is.

20 EXAMINER BROOKS: I'm sorry. I didn't hear
21 what you said the spacing was in the Campo-Gallup. I
22 must have tuned you out.

23 THE WITNESS: No, that's all right
24 (laughter).

25 The spacing is 160 acres for a vertical

1 well with 660-foot setbacks.

2 EXAMINER BROOKS: Yeah. That's the
3 standard for that --

4 THE WITNESS: Yes. It's the standard. The
5 only difference between the Basin-Mancos Gas Pool and
6 the Basin-Mancos Gas is a 320-acre spacing.

7 EXAMINER BROOKS: I'm aware of the
8 spacing --

9 THE WITNESS: Sorry.

10 EXAMINER BROOKS: -- because I wrote the
11 pool order.

12 THE WITNESS: Okay (laughter). I'm sure
13 you are then.

14 EXAMINER BROOKS: I'm not aware -- I was
15 not aware of the spacing in the Basin-Gallup.

16 EXAMINER JONES: He admits to that.

17 (Laughter.)

18 MS. RYAN: I thought you were talking about
19 some obscure --

20 **Q. (BY MS. RYAN) So just for the record and to**
21 **help the Division, do you have the pool code for the**
22 **Campo-Gallup?**

23 A. Yes, I do. The Campo-Gallup Pool is 71599.

24 **Q. We heard testimony previously that Bayless is**
25 **seeking to work within these existing pools; is that**

1 correct?

2 A. That is correct, at the request of the Aztec
3 NMOCD Office.

4 Q. And so we're no longer seeking the creation of
5 a new pool?

6 A. That is correct.

7 Q. Are you familiar with the Basin-Mancos Gas Pool
8 rules?

9 A. I am.

10 Q. Do they currently apply expressly to horizontal
11 wells?

12 A. They do not. They just apply to vertical
13 wells. But we would be using that in conjunction with
14 the current horizontal well rules, and every spacing
15 unit that we cross through would be included in the
16 project area for the well that we use.

17 Q. As a result to bring uniformity, does Bayless
18 seek to locate the wells within the unit so long as the
19 completed interval is 660 feet from the outer boundary
20 of the unit?

21 A. We do. We request that everything internal
22 for -- for technical placing of surface locations and to
23 not have too complex of drilling designs to be able to
24 encroach on the project areas or drill nonstandard in
25 the project areas, but we do not want the -- we want the

1 external setback to be 660 feet, anything external to
2 the boundary of the unit, as stated in both pool rules.

3 **Q. So how does Bayless propose to handle a well**
4 **drilled in the portions of Sections 11, 12 and 13 in the**
5 **Campo-Gallup Pool?**

6 A. What Kate Pickford and I have discussed is
7 filing a downhole commingle at the time. So when we
8 cross -- when we drill the wells that cross from the
9 Basin-Mancos Gas Pool into the Campo-Gallup Pool, we'll
10 file a downhole commingle at that time.

11 **Q. And today are you requesting the Division**
12 **approve of this proposed process of applying for**
13 **downhole commingling when the time comes?**

14 A. I am.

15 **Q. Let's talk about what else you're asking from**
16 **the Division with respect to the downhole commingling**
17 **process.**

18 A. What Kate and I have also -- Ms. Pickford and I
19 have also discussed is -- is letting the Aztec District
20 Office approve the downhole commingle at the time, and
21 we'd like to request that process also, that yes, the
22 district also be able to approve those -- that downhole
23 commingle.

24 **Q. And the Aztec Office is supportive of this?**

25 A. Yes, they are.

1 **Q. And can you tell me about the approval -- what**
2 **has been approved by the US Forest Service?**

3 A. So when we went through the -- the US Forestry
4 Service is part of our area-and-depth meeting in
5 conjunction with the BLM. And when we received our
6 approved APD from the -- from the BLM and the surface
7 use from the Forestry Service, the Forestry Service used
8 a categorical exclusion to approve that surface use, and
9 that requires all access and all disturbance to take
10 place on unit, the categorical exclusion that they used.
11 So the APD is contingent on the approval of this unit as
12 set.

13 **Q. So with that in mind, let's refer back to**
14 **Exhibit 19. Can you discuss the plan in reference to**
15 **the surface?**

16 A. I can. The categorical exclusion used by the
17 US Forestry Service to approve the surface location in
18 Section -- in the north half of Section 26, which will
19 be our -- our earning well location, they approved that
20 for up to 16 wells to be drilled from that location.

21 For that exclusion, we can have up to five
22 acres of disturbance on the forest for every -- for
23 every well that was approved, so we can have 80 acres in
24 disturbance. But we have to expand that through any
25 kind of water-use plan that we're using or any pipeline

1 improvement. That all has to be involved in that 80
2 acres of disturbance. So that was the -- so that was
3 the categorical exclusion that was used. And it also
4 all has to be on lease or on unit, all the disturbance,
5 or we would have to go through an EA process.

6 So this -- this was approved -- what we
7 have approval for now is the first well, the earning
8 well, to be drilled, and then we can file just directly
9 with the BLM up to 15 more permits that all the surface
10 use has been approved for by the Forestry Service for
11 development.

12 **Q. So because of that, is rights-of-way required?**

13 A. No right -- no rights-of-way are required on
14 the Forestry Service. Access will be on unit on the
15 Forestry Service, and any kind of improvements to the
16 pipeline system in future development will be -- will be
17 on unit. This is part of the reason that we are setting
18 the PA to include the entire unit boundary. So --

19 **Q. Can you elaborate a little bit about that,**
20 **about setting -- why it's important for the PA boundary**
21 **at the unit boundary to address this categorical**
22 **exclusion?**

23 A. Because of the way that the surface use was
24 approved, why that categorical exclusion. We cannot --
25 we have -- once the first well is drilled, it is

1 approved under the entire unit boundary. So that's why
2 the PA we set to that distance. Now, the project areas
3 on the C-102s will be different. They will be based on
4 the Basin-Mancos Gas Pool. But the PA is where the unit
5 will expand after.

6 **Q. Without the PA, you wouldn't be able to have**
7 **the categorical --**

8 A. That is correct.

9 **Q. Okay. Can you discuss Williams' pipeline and**
10 **what they have supplied?**

11 A. So currently the Williams pipeline has supplied
12 us with a future plan of development using the
13 existing -- existing pipeline system to gather gas for
14 our first well that comes from the -- from the north in
15 Section 1 and terminates in Section 26 at our well pad.
16 There will be no disturbance for the first well.

17 If we move forward with development of the
18 entire unit, the development well, we'd have a -- we'll
19 either loop that pipeline or increase the size of that
20 pipeline for future gathering. And that would have to
21 all happen on unit for that to take place. So --

22 **Q. So in talking about the surface location in**
23 **more detail, what considerations are significant to the**
24 **specific area in Rio Arriba?**

25 A. So there's obviously significant issues with

1 the US Forestry Service that this is an area that has
2 visual -- visual impact. It also has archeological
3 impact that we need to take -- and biological impacts
4 that we have to take into account. The approval of this
5 unit and the size, we believe that we can minimize the
6 amount of surface disturbance by -- we can develop 16
7 wells plus from our one location that we're building.

8 We were -- we got this approval and have
9 done extensive biological, archeological and impact
10 studies to place this in a very specific spot and really
11 the only spot that we could put it inside this unit
12 boundary to develop as much of the unit as possible.

13 There is other -- if you refer to Exhibit
14 19, we plan on using existing surface locations, and
15 they are marked with the blue circles, for future
16 development that we cannot reach from that Section --
17 from that Section 26 well pad. So that's our future
18 plan of development, is to use as many existing
19 locations as possible to minimize any kind of
20 disturbance that we have on -- on -- on the -- on the US
21 Forest Service.

22 There is also a lot of topography out here.
23 As you can see in here, there is a significant amount of
24 topography. So that's one of the issues. The flat
25 areas on top of the ridges, we have to protect those

1 from a visual standpoint for the best interest of all
2 parties involved. So we have to set those back from
3 some of the edges. Even though those are the only flat
4 areas on the ridges, we have to set those back and
5 protect those with tree shrouds and things like that to
6 protect the visual issues of the area.

7 **Q. Let's discuss your proposed water conservation**
8 **project for this area.**

9 A. What we're proposing -- what has been discussed
10 with both [sic] the Aztec NMOCD Office is using Rule 36
11 to build a multiuse pond for development for the field
12 and then to use a water transfer system. So we'll build
13 a multiuse frac pond. Actually, Highway 64 runs through
14 this area, and we'll build a frac pond off the highway
15 to the north. That will only be done after our earning
16 well is drilled, and we're not requesting any approval
17 of that at this time. We're working very closely with
18 Brandon Powell at the Aztec Office, who's got a lot of
19 experience, working with Williams on that development.

20 The Forestry Service to reduce road traffic
21 has been extremely supportive of that plan, to set a
22 temporary storage facility and then lay temporary water
23 lines for the transfer and development of the fields.
24 That'll be the wells, the 2 through 15, after we drill
25 our earning-well-improved concept here.

1 Q. Have you been advised by the Aztec Office to
2 work with them on approval of this?

3 A. I have.

4 Q. Okay. So referring back to Exhibit 19, in
5 discussion of the initial well, can you discuss -- can
6 you elaborate a little further on the plan of
7 development?

8 A. So the initial well that was approved is a --
9 will be a step-out well from Section 26 into 23, and
10 then it will drill from the east to the west and
11 terminate in Section 21. It'll be an east-west lateral.
12 We will then step to the south. The initial approval
13 was for an A well depth. So that'll be our farthest
14 north. It'll be a Mancos A well.

15 We'll then step 330 feet to the south of
16 that, and that would be the B well depth, shallower
17 depth, at 7,600 feet, and then we'd go 330 feet south of
18 that, drilling east to west, and drill another A well.

19 Now, the plan there -- and I can speak on
20 this in a little more detail, about the plan of
21 development, how the -- how the wells would interact
22 with each other and for the proper drainage of both of
23 those zones. But they'd have 660-foot setbacks between
24 the same horizon wells, at 330 feet below the well. We
25 drill eight wells going east to west and eight wells

1 going west to east, terminating 660 feet from the east
2 boundary, as per the -- both pool rules.

3 Q. So as you're aware, the Jicarilla Apache Tribe
4 has entered an appearance and have concerns regarding
5 drainage, spacing, the orientation of the laterals. So
6 can you elaborate further on -- and you heard
7 Mr. Coryell talk about the geology and why east-to-west
8 orientation was important, but can you elaborate on that
9 further?

10 A. So ideally what we'd like to have here is
11 perpendicular -- is the fractures to go perpendicular to
12 the wellbore. The wellbore going east to west and the
13 max stress going north-south will cause those fractures
14 to grow in a north-south direction.

15 What we are looking for is not -- you know,
16 in the south -- in the south part of the Basin, which I
17 think you alluded to, within the oil window where there
18 is better rock, there is more permeable sand, you want
19 to create a longer high-permeability fracture. What
20 we're trying to do in this area specifically is to
21 create a short complex fracture. And what we're trying
22 to do is rubblize the rock near wellbore around the well
23 itself.

24 And the way that we're laying these out in
25 an east-west pattern is we're actually trying to -- we

1 would be trying to frac short, rubblize between the two
2 wellbores to get as much complexity between the two
3 wellbores, and you get a lot of surface area but not a
4 lot of distance drainage. This is not -- this rock in
5 this area is -- and I can speak to this. But the
6 mobility inside this rock requires a lot of surface area
7 and a lot of complex fracturing around the wellbore
8 itself. So we don't have any kind of mobility beyond
9 the fracture base and the extension beyond that to drain
10 the area.

11 I would feel extremely comfortable saying
12 that I would not protest a well being drilled 660 feet
13 away from our unit boundary. I feel comfortable about
14 that.

15 **Q. And is that based on, as you just stated, the**
16 **type of rock involved and the way you have to fracture**
17 **it in order --**

18 A. It is. To ideally -- to ideally make an
19 economic project here, that's -- that's the type of
20 hydraulic fracturing. And we'd be using -- to get a
21 little more in-depth on that, we'd be using a slickwater
22 fracturing system here, which has an extremely thin
23 fluid system, which -- which does not have the viscosity
24 to carry the sands long distances away from the
25 wellbore. It creates complex fractures near wellbore

1 and then the sand falls out near wellbore into those
2 complex fractures.

3 It's a completely different environment
4 from what is going on in the Mancos-Gallup in the south
5 part of the Basin. And they're apples and oranges. You
6 have a different mobility system. You have a different
7 hydrocarbon system to the south. You have a different
8 geologic environment than we have up here. And what
9 we're trying to do up here does not correlate to that at
10 all.

11 **Q. You heard some comments previously regarding**
12 **the Jicarilla Apache having some issue with drainage to**
13 **the south on a well. Can you talk about how that**
14 **particular situation is different than what you're**
15 **proposing today?**

16 A. In the south where we're targeting more
17 interbedded sands and higher-conductivity sands, because
18 it's an oil system and they need -- they need that
19 reservoir and -- and the permeability inside the
20 reservoir itself and not the hydraulic fracture, that
21 is -- that is a different system than what we are
22 talking about here, which is really -- there's really
23 very -- very tight rock in this system. There's very
24 little conductivity in the rock itself to -- very little
25 permeability in the rock itself to have any kind of

1 drainage beyond the fracture system -- in the hydraulic
2 fracture system that we're putting in place.

3 And my goal is to create a short, complex
4 fracture system around the wellbore. And to do that,
5 we're drilling wells very close to each other, and we
6 want them to create stress regimes that -- that cause
7 complexities to take place between the two wellbores.

8 **Q. So on the drainage situation discussed earlier,**
9 **that was an oilwell?**

10 A. That was an oilwell, and I -- I think that
11 drainage situation to the south is not relevant to this
12 unit and what we're talking about. Again, that was a
13 330-foot setback, which is standard setbacks for the --
14 for the oil window -- or the state rules for oil
15 setbacks.

16 **Q. Okay. All right. So it is your opinion that**
17 **the well orientation plans that you have to officially**
18 **develop this unit protect correlative rights?**

19 A. It is.

20 **Q. Is there anything outside of the ordinary that**
21 **Bayless is requesting today as far as spacing, direction**
22 **of the laterals, setbacks, pool rules that's**
23 **inconsistent with the way the Division has approved**
24 **development and operations in this area previously?**

25 A. There is not.

1 Q. And previously we heard testimony from
2 Mr. Newell about the unit agreement in that it
3 includes -- the revisions include contraction terms and
4 discussion of the PA boundary. Can you elaborate a
5 little bit further on that?

6 A. We have been -- I have been working very
7 closely with Joe Hewitt with the Farmington BLM and Dave
8 Mankiewicz to fit our unit agreement -- to fit the
9 standard form. We have made some requested revisions to
10 that standard form, but it is the standard exploratory
11 unit agreement that will be used at the request of the
12 Farmington BLM Office. We were provided with a document
13 to fit that standard form. Obviously, the provisions
14 have a -- have contractual language but set a PA
15 boundary to the unit boundary once the earning well is
16 drilled.

17 Q. So this is a true federal exploratory unit --

18 A. Yes, it is.

19 Q. -- with that type of agreement?

20 And will this -- using the contractual
21 language and, you know, the earning well, setting the PA
22 boundary, will that allow the company to efficiently
23 orient spaces around well development pattern?

24 A. Yes, it will.

25 Q. Will doing so be in the best interest of

1 conservation, the prevention of waste and the protection
2 of correlative rights?

3 A. Yes, it will.

4 Q. I just want to go back. As far as Bayless'
5 discussion with the BLM on the form, the formation of
6 the unit, all of these issues that have been arising
7 recently with the BLM, that Bayless has been working
8 specifically with the Farmington District Office; is
9 that correct?

10 A. Yes. My understanding is they will be -- they
11 administer all the units for this area, and they are --
12 we're working expressly with the Farmington BLM Office
13 with that.

14 Q. Thank you very much.

15 MS. RYAN: More questions?

16 MR. DeHERRERA: Yes. I would like to ask
17 questions, if I may.

18 CROSS-EXAMINATION

19 BY MR. DeHERRERA:

20 Q. For the record, I'm Guillermo DeHerrera
21 representing the Jicarilla Apache Nation.

22 Sir, you mentioned in your testimony quite
23 a number of things that you expect or propose. Is that
24 written in the preliminary plans? As far as I know, you
25 have a preliminary plan of development but not a final

1 **plan of development.**

2 A. Yes. But as far as -- as part of the unit
3 agreement, we will be submitting a plan -- an annual
4 plan of development after the earning well is drilled.
5 The earn-- the earning well that has been approved,
6 which is the well that will be drilled to set this unit,
7 will be drilled from east to west and be in the center
8 of the unit.

9 Q. But the fact is, because it's an exploratory
10 and you're not certain what you're going to find when
11 you start drilling, and yes, you may go east-west on
12 your laterals and hope the frac goes north-south from
13 that lateral, you don't really know what you're going to
14 do in the second or third phase. You don't have a final
15 development plan. Why can't -- and the follow-up
16 question is: When do you expect you'll have a final
17 development plan?

18 A. We will evaluate -- after we evaluate the first
19 well, we will evaluate how -- how to properly develop
20 beyond that point. There -- they will be developing
21 under the current rules in place and aren't asking to
22 develop beyond -- beyond those rules.

23 Q. So it's clearly possible you may change the
24 orientation of those laterals?

25 A. It is.

1 **Q. Including north-south with an east-west**
2 **fracking or north -- northwest to southeast? I mean, it**
3 **could go any direction?**

4 A. I am unable to change the direction that the
5 fractures will go. That is set by the geologic
6 environment in the Basin. But if there is a need for
7 oblique fractures along the wellbore itself, that could
8 be an ideal situation. Meaning, I would like the
9 fractures to grow in a north-south direction along the
10 wellbore. That could -- that could be an ideal
11 situation. I do not -- I do not expect -- and in my
12 opinion, the drainage will not expand beyond -- and
13 that's why we're going to be drilling our second well
14 660 feet away from our surface wellbore, our first
15 wellbore. I do not expect -- I do not expect drainage
16 interference.

17 MR. DeHERRERA: Mr. Chairman, I will
18 reserve some time at the end to make some other
19 statements, but that's enough for this witness.

20 EXAMINER JONES: Mr. Brooks?

21 CROSS-EXAMINATION

22 BY EXAMINER BROOKS:

23 **Q. I guess I don't remember or didn't listen well**
24 **enough to the land testimony, but I did catch the fact**
25 **that you expect something like 80 percent.**

1 A. 85 percent is required by the BLM.

2 Q. Yeah. But you do not expect -- you're not
3 planning based on the idea that you're going to get 100
4 percent approval?

5 A. We hope to get 100 percent approval, but
6 that -- I'd have to reserve that for Cranford. I
7 apologize.

8 Q. Well, that's the point of my questions because
9 I was concerned about how you're going to handle any
10 uncommitted tracts that may end up existing within this
11 unit from a spacing -- from a setback point.

12 Is there a possibility that there may be
13 uncommitted tracts or partially committed tracts?

14 A. I apologize, but I'm not sure if I'm the best
15 person to answer that question regarding the commitment
16 of the tracts.

17 Q. Well, if there were uncommitted or partially
18 committed tracts, this is something we would need to
19 make a provision for in terms of the setbacks. So would
20 you be expecting that our statement that you could drill
21 anywhere with 660 feet from the outer boundaries of the
22 unit would be qualified by staying from the outer
23 boundaries of the unit or from the outer boundaries of
24 any uncommitted or partially committed tract?

25 A. I think we would be open to that situation,

1 that we could -- we could set back from -- we could 660
2 set back from the uncommitted tract from the unit. If
3 it was committed to the unit, though, and we drilled
4 across a tract that was uncommitted, we would want to be
5 able to encroach on the unit tract that was committed.

6 Q. Yeah. Let me understand what you're saying.
7 You're saying that you would want to be able to drill
8 within an uncommitted tract but not have a standard
9 setback --

10 A. From the external -- and that tract would be
11 included under the spacing rules under the -- as we
12 would -- as the project area for the well.

13 Q. Yeah. Now -- well, I guess I don't -- my
14 thoughts are not formulated enough to continue this line
15 of questioning, but I suspect we will have some such
16 condition in here, since you do not have 100 percent
17 commitment at this point.

18 Okay. Thank you.

19 A. Thank you.

20 MS. RYAN: Let me just follow that up a
21 little bit.

22 REDIRECT EXAMINATION

23 BY MS. RYAN:

24 Q. I think you are aware in your own knowledge
25 that the -- by large, the -- most of the tracts are all

1 federal acreage?

2 A. That's correct.

3 Q. Okay. And that the few fee mineral leases is a
4 very small tract located within the unit? Can I refer
5 you to Exhibit Number 1, please? So in reference -- and
6 just reflecting in your knowledge of who is involved in
7 Bayless' ownership in these leases, without speaking to
8 the land in particular, do you have knowledge that -- in
9 Bayless' ownership, that you have current commitment in
10 all of the these tracts at least to a certain percentage
11 because they're federal leases?

12 A. I cannot speak to that. I apologize.

13 EXAMINER BROOKS: Well, we would allow you
14 to recall the land witness if you need to to explore
15 this matter further. Let's go ahead and let the other
16 Examiners question this witness.

17 EXAMINER JONES: Mr. Lowe?

18 CROSS-EXAMINATION

19 BY EXAMINER LOWE:

20 Q. John, what was your last name?

21 A. Thomas.

22 Q. John Thomas.

23 On your fracking that you mentioned earlier
24 with the less viscosity, what did you call that again?

25 A. It's a slickwater system. That's a trade name.

1 It's a water and sand with no gel. So when you use a
2 gel frac system or a higher viscosity system, you can
3 keep the sand suspended while you're fracking and get
4 greater distances away from the wellbore.

5 What I'm looking to do here is use a slick
6 system that will create a very complex near-wellbore
7 hydraulic fractures and then place sand in those that'll
8 drop out to keep those open. It's more of a duning type
9 effect when you use a slickwater system than what I
10 would call a piston effect, where you carry sand out
11 away from the wellbore with high viscosity, so a gel
12 fluid systems.

13 **Q. A gel fluid system?**

14 A. Yes.

15 **Q. And that type of fracking, is it pretty much --**

16 A. That is what has been done on the offset wells
17 in this area, and it's -- and it's industry accepted for
18 this type of -- for this type of system -- for this type
19 of rock system and what we're trying to accomplish here.

20 **Q. Okay. And what exactly did you mean by oblique**
21 **fractures that you mentioned earlier?**

22 A. So perpendicular oblique. So oblique is going
23 to be -- if my arm is the wellbore, the length of my
24 lateral (demonstrating).

25 Perpendicular is how we're trying to frac

1 right now because we want to drill perpendicular to the
2 wellbore itself.

3 Oblique is where we drill along the
4 wellbore itself. What -- what you can see in some
5 situations when you're drilling oblique to the wellbore
6 is you can see the fractures interface -- interfere with
7 each other and create even more complex fractures and
8 more rubblization. I like to think of it as you're
9 trying to shatter a windshield, and you're trying to
10 create all these dendritic fracture systems and fingers
11 that come out. And you can create a -- you can actually
12 change the stress environment by trying to drill oblique
13 along -- that is not, I believe, ideal for this and why
14 we are not drilling north-south. That's why we're
15 drilling east-west, because the proper way to do this is
16 to drill perpendicular to the -- to the wellbore and
17 have those drill perpendicular to the wellbore.

18 **Q. All right. Thank you for that.**

19 A. No problem.

20 **Q. My last question would be in reference to the**
21 **US Forestry --**

22 A. Uh-huh.

23 **Q. -- categoric exclusion. Does that only pertain**
24 **to what you guys are talking about now, or is that a**
25 **term that they -- a situation that they use for other**

1 **areas as well, too?**

2 A. It was an exclusion that they used for the
3 approval of our first surface location, and that surface
4 location and those 16 wells fall under that exclusion.

5 **Q. Okay.**

6 A. And, therefore, if -- if disturbance takes
7 place off lease or off unit here, that exclusion cannot
8 be used, and, therefore, our APD is not valid or our
9 surface-use plan is not valid. And that's the issue we
10 run into there.

11 **Q. Okay. Thank you.**

12 MR. DeHERRERA: Could I have a follow-up
13 question to the slickwater frac?

14 EXAMINER JONES: Sure. Go ahead.

15 RE CROSS EXAMINATION

16 BY MR. DeHERRERA:

17 **Q. You clearly described your preference and what**
18 **you're, quote, "trying to do." Will this be in writing,**
19 **and will this be part of the BLM's final approval that**
20 **you don't have at the moment now, this slickwater**
21 **fracking system that you described?**

22 A. So the design for -- the design for the system
23 will be based -- will be finalized when we get a well
24 drilled and the lateral length. We will be filing all
25 of the information, per the NMOCD, with FracFocus, and

1 all that information will be public for the type of
2 system that we're using.

3 Q. After the fact?

4 A. That is correct. But I would be -- that is
5 correct.

6 Q. Something could change based on findings, what
7 you do in the drilling?

8 A. That is correct.

9 Q. Thank you.

10 CROSS-EXAMINATION

11 BY EXAMINER JONES:

12 Q. Can you go over one of the wells? Like, what
13 would be your intermediate casing?

14 A. So we'd be setting -- we'd be drilling a 9-5/8
15 surface. And I apologize. I don't have the depth off
16 the top of my head here. But we'll be drilling an 8-3/4
17 hole through the curve and landing in the -- the first
18 well would be landed in the A zone at 90 degrees, where
19 we'll run 7-inch casing and cement back to surface, and
20 then we will be drilling our east-west lateral.

21 The way we're going to be stepping out is,
22 actually our surface well is going to be an S well that
23 steps to the north, drops back vertical and then turns
24 into the -- into the horizontal. That's to get our
25 offset from the surface location. And that's a

1 complex -- you know, that's a complex wellbore design
2 that is required, but it's required because of the
3 surface stipulations that I have here.

4 **Q. Okay.**

5 A. So, I mean, ideally, I would put the surface so
6 I could drill directly east-west, but I'm going to have
7 to step off to the north at least 1,330 feet -- or 1,360
8 feet or 1,320 to get away from the surface location.

9 **Q. BLM will be approving the well, APD --**

10 A. They've already approved the APD based on that
11 step-out, on stepping out to the north.

12 **Q. You said the APD is going to be contingent on**
13 **something earlier.**

14 A. The APD has been approved. The surface use is
15 contingent upon --

16 **Q. Oh, surface use.**

17 A. Yeah. The surface use -- so the surface use
18 has been approved based on us putting this unit together
19 and a logical designation letter provided by the BLM.
20 The APD has been approved on that. Now we're going --
21 now we're --

22 **Q. Being good brothers.**

23 A. So it's all -- so it's all just a contingent.
24 We have an approved APD, but it does have conditions of
25 approval inside of that APD.

1 Q. Okay. So 6-1/8 [sic] hole through the --

2 A. Through the lateral.

3 Q. It's open hole through the --

4 A. No. We will be running 4-1/2 casing and
5 cementing that. We'll be heading off 4-1/2, and that'll
6 be a cemented liner.

7 Q. Just a liner?

8 A. Yeah.

9 Q. So you're going to be fracking down?

10 A. There'll be a perf -- and, again, this is -- my
11 plan is to have a perf and plug. So we'll perforate in,
12 typical perforate -- perforate spacing and plug our way
13 back out of -- out of the hole.

14 Q. A little bit of nitro --

15 A. I am not going to use any nitrogen. No. It'll
16 be -- it'll be primarily water.

17 Q. High rate --

18 A. Friction reducer, high rates of water, sand and
19 a surfactant.

20 Q. Okay. But the drilling -- Mr. Coryell talked
21 about -- one of those wells, actually they lost the well
22 when they got into the zone.

23 A. Yes.

24 Q. Are you nervous about drilling horizontally?

25 A. I'm -- I think they drilled through that with a

1 9-5 to 9-8 mud system. So I think -- I think that is
2 your serious issue. They were using a high KCl mud
3 system. We'd have to be 11 to 13 pounds. I don't
4 expect -- this is tight enough rock that I do not expect
5 any losses to be an issue, and the pressure regime
6 there, that we have primary control of our mud system
7 going into that lateral. So yeah.

8 **Q. So as far as this being consistent reserves per**
9 **length of the well --**

10 A. Yup.

11 **Q. -- how long do you need it to be to make your**
12 **economics?**

13 A. So in our unit proposal, we can evaluate -- we
14 can evaluate anything beyond 1,000 feet. Really that's
15 where we would like to see it. So that would be -- our
16 earning well has to reach beyond 1,000 foot of lateral
17 length, and that's in our unit operating agreement.

18 **Q. But for your economics internally, you have to**
19 **reach so many --**

20 A. Right. I think -- I think ideal -- ideally I'd
21 want to reach 3- to 5,000 feet. We're planning on a
22 10,000-foot lateral, which has been done by other
23 operators, by BP, and that should be our expectation, is
24 to drill that. Because there is a lot of cost
25 associated with getting down there. Every added foot is

1 added reserves of pay that -- away from that, unless
2 there is a drilling issue or something outside of our
3 control that would want us to stop at that time. We'd
4 make the decision. But we're permitted to drill 10,000
5 per lateral.

6 **Q. Okay. So basically you're trying to copy the**
7 **BP plan as close as possible?**

8 A. As close as possible. I think there is a lot
9 of very good science. There is larger -- they are using
10 larger -- a larger wellbore, but that has to do with
11 some of the sidewall coring and things like that they
12 were doing as far as that process. I'm not privy to any
13 of that except what's available through the State.
14 But --

15 **Q. It sounds exciting.**

16 A. Yeah. Yeah. Very exciting.

17 **Q. What about water production? Are you expecting**
18 **this to be dry gas?**

19 A. I'm expecting it to be dry gas. I'm not
20 expecting any kind of artificial lift required for it.
21 We're expecting it to flow. So that's the reason for a
22 big part of this multiuse pond.

23 Our first well, we'll set aboveground frac
24 ponds on the location for the test well. I don't want
25 to do any disturbance -- until concept is proven in the

1 earning well, I don't want to do any disturbance or any
2 structure building beyond that. So we set the temporary
3 ponds on location for the first well, frac the first
4 well, test that concept, and then we would -- like I
5 said, I'm simultaneously working on that multiuse pit
6 that I would want to put the flowback water in to
7 recycle, to re-use that water on future development in
8 the field, because I think that's the -- the
9 conversation of that water is extremely important to us
10 all in the area.

11 **Q. Okay. What about your facilities? Are you**
12 **going to use gas-fired compression? Is it going to be**
13 **on those?**

14 A. Yes. It will be on that pad. We will have a
15 water tank and separator on location, wellhead equipment
16 and a meter. A meter will be on location. The pipeline
17 comes right through the middle to already abandoned
18 wells that were downline from there, so it'll terminate
19 at our location. We've got approval to go into that
20 pipeline from Williams.

21 **Q. Okay. So Williams comes in from the south?**

22 A. Williams actually -- yeah. They come in
23 actually from the south. It comes from the north and
24 wraps around to the south half of 26, and then it
25 comes -- comes back up to the north. There were some

1 wells in Section 22 that the -- that the pipeline used
2 to service. Those wells have been plugged and
3 abandoned, and now it will terminate in Section 26 so at
4 our 16 well pad.

5 **Q. Okay. But after the frac job and this being**
6 **dry gas, hopefully there won't be a whole lot of issues.**
7 **The Forest Service probably will be happy with that.**

8 A. That's correct. That's correct. We don't
9 expect -- we don't expect a large facilities footprint
10 in the long term. My plan for the 16 wells is we'll set
11 a wellhead 6 foot on center and 10 foot east to west.
12 So it'll be a very, very small footprint.

13 **Q. Okay. I have -- are you the PA person, or is**
14 **the landman --**

15 A. I can discuss the PA. I've had -- I believe
16 I'm comfortable discussing the PA situation.

17 **Q. Well, it sounds like a reasonable compromise to**
18 **keep that unit -- to keep that pool in place, but, you**
19 **know, we have -- we have contracted out pools and**
20 **grandfathered spacing and expanded, like, other pools**
21 **in.**

22 A. And I think -- so Ms. Pickford and I have had a
23 detailed discussion about whether we needed to create or
24 expand or -- because there are vertical wells in the
25 Campo Pool inside this unit, we need to keep those pool

1 rules in place for the Campo Pool. And really the -- I
2 feel comfortable with the Mancos Gas Pool and the
3 protective -- protection of our rights inside the Mancos
4 Gas Pool. And -- and I think we're complicating things
5 by adding more pools to this -- you know, to this
6 already complicated pooling issue if we're going to
7 create a new horizontal pool inside this -- inside this
8 boundary.

9 **Q. Yeah.**

10 A. So I think that was the -- I think that was the
11 consensus that Ms. Pickford and I discussed in that
12 meeting detail, a lot of back-and-forth between us
13 trying to figure out what would be the best -- the best
14 way for them to administer this so I could have
15 something in the C-102 that had a reasonable project
16 area but also allow us the flexibility to do what we
17 need to do inside of here.

18 **Q. But they would be grandfathered on their**
19 **spacing, so -- but you must be nervous about the upper**
20 **and lower boundaries of that Gallup.**

21 A. As far as the offsets to the --

22 **Q. As far as contracting out the Campo Pool and**
23 **expanding the Basin-Mancos to cover that acreage with**
24 **grandfathered spacing.**

25 A. It was discussed with Ms. Pickford in detail,

1 and she was just -- she advised us. We discussed that
2 with her, whether we should ask you to eliminate the
3 Campo Pool or -- but we can move forward -- really, it's
4 the offset --

5 **Q. Going either way, sounds like.**

6 A. We could go either way. We're fine with --
7 we're fine with -- both accomplishes our goals of 660
8 external setbacks and flexibility inside the unit, so
9 protection to the external boundary and allowing us to
10 develop properly inside the unit. And that's really
11 what we're looking for. And the easiest way -- I
12 discussed with Ms. Pickford was what's the easiest way
13 to get to this final resolve, and we believe just using
14 the pools in place and then asking you to allow the
15 Aztec Office to do our downhole-commingle approval prior
16 to, so they can just sign off on that or just -- or just
17 reporting to those two pools in the downhole
18 commingling, which is not an issue. It's an
19 administrative issue for our office but not a large one.

20 **Q. You've got plenty of time to change if you need**
21 **to change. But I was -- I was -- I thought that a PA**
22 **could only include one pool code. So you would need two**
23 **PAs within this. So I guess having two PAs is fine,**
24 **except -- unless you have to share the production with**
25 **one and not with the other. But I guess if you have a**

1 unit agreement that shares with everybody in the unit,
2 the PAs share with each other anyway --

3 A. That's correct.

4 Q. -- so in that case, maybe it's not --

5 A. So the participating area is a separate issue.
6 Project areas are assigned to the wellbore in this case.

7 Q. Yeah.

8 A. So --

9 Q. Yeah. Okay.

10 MS. RYAN: We understand that we would have
11 had to amend our application if we were going to ask for
12 the elimination of the Campo-Gallup Pool. Moving the
13 project forward, we needed to move forward with the
14 current application. So we did seek guidance on that.
15 The project needed to move forward rather than amending
16 and asking for that.

17 EXAMINER JONES: Yeah.

18 MS. RYAN: If we would have been able to
19 have the conversation earlier, we could have possibly
20 included it in our application. But --

21 EXAMINER JONES: When the landman started
22 talking about the lease expiration, I figured that he
23 was moving forward pretty fast.

24 MS. RYAN: Exactly.

25 EXAMINER JONES: Okay. Do you want to call

1 the land witness?

2 EXAMINER BROOKS: Yes. I think we need to
3 get an explanation of what could possibly be
4 uncommitted.

5 MS. RYAN: Thank you.

6 CRANFORD D. NEWELL, JR.,
7 after having been previously sworn under oath, was
8 recalled and questioned and testified as follows:

9

10 DIRECT EXAMINATION

11 BY MS. RYAN:

12 Q. So, Mr. Newell, would you -- I think it would
13 be helpful to refer to Exhibit Number 1, which is the
14 La Jara Unit area.

15 A. Yes.

16 Q. And can you identify how many -- again, how
17 many federal leases are involved in this unit?

18 A. The amount of federal leaseholds, I don't
19 remember --

20 Q. Does the number 14 sound accurate to you?

21 A. Yes, it does. The one tract of fee acreage
22 that you see on Exhibit 1 is the one that I pointed out
23 that cuts through Sections 1 and 12. It is Tract Number
24 16, I believe.

25 Q. Would that be approximately 159.66 acres of fee

1 **minerals?**

2 A. That's correct.

3 **Q. Okay. And so is it true that you previously**
4 **testified that Bayless has ownership in 64 percent of**
5 **the unit?**

6 A. Yes. We are the current owner of 64 percent of
7 the acreage within the unit boundary.

8 **Q. You heard some questioning by Mr. Brooks**
9 **regarding the expected more than 85 percent commitment,**
10 **100 percent commitment. How would Bayless handle any**
11 **uncommitted tracts?**

12 A. As Mr. Thomas stated, if there was a condition
13 needed in our approval of this process, if there is a
14 setback of any uncommitted tracts, I think we would be
15 open to that idea. At this time it's not possible for
16 me to testify one way or the other if we will have 100
17 percent commitment. We have not sent out our joinders
18 for the unit at this point. We were waiting for our
19 hearing to take place first, and the next step would be
20 to send out joinders for all the working interest
21 partners.

22 What I can testify to at this point is in
23 conversations with working interest partners within the
24 unit boundary, we have reason to believe that we will
25 have above an 85 percent commitment level for the unit,

1 but I cannot testify with certainty that that will
2 happen at this point.

3 CROSS-EXAMINATION

4 BY EXAMINER BROOKS:

5 Q. Well, now, is an 85 percent commitment required
6 as a prerequisite to the validity of the approval of the
7 unit? Is that what I heard?

8 A. To my knowledge -- and I don't know if it's
9 statute or hard rule, but the BLM has used the 85
10 percent number as kind of a benchmark for commitment to
11 approve the unit.

12 Q. Yes. And, of course, that's something that I
13 should know, but I don't, so I won't ask about that.

14 Now --

15 EXAMINER BROOKS: Are you through, or do
16 you have more questions?

17 MS. RYAN: No. Go ahead.

18 EXAMINER BROOKS: Okay. Let me go ahead
19 then.

20 Q. (BY EXAMINER BROOKS) Tract 16 is the only fee
21 tract in the entire unit?

22 A. That's correct.

23 Q. And some of these tracts are -- most of these
24 tracts are owned entirely by Bayless, but some of
25 them -- some of them say "Robert L. Bayless" or use the

1 et al.

2 A. Correct.

3 Q. That means someone else owns a portion of the
4 working --

5 A. Correct. In a certain tract, when you see
6 that, we own a certain percentage of the operating
7 rights in that tract, but not 100 percent of the
8 operating rights. So we would need other partners that
9 we've listed involved to approve that tract for it to be
10 committed as well.

11 Q. And where it says "Robert L. Bayless, Producer
12 LLC" and nothing else, that means that --

13 A. To my knowledge, that would be 100 percent
14 Bayless.

15 Q. That would be 100 percent --

16 A. Correct.

17 Q. -- ownership?

18 So you could have several boundaries
19 between -- you could have a number of boundaries between
20 the unit and partially committed tracts if some of your
21 working interest does not commit to the unit, right?

22 A. That would be correct. Yes.

23 Q. Okay. Is it possible that you could have more
24 than 85 percent and still have working interest tracts
25 that are not -- working interests that are not

1 committed?

2 A. Yes. That could be a possibility.

3 Q. Thank you. I think that's all -- carries me as
4 far as I can get.

5 MS. RYAN: Okay. All right. Thank you,
6 Mr. Newell.

7 That's the completion of our case.

8 EXAMINER JONES: That's your case?

9 MS. RYAN: Uh-huh.

10 EXAMINER JONES: Mr. DeHerrera, do you want
11 to -- you want to testify?

12 MR. DeHERRERA: Yes.

13 EXAMINER JONES: Can you step over here
14 because the court reporter is closer to you then.

15 GUILLERMO DeHERRERA,
16 after having been previously sworn under oath,
17 testifies in narrative form as follows:

18 MR. DeHERRERA: Thank you, Mr. Chairman.

19 Guillermo DeHerrera, speaking on behalf of
20 the Jicarilla Apache Nation. I'm the director of oil
21 and gas for the Nation, the Tribal Department. I
22 apologize for not knowing your procedures. It's the
23 first time I'm at your hearing -- or a hearing of the
24 OCD.

25 I want to correct something in some

1 documents I've seen. There is reference to the
2 Jicarilla Apache Tribe. The Jicarilla Apache Nation
3 changed their name officially, and it's now Jicarilla
4 Apache Nation and no longer referred to as the Jicarilla
5 Apache Tribe.

6 It's been a very interesting hearing. I've
7 learned a lot. It was, in my opinion, a very good
8 presentation, and to a certain extent, it relieved some
9 of my concerns, the concerns on behalf of the Nation. I
10 still have some doubts, and I'll speak to those in a
11 moment.

12 But it appears to me this case is not ripe
13 for decision. I mean, there's been a lot of discussion
14 about when the time comes, when there's not any final
15 hearing from BLM. There are still some things that are
16 left undone before it would come to a final decision,
17 and that's basically the relief I would ask on behalf of
18 Nation, that this approval be delayed for a couple of
19 reasons. One is the Applicant has some things yet to
20 finish.

21 Number two, I would like more time to get
22 our own consultants. Albeit the witnesses made a good
23 case, I'm still not completely comfortable that we will
24 not get drainage. And that's our issue, is basically
25 drainage. And yes, the witness, Mr. Thomas --

1 MR. THOMAS: Yes, sir.

2 MR. DeHERRERA: -- made a good distinction
3 between the oil window and the gas window, and clearly
4 we know the difference in setbacks there.

5 But we have gotten official notice from the
6 BLM that we have eminent drainage on the -- to the
7 reservation.

8 Now, we -- I'm fully aware, as I'll let the
9 Nation know, like in the open -- the old west, when you
10 had an open, free range, you wanted cattle not to
11 pasture on your land, you've got to fence them out.
12 Well, we clearly know in this case, we have to do the
13 offsetting wells if we want drainage. That's the
14 relief. The difficulty we have here is that there is
15 unleased land, and the BLM regulations require that
16 before they can mitigate or deal with this drainage --
17 and drainage is a real subject that leaves a lot of
18 interpretation: How much, where is it, how is it
19 forming, et cetera.

20 But the fact is that drainage is certainly
21 happening alongside the reservation. It's a fact that
22 the Nation has not developed its resources, for whatever
23 the reasons. We're into what I call a new era of oil
24 discovery, and it's been exciting for us on the Nation
25 to talk about this new -- we're on the thrust of a new

1 generation of wells, not only because you're going to do
2 the horizontal drilling and the fracking but also
3 multiple wells on one site.

4 So all of the indications are that the San
5 Juan Basin is based for a new development, and we're on
6 the cusp. And the Nation recognizes this, and we're
7 ready to start moving. We're considering creating a
8 unit as well. And the purpose of my being here was to
9 protect the Nation against drainage. And what I've
10 heard here is still yes, we're going to do this
11 exploratory, but there are no rules after that. There
12 is nothing in writing, won't be put to writing that the
13 next wells will all be east-west with a north-south
14 fracking. It could change.

15 And so that's the time I need to get
16 consultants in here and see if that's the case, and
17 that's the relief that I would be asking for. And it's
18 not February 8th. There is no way I can move that
19 quickly, and I would ask for more time before you make a
20 final decision. You know, if I was to put a date to it,
21 I'd say through the end of February. I don't know your
22 scheduling and how you do your dockets, but that's what
23 I would ask for on behalf of the Nation, is that we
24 give -- you give us more time to get our consultants to
25 get some analysis on this thing.

1 I also think there is a deficiency in the
2 notice process. BLM -- Black Hills, as you well know or
3 may know, has been for sale for some time. And I'm not
4 privy to discuss the buyer, but I noticed that Black
5 Hills was not noticed in this -- in the notice process.
6 They are not directly adjacent to that but not far from
7 there. And then there are some federal leases that
8 Black Hills is selling as part of their leases that are
9 off the reservation. I didn't have time to pull them
10 out and figure out where they lay within this proposed
11 unit.

12 So there are still some unknowns that I
13 need some time to bring to conclusion on our part and
14 then hopefully present them to the board at some time.
15 So I reserve the right to oppose the creation of this
16 unit. It was mentioned that I'm not opposed to it, and
17 in a general way, we're not. We want to see
18 development. And this exploratory well is going to help
19 us determine what's on the other side. And on the other
20 side, we have that WPX, now LOGOS, four sections of
21 land. I forget the lease number. And then we have some
22 unleased land right around there. So all of our efforts
23 right now are to deal with this lease -- unleased land
24 and put it into somehow status of production. And so
25 we're not ready to do any offset drilling, obviously,

1 but we hope to be there in a position relatively soon,
2 within a year to two years, something like that, which
3 would be in line with their development plans. But I
4 still have some doubts, some thoughts in my mind about
5 whether we would object or not object.

6 But in a general sense, obviously we know
7 where we're headed both on the Nation and off the
8 reservation. You see the development, just red dots all
9 over the western side of the reservation and little or
10 none on the reservation side, except for the more
11 shallow wells where -- you know, we've been producing
12 gas for 60 years, but we have a steep decline curve, and
13 now we're looking for the next generation of
14 development.

15 With that, sirs, I think that's about all I
16 have to say, and I'd be -- so I don't want to take any
17 more of your time with this hearing that's been going on
18 a long time and there are a lot of people waiting.

19 MS. RYAN: I have some questions.

20 EXAMINER JONES: Yes. Go ahead.

21 CROSS-EXAMINATION

22 BY MS. RYAN:

23 **Q. Are you aware, Mr. DeHerrera, of the current**
24 **setback rules of the OCD?**

25 A. Only to the extent in your application and what

1 I hear informally.

2 Q. Are you aware that the current rules allow --
3 would allow Bayless to drill two 660-foot setbacks
4 without a hearing?

5 A. If you say so. But the concern isn't so much
6 the setback. It's the drainage. Whether it's a
7 330-foot setback or a 660-foot setback, I'm concerned
8 about the potential for drainage.

9 Q. Are you aware that those are the rules that are
10 currently in place?

11 A. If you say so. I would accept that. I won't
12 deny it.

13 Q. Are you asking for the Division to change the
14 Basin-Mancos pool rules?

15 A. No, ma'am.

16 Q. Okay. Are you aware of the BLM rules
17 pertaining to final approval and why plans are allowed
18 to resolve after the drilling of the initial well?

19 A. Truthfully, I'm not aware of those. And to
20 give you a background, I've been in this job just a few
21 years and had my hands full with other matters, and I'm
22 now getting into this complex business of pooling and
23 horizontal drilling and drainage. So I'm -- I would
24 accept that I'm a newcomer to this business.

25 Q. Does it sound reasonable to you that a better

1 **evaluation of these unit lands and the production and**
2 **the plans of development better happen by experts after**
3 **the initial well is drilled and approved?**

4 A. Clearly I understand the need for finalizing a
5 development plan after you have information. That's the
6 same thing we're considering on our side. I'm not
7 expecting a full development plan and you put it in
8 writing. But the fact is that it would still be an open
9 area, and if things change, I would like an
10 opportunity -- the Nation would like an opportunity to
11 come back to Bayless and say, Hey, I think there's going
12 to be drainage based on your new orientation. So at a
13 minimum, I would ask that the Nation be advised as the
14 development plan changes. I mean, the testimony here
15 was yes, I expect to do this, I'm going try to do this,
16 but there's nothing prohibiting me from changing the
17 process. And that's where I would expect that some
18 rules or instructions by the NMOCD be that the Nation be
19 contacted should the current testimony be different than
20 on the final development plan.

21 **Q. Do you understand that commitment to a plan at**
22 **this stage in forming a unit would not leave room for**
23 **technology improvements as the project progresses?**

24 A. I believe that's similar to the question you
25 just asked me. Yes. I admitted that that is

1 reasonable. And I'm all for technology and that you're
2 going to have to change it, but when that change occurs
3 and it's going to impact the Nation, I'd like the Nation
4 to be informed.

5 **Q. Is it true that Bayless made itself available**
6 **to you to discuss some of these issues prior to the**
7 **hearing today?**

8 A. Three days ago. I'm sorry, but I have other
9 commitments, and I just -- you know, what's going to
10 happen in one or two or three days? Sorry. I can't
11 move that quick. But yes, you did make yourself
12 available.

13 **Q. Are you aware that anyone entering an**
14 **appearance would be required to put on technical**
15 **testimony today at this hearing?**

16 A. There has not been enough time for me to
17 prepare a technical response to this application. I
18 can't move that fast. I don't have -- you know, things
19 on the reservation happen a lot slower than they do
20 elsewhere. I believe it's a little different because of
21 the situation that the Jicarilla are in, as well the
22 trust lands and BIA. It gets a little more complicated.
23 So I have not been able to prepare a technical response
24 to anything that you have provided. No, I have not.

25 MS. RYAN: That's all my questions.

1 EXAMINER JONES: Mr. Hall?

2 MR. HALL: No questions.

3 EXAMINER BROOKS: Just one question, which
4 I think I know the answer to.

5 CROSS-EXAMINATION

6 BY EXAMINER BROOKS:

7 Q. There is no land belonging to the Jicarilla
8 within this unit, correct?

9 A. That's correct.

10 Q. But it does directly -- direct boundary --

11 A. Six sections of land directly border the
12 reservation, six sections of land, and then there is
13 another section that's 12, and that's just one section
14 away. And on the other side is the Jicarilla unleased
15 land, and then there is the BLM leases. And then, of
16 course, the new LOGOS lease is right adjacent to that,
17 those six sections of land.

18 Q. And you're concerned about -- that the 660-foot
19 setback that is required -- that is proposed as a
20 requirement -- that is a requirement by existing OCD
21 rules is not adequate to prevent drainage across that
22 boundary?

23 A. Not exactly. Our concern is that the laterals,
24 the fracking could go beyond that. Now, Mr. Thomas made
25 a good testimony on slickwater fracking system, but,

1 again, as you heard from my questions, there is no
2 obligation to continue that after the first production
3 well. So that is our concern. It's not so much the
4 setback as it is the potential drainage on the
5 reservation lands. And as you know, gas is permeable,
6 albeit granted the witness said, you know, gas is not
7 going to move in this Mancos Shale. I was to see -- I
8 want to ask some experts that are representing -- or
9 that are hired by the Nation to actually confirm that
10 for me, and when and if there is another hearing, we'll
11 be prepared for that.

12 **Q. Thank you.**

13 MS. RYAN: So I respectfully object to a
14 continuance in this matter to present technical
15 testimony in this matter. Under the current rules
16 regarding these hearings, that's supposed to all happen
17 today. So we would object to a continuance to allow
18 further technical testimony.

19 We do -- we are not requesting you take
20 this under advisement today. There was a typo in the
21 initial notice on the Web site of this matter, and so we
22 will request a continuance to the February 8th hearing
23 in order to -- as far as the timing of when it went up
24 on the Web site and when our hearing was today, we
25 needed that legal description to be accurate. So that's

1 the reason we're not requesting you to take it under
2 advisement today. But we will be requesting that at the
3 February 8th docket.

4 And because of the lease maintenance issues
5 that we have involved and all the logistics with working
6 with the Forest Service, the BLM, everything that we've
7 been doing leading up to here and the opportunity that
8 Bayless has provided to work with the Nation on this
9 issue, along with the testimony that was presented
10 today, the evidence that this particular area and the
11 way the source rock is tight and the way these fracs are
12 intended to go, that I don't think the concerns that the
13 Nation have are reasonable in this particular instance,
14 and because we are in a gas play, not an oil play.

15 So that's why I object to a continuance and
16 ask for a limited continuance to the February 8th docket
17 to address the notice issue. But that's it.

18 EXAMINER JONES: The BLM, did they make the
19 OCD approval contingent on any of their approvals?

20 MS. RYAN: Yes, that's true. And normally
21 it works that way. We all have to work together in
22 conjunction to get across the finish line. That's the
23 understanding. Right. If it's hung up for approval
24 here, we'll continue to move on with the BLM.

25 EXAMINER JONES: They're not working on it?

1 MR. THOMAS: They are working on it.

2 MS. RYAN: They are working on it.

3 EXAMINER JONES: Oh, okay.

4 MS. RYAN: But this approval is an
5 important step in the process to get further along, and
6 we have an economic and business interest in making sure
7 this gets moved along.

8 CROSS-EXAMINATION

9 BY EXAMINER JONES:

10 Q. Well, the plan of developments -- do you get a
11 copy of the plan of developments? The BLM notified you
12 of this proposed unit?

13 A. No, they did not. The Applicant --
14 Excuse me for interrupting your question.
15 We received notice just -- I don't know --
16 a week or ten days ago from the Applicant, not from BLM.

17 EXAMINER JONES: But would the Applicant
18 object to supplying any plan of developments to the
19 Jicarilla Nation?

20 MS. RYAN: The plan of developments are
21 public record, and so the Nation has every opportunity
22 to access the plans of development not only for our
23 project but for any project that it wants for any
24 operator that it thinks is impacting the Nation. So
25 those are public records and are available to the

1 Nation.

2 EXAMINER JONES: Okay. The case is going
3 to be continued until the 8th, so it's still open until
4 the 8th of February.

5 EXAMINER BROOKS: That was what I was going
6 to observe. It's continued for purposes of notice. It
7 would still be continued, and if another party files a
8 notice of appearance or even if they've already filed a
9 notice of appearance, if they file a pre-hearing
10 statement by February 1st, then they would be entitled
11 to present additional testimony at the February 8th
12 hearing. Of course, it would be necessary to file a
13 pre-hearing statement before February -- not later than
14 5:00 p.m. on February 1st in order to do that.

15 EXAMINER JONES: Which is next Thursday.

16 EXAMINER BROOKS: Right.

17 EXAMINER JONES: Mr. Lowe, do you have any
18 questions?

19 EXAMINER LOWE: No, I don't.

20 MR. HALL: I'd like to understand the need
21 to correct the advertisement.

22 MS. RYAN: So the advertisement that went
23 on the Web site had a typo in the township, the legal
24 description, and so that was corrected. But, like, when
25 you count the days back, we're a couple of days off in

1 making sure that was an accurate description for notice.
2 And in discussion with Mr. Brooks prior to the hearing,
3 the advice we got from the Division was to continue it
4 for that reason until February 8th.

5 MR. HALL: Oh, I see.

6 MS. RYAN: However, the direct notice that
7 went out to all of the parties in the unit and the
8 offsets, as well as the publication that was published
9 in the Rio Grande News all was accurate. It was just
10 the Web site advertisement.

11 MR. HALL: Thanks.

12 EXAMINER JONES: Is Southland Royalty, do
13 they have -- this is a new Southland Royalty that
14 cropped up after all these years?

15 MR. HALL: Yes.

16 EXAMINER BROOKS: We've seen them up here
17 before.

18 EXAMINER JONES: Yeah, about 50 years ago.

19 EXAMINER BROOKS: Well, but I mean
20 recently.

21 MR. HALL: They did a unit case before you
22 a couple of weeks ago.

23 EXAMINER BROOKS: It's very different from
24 the organization who sold out to Burlington.

25 MR. HALL: Right.

1 EXAMINER BROOKS: I don't remember when
2 they sold out to Burlington, but sometime before
3 Burlington sold out to ConocoPhillips.

4 MR. HALL: It's the Legacy, XTO, those
5 folks.

6 EXAMINER JONES: Do they have a statement
7 to make?

8 MR. HALL: No. We're not opposing the
9 application. Southland is an interest owner in the
10 proposed unit.

11 EXAMINER JONES: Okay. With that being
12 all, we'll continue Case Number 15946 until February
13 8th.

14 (Case Number 15946 concludes, 11:22 a.m.)

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1 STATE OF NEW MEXICO
2 COUNTY OF BERNALILLO

3

4 CERTIFICATE OF COURT REPORTER

5 I, MARY C. HANKINS, Certified Court
6 Reporter, New Mexico Certified Court Reporter No. 20,
7 and Registered Professional Reporter, do hereby certify
8 that I reported the foregoing proceedings in
9 stenographic shorthand and that the foregoing pages are
10 a true and correct transcript of those proceedings that
11 were reduced to printed form by me to the best of my
12 ability.

13 I FURTHER CERTIFY that the Reporter's
14 Record of the proceedings truly and accurately reflects
15 the exhibits, if any, offered by the respective parties.

16 I FURTHER CERTIFY that I am neither
17 employed by nor related to any of the parties or
18 attorneys in this case and that I have no interest in
19 the final disposition of this case.

20 DATED THIS 13th day of February 2018.

21

22

23 MARY C. HANKINS, CCR, RPR
24 Certified Court Reporter
New Mexico CCR No. 20
Date of CCR Expiration: 12/31/2018
Paul Baca Professional Court Reporters

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