

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 HILCORP ENERGY COMPANY TO AMEND REFERENCE CASE ORDER R-12866 TO INCLUDE THE PICTURED CLIFFS AND FRUITLAND COAL GAS POOLS FOR THE PREAPPROVAL OF DOWNHOLE COMMINGLING AS TO ALL CRITERIA FOR ITS SAN JUAN 30-6 UNIT AND TO ELIMINATE THE NOTICE REQUIREMENT, RIO ARRIBA COUNTY, NEW MEXICO. CASE NOs. 13987, 13988, 13989

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

September 19, 2019

Santa Fe, New Mexico

BEFORE: KATHLEEN MURPHY, CHIEF EXAMINER
PHILLIP GOETZE, TECHNICAL EXAMINER
DANA Z. DAVID, LEGAL EXAMINER

This matter came on for hearing before the New Mexico Oil Conservation Division, Kathleen Murphy, Chief Examiner; Phillip Goetze, Technical Examiner; and Dana Z. David, Legal Examiner, on Thursday, September 19, 2019, 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

FOR APPLICANT HILCORP ENERGY COMPANY:

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INDEX

PAGE

Case Numbers 13987, 13988, 13989 Called	4
Opening Statement by Mr. Rankin	5
Hilcorp Energy Company's Case-in-Chief:	
Witnesses:	
Charles E. Creekmore:	
Direct Examination by Mr. Rankin	7, 30
Cross-Examination by Examiner Murphy	30
Cross-Examination by Examiner Goetze	32
Cross-Examination by Examiner David	33
Recross Examination by Examiner Goetze	47
Ashlyn V. Murphy:	
Direct Examination by Mr. Rankin	50
Cross-Examination by Examiner David	62
Braden L. Riley:	
Direct Examination by Mr. Rankin	63
Cross-Examination by Examiner Goetze	84
Cross-Examination by Examiner David	85
Proceedings Conclude	86
Certificate of Court Reporter	87

	EXHIBITS OFFERED AND ADMITTED	
		PAGE
1		
2		
3	Hilcorp Energy Company Exhibit Numbers 1 through 7	47
4	Hilcorp Energy Company Exhibit Numbers 9 through 12	61
5	Hilcorp Energy Company Exhibit Numbers 13 through 19	84
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

1 (1:17 p.m.)

2 EXAMINER MURPHY: Let's go back on the
3 record.

4 And we'll call Cases 13987, 13988 and
5 13989, and these are application to amend reference Case
6 Number 12866 to include the Pictured Cliffs and
7 Fruitland Coal Gas Pools for preapproval of downhole
8 commingling as to all criteria for its San Juan 30-6
9 Unit and to eliminate the notice requirement, Rio Arriba
10 County, New Mexico.

11 Call for appearances.

12 MR. RANKIN: Good morning, Madam Examiner.

13 This is Adam Rankin, with Holland & Hart,
14 appearing on behalf of the Applicant in this case,
15 Hilcorp Energy Company.

16 We ask that these three cases, Case Numbers
17 13987, 13988 and 13989, be consolidated for hearing
18 purposes today solely for the purposes of presenting our
19 evidence and testimony.

20 EXAMINER MURPHY: Are there any witnesses?

21 MR. RANKIN: Three witnesses today.

22 EXAMINER MURPHY: Can you please stand to
23 be sworn in by the court reporter?

24 (Ms. Murphy and Mr. Riley and Mr. Creekmore
25 sworn.)

1 EXAMINER MURPHY: Any other appearances?

2 Hearing none, you may proceed.

3 OPENING STATEMENT

4 MR. RANKIN: Thank you, Madam Examiner.

5 Madam Examiner, these three cases are all
6 related, so we ask they be presented together. These
7 cases -- the Division hasn't had an opportunity to hear
8 cases of this kind in some time. However, there have
9 been a number of cases presented previously in the past,
10 over the last 20 years, in which Hilcorp's predecessors,
11 ConocoPhillips and Burlington, have come before the
12 Division seeking very similar relief as to its various
13 units in the San Juan Basin. These three cases are
14 simply a continuation or extension of what has been done
15 in the past, and, in fact, really just cleaning up a few
16 of the units that remain for which the reference cases
17 have not been updated to eliminate notice requirements
18 for some of the remaining formations in the pools that
19 are not already covered by the reference cases.

20 And in addition, we're seeking the
21 preapproval authority to downhole commingle the Pictured
22 Cliffs so that we don't have to file a full C-107 and
23 can simply file a C-103 with each downhole commingling
24 and don't have to provide notice for the Pictured
25 Cliffs.

1 And as to the Fruitland Coal, the
2 applications in each case, requested relief included
3 preapproval for downhole commingling of the Fruitland
4 Coal, as well as elimination of notice.

5 At this time we are going to be dismissing
6 the portion of the applications that request preapproval
7 for Fruitland Coal downhole commingling, and we will
8 only be requesting notice as to the Fruitland Coal for
9 all three cases. So -- if there are any questions about
10 what we're doing, let me know.

11 But basically the applications ask for
12 preapproval authority for both the Fruitland Coal and
13 the Pictured Cliffs, as well as the elimination of
14 notice for downhole commingling for both of those zones.
15 We are dismissing the portion of the application as to
16 the Fruitland Coal Formation for preapproval of all the
17 criteria and only asking for the reference cases to be
18 amended to eliminate the notice requirements for future
19 downhole commingling of the Fruitland Coal zones.

20 EXAMINER MURPHY: Are you still keeping the
21 preapproval for the Pictured Cliffs?

22 MR. RANKIN: We are. We are.

23 EXAMINER MURPHY: And elimination for --

24 MR. RANKIN: For notice.

25 EXAMINER MURPHY: -- notice for both.

1 MR. RANKIN: Both.

2 EXAMINER MURPHY: Thank you.

3 MR. RANKIN: You're welcome.

4 And feel free to interrupt me. We were
5 just talking about how fast I speak, and if I say
6 something too quickly and you want to be sure you
7 understand it, let me know and I'll restate it.

8 With that, as way of background, Madam
9 Examiner, I'd like to call our first witness, Mr.
10 Charles Creekmore, who will provide us with a little
11 more background on what Hilcorp is requesting in each of
12 these cases.

13 EXAMINER GOETZE: Just as a side note, you
14 don't have a third exhibit, do you? Can you afford it?
15 I'll trade you for a Nabisco Cheeto.

16 (Laughter.)

17 CHARLES E. CREEKMORE,
18 after having been previously sworn under oath, was
19 questioned and testified as follows:

20 DIRECT EXAMINATION

21 BY MR. RANKIN:

22 Q. Good morning, Mr. Creekmore.

23 A. Good morning.

24 Q. Would you please state your full name for the
25 record?

1 A. Charles E. Creekmore.

2 Q. By whom are you employed?

3 A. Hilcorp Energy Company.

4 Q. In what capacity?

5 A. I'm a landman with them.

6 Q. And do your job duties include responsibility
7 of the San Juan Basin?

8 A. Yes.

9 Q. And who were you employed by before Hilcorp?

10 A. Before Hilcorp, I was, to the month, ten years
11 with ConocoPhillips in the San Juan Basin.

12 Q. Have you previously testified before the
13 Division?

14 A. Yes, on numerous occasions.

15 Q. And have your credentials as an expert
16 petroleum landman been accepted and made a matter of
17 record?

18 A. Yes.

19 Q. Are you familiar with the three applications
20 that were filed in these cases?

21 A. Yes, I am.

22 Q. Are you familiar with each of the federal units
23 and the unit agreements that govern operation and lease
24 of the units that are the subject of these three
25 applications?

1 A. Yes, I am.

2 Q. And are you also familiar with the status of
3 the lands and the ownership of the lands within each of
4 the three units?

5 A. Yes.

6 Q. And have you also conducted an investigation to
7 identify the diverse ownership of each unit --

8 A. Yes.

9 Q. -- previously -- or the horizons within each of
10 the three units?

11 A. Yes.

12 MR. RANKIN: At this time, Madam Examiner,
13 I would retender Mr. Charles Creekmore as an expert in
14 petroleum land matters.

15 EXAMINER MURPHY: So qualified.

16 MR. RANKIN: Thank you.

17 Q. (BY MR. RANKIN) Now, Mr. Creekmore, with
18 respect to each of those three cases, they all have a
19 remedy in common. Could you just highlight for the
20 examiners what it is that Hilcorp is seeking with these
21 three applications as to each of the three subject
22 federal units?

23 A. We're asking for preapproval for the downhole
24 commingling in the PC to allow us to recomplete and
25 commingle wells in these three units, the San Juan 30-6,

1 San Juan 28-4 Unit and the San Juan 27-4 Unit,
2 because -- especially as these units increase in their
3 participating areas, the number of owners increases
4 exponentially, and the burden of having, every time you
5 do a commingled-well recompletion, whatever, the notice
6 takes a lot of effort and a lot of expense, and we'd
7 like to amend these reference cases to reflect that in
8 the PC.

9 Q. And unlike a spacing unit, where you just have
10 a few owners, you're talking about a participating area
11 across the whole section unit?

12 A. Most of these units have participating areas.
13 Some of them are fully expanded throughout the entire
14 unit, which encompasses a lot of different owners.

15 Q. And they all need to get notice when you --

16 A. And they all require notice. Yes.

17 Q. And so in addition to seeking preapproval for
18 the Pictured Cliffs, you're also seeking what else?

19 A. Preapproval so that an exemption for notice in
20 the future commingles with the Fruitland Coal.

21 Q. You don't have to give notice to each of the
22 owners in the -- in each of these units; is that right?

23 A. Yes. Yes.

24 Q. And there is an existing reference case for
25 each of these units whereby some of the formations

1 already have been exempted from the notice requirements;
2 is that correct?

3 A. Yes.

4 Q. So we're just asking here that those reference
5 cases be amended to include the -- both the Fruitland
6 Coal and the Pictured Cliffs for all future and existing
7 wells where there is a downhole commingling proposed?

8 A. Yes.

9 Q. And just to be clear, under the rules, we can
10 ask for a reference case for a geographic area, and in
11 these cases the geographic area would be the outer
12 boundaries -- the boundaries of each of these federal
13 units; is that right?

14 A. Yes. That is correct.

15 Q. And then just to clarify -- I mentioned this in
16 my opening, but Hilcorp is -- is it correct that Hilcorp
17 is dismissing from each of these cases its request to --
18 for preapproval to downhole commingle the Fruitland Coal
19 with the existing formations?

20 A. Yes.

21 Q. Now -- and the idea there is that we're seeking
22 the elimination of notice as to the Fruitland Coal
23 because Hilcorp still has an interest in downhole
24 commingling in the Fruitland Coal, but it will do it on
25 a case-by-case basis, well by well, as those come up,

1 and will submit the required technical information on
2 the C-107A to the Division on a case-by-case basis?

3 A. That is correct.

4 Q. But it won't have to -- should this application
5 be granted, won't have to provide notice to all the
6 numerous owners who otherwise would be provided notice?

7 A. That's correct.

8 Q. Okay. All right.

9 MR. RANKIN: So, Madam Examiner, just by
10 way of orienting you to the exhibits before you, you
11 should have in front of you an exhibit packet, Exhibits
12 1 through 19. And within this exhibit packet are
13 exhibits for each of the three cases. I'll be
14 referencing them by case number where it's applicable.
15 Then -- so the land -- we will take the land matters and
16 the notice issues on a case-by-case basis. And then the
17 geology and engineering evidence will be sort of
18 combined because they talk about all the units together.
19 So I hope that's not confusing, but if you have any
20 questions about how we're proceeding, just let me know
21 and I'll try and make sure we clarify.

22 EXAMINER MURPHY: Thank you.

23 Q. (BY MR. RANKIN) Mr. Creekmore, let's start with
24 the first case here, which is Case Number 13987, and
25 that case relates to the San Juan 30-6 Unit; is that

1 correct?

2 A. That is correct.

3 Q. All right. So one thing -- before I get into
4 the details of this one case, I wanted to ask you some
5 more general questions just to kind of set out the
6 background and context again.

7 If you would, Mr. Creekmore, just explain
8 why it is -- I mean, you did a little bit here on the
9 notice issue. But what are some of the other benefits
10 that Hilcorp anticipates seeing and why is it Hilcorp is
11 looking at recompleting in the Pictured Cliffs zone and
12 asking for downhole commingling across all these three
13 cases?

14 A. Well, the key strategy of the Hilcorp Company
15 is to look back at some of these existing properties
16 that are producing and look for overlooked and
17 underdeveloped fields. We want to prolong and extend
18 the production from the wells. We want to add value to
19 our ownership and other interest owners and use the
20 existing infrastructure and avoid drilling new wells,
21 and then -- and that also limits surface disturbance,
22 recompletions and other type techniques. And there are
23 currently some technical benefits engineeringwise that
24 weren't available early on in some of these areas.

25 Q. So all of those are contributing factors to

1 your desire to come back and use this existing well
2 infrastructure to target these unrecovered reserves that
3 are otherwise going to be sitting there for some time?

4 A. That is correct.

5 Q. Now, you talked about this again a little bit
6 earlier, but just touch on some of the reasons why it is
7 Hilcorp is asking to eliminate this notice requirement
8 as to both the Pictured Cliffs and the Fruitland Coal in
9 these cases?

10 A. Well, these three units are the subject of this
11 case, have different owners between the formations. In
12 the Division regulations, we must send notice to all the
13 interest owners. And there are hundreds of owners in
14 many of these units in these participating areas,
15 especially when you're not proposing a well in a drill
16 block. And there are more than 800 total PC commingles
17 with either the Dakota or Mesaverde existing currently
18 in the basin. And so it's become routine for you to
19 have these downhole commingled wells. And additional
20 notice requirement, we feel is unnecessary because it's
21 so routine in the basin.

22 Q. Now, on the -- on the numbers there -- I think
23 we identified this yesterday. I just wanted to make
24 sure I got it right. The 800 number is -- I think it
25 includes not just the Mesaverde and the Dakota but also

1 some other upholes in the zones, too?

2 A. Yes. Yes.

3 Q. And if I say a number, I think it's -- we can
4 confirm this with our engineering witness, but I believe
5 it's something on the order of almost 580-plus
6 commingles between the Pictured Cliffs and the deeper
7 zones, which would be the Mesaverde and the Dakota.
8 Does that sound about --

9 A. Yes. That's correct, I believe.

10 Q. Okay. So it is -- nevertheless, 580-plus is
11 still a fairly routine commingle?

12 A. Right.

13 Q. So given that -- given that routine, is it your
14 opinion that it is unnecessary to go through this every
15 time?

16 A. Well, and you're still balloting the other
17 nonoperators. We operate the wells. You're still
18 balloting the nonoperators and also providing AFEs for
19 each one of these commingles. So it's not -- everyone
20 doesn't receive notice. The other working interest
21 owners do also.

22 Q. They're still getting notification, have to
23 make an election to participate or not in the --

24 A. Pursuant -- yes. Pursuant to the unit
25 agreement -- unit operating agreement.

1 Q. Now, let's talk a little bit about the
2 background of these cases and where this request is
3 coming from. This is nothing new that Hilcorp is
4 seeking, right?

5 A. Exactly.

6 Q. This is something the Division has done
7 numerous times across the San Juan Basin?

8 A. Right.

9 Q. Let's look at -- let's look at what's been
10 marked as Exhibit 1. Mr. Creekmore, just kind of repeat
11 for me what this exhibit shows and explain to the
12 examiners what this -- what all these numbers and colors
13 mean.

14 A. Actually, I adapted this from a spreadsheet
15 that I had when I was at ConocoPhillips. Over on the
16 left, you can see h-BR, which are Heritage, Burlington.
17 And then you see the h-COP, and that's ConocoPhillips
18 when they were separate companies. And then when
19 Burlington Resources and ConocoPhillips -- we kept the
20 Heritage numbers. Burlington actually was the operator
21 because they were still separate entities. But you can
22 see all these units that we inherited had reference
23 cases, and here are a list of all the units that we
24 operated at ConocoPhillips, and now Hilcorp operates
25 them.

1 And then you can see they all had reference
2 cases except for the 29-4 Unit. And the Lindrith B,
3 we're a sub-operator. And then the case numbers and
4 then the order numbers are all older. You can see this
5 was all done mostly in the 1990s and, later on, a couple
6 of subsequent reference cases.

7 These units were subject to a reference
8 case for the Mesaverde and Dakota, but if you look at
9 Fruitland Coal and Pictured Cliffs for downhole
10 commingling, you see yeses in all the units -- or in
11 most of the units except for these units that we're here
12 today in the Fruitland Coal and the Pictured Cliffs.
13 The Chakra is only in the southeast part of the basin --
14 or southwest part of the basin. Pardon me. And many of
15 these units are subject to the Chakra. But you see the
16 Mesaverde and the Dakota are yeses all the way down.

17 And then actually in 2015, we got an
18 order. I came -- on behalf of ConocoPhillips as their
19 landman, we got a reference case for adding the
20 Basin-Mancos to the Dakota-Mesaverde. So this is not
21 new. These requests aren't new, and other companies
22 also make the same request.

23 **Q. And so, again, just going through that list,**
24 **everything in blue -- highlighted in blue are the units**
25 **for which already the Fruitland Coal and the Pictured**

1 Cliffs have been included in the reference case for
2 elimination of notice, right?

3 A. Correct.

4 Q. And the yellow highlighted ones are the ones
5 that are before the Division today, and those are the
6 ones that remain to be included in the reference case
7 for the Fruitland Coal and Pictured Cliffs for
8 elimination of notice?

9 A. That is correct.

10 Q. Okay. It's handy that we have all the order
11 numbers here and case numbers, too.

12 To the best of your knowledge,
13 Mr. Creekmore, this -- this summary is accurate and
14 these representations of the history of these orders
15 that you're referencing that cover the San Juan Basin on
16 this topic?

17 A. Yes.

18 Q. Now -- let's see what I want to ask you next.
19 So now let's dive in a little bit more in detail for the
20 units and where we are and continue with our orientation
21 now geologically. Mr. Creekmore, if you turn to Exhibit
22 2, this is an overview map of the area. Will you just
23 review for the examiners what we're looking at here and
24 get them situated with these units in this space?

25 A. This is in the area of our township units.

1 Many of these townships are other units, but these
2 specifically are the units today, the 30-6, which
3 actually goes into 30-7, and then down below it, the
4 28-4 and the 27-4.

5 Q. So here the 30-6 is the biggest unit by far
6 among these three. Next is the 27-4, and then the 28-4
7 is the smallest unit.

8 A. That is correct.

9 Q. We have acreage we'll discuss shortly.

10 So then let's look at -- we're going to get
11 now into the specifics of the first case here
12 numerically, in Case Number 13988 -- not numerically.
13 Sorry.

14 We'll start with the biggest of the units,
15 which is the San Juan 30-6 Unit, which is addressed in
16 Case Number 13988. So, Mr. Creekmore, looking at
17 Exhibit 3 is a series of maps behind the exhibit tab.
18 Will you just review for the examiners each one in turn
19 and explain what that exhibit shows and its
20 significance?

21 A. Yes.

22 Q. And I may interject here and there with a
23 question or two.

24 Thank you.

25 A. Okay. This is the outer boundaries of this

1 unit. All three of these units are -- were formed
2 around 1950, plus or minus a year or two. I don't have
3 the exact dates. But most of our township units were
4 created back then. And this unit is comprised of
5 32,524.79 acres.

6 **Q. Okay. And this is just simply the outer**
7 **boundary of that unit, right?**

8 A. Just the outer boundary, yes.

9 **Q. All right. What's on the next map?**

10 A. The next map is our Mesaverde wells, and
11 also -- it's in the Mesaverde Basin -- or
12 Blanco-Mesaverde Pool, and it's a fully expanded
13 participating area.

14 **Q. And the full expansion there is a -- is a --**
15 **it's a function of the operating agreement -- the unit**
16 **operating agreement, whether it's -- how it's been**
17 **expanded and the extent to which it's been expanded,**
18 **right?**

19 A. Right. Initially the wells are drilled on a
20 drill block, and once they qualify, they are placed into
21 a participating area. And it expands the undivided
22 ownership of all of the owners in that formation.

23 **Q. So the effect of that is that if you want to do**
24 **a recompletion for any one of these wells, every single**
25 **owner across the entire unit would be entitled to notice**

1 of that recompletion?

2 A. That is correct.

3 Q. And then just another comment, Mr. Creekmore.
4 The Mesaverde is kind of the middle formation, is that
5 right, amongst -- if we're looking at the Pictured
6 Cliffs and the Mesaverde and the Dakota below?

7 A. Yes.

8 Q. Is that where they're oriented?

9 A. Yes.

10 Q. So the infrastructure for the Mesaverde is one
11 possible source of recompletions for the Pictured Cliffs
12 above; is that right?

13 A. Yes, utilizing those existing wells for a
14 recompletion.

15 Q. So each one of these wells is a potential
16 location for a recompletion in the Pictured Cliffs?

17 A. That is correct.

18 Q. All right. What does the next page show?

19 A. The next page is a similar outline, and this
20 shows the Dakota wells. Now, the Dakota wells is not a
21 fully expanded participating area. All these wells are
22 in the Basin-Dakota Pool, and you can see the hashmark
23 is the Dakota participating area. It's not a fully
24 expanded participating area.

25 Q. So some of those wells are within the

1 participating area, in which case, every owner in that
2 shaded area would get notice?

3 A. That's correct.

4 Q. And then some are outside, in which case, you
5 know, effectively would just be on a drill-block basis?

6 A. Be on a drill block. Just limited to that
7 drill block, yes.

8 Q. And then, again, these are the Dakota, which
9 are among the deeper zones here. So these also -- these
10 do not provide potential infrastructure coming uphole
11 into recompletion for commingling?

12 A. That is correct.

13 Q. And what's the last -- the next page here?

14 A. The next page is the Pictured Cliffs wells,
15 their participating area, which is very limited. It's
16 also hashmarked.

17 Q. So this map now indicates that the Pictured
18 Cliffs in this unit has not been extensively developed
19 to this point; is that right?

20 A. That's correct.

21 Q. So that doesn't mean there is not gas in that
22 zone, right?

23 A. No. No, it doesn't.

24 Q. In fact, Hilcorp has identified some areas here
25 as being prospective for recompletions, which is why

1 we're here today?

2 A. That is correct.

3 Q. But now is it your understanding, Mr.

4 Creekmore, that the Pictured Cliffs would not be
5 economic to drill Pictured Cliffs-only wells at this
6 time?

7 A. That is correct.

8 Q. Or even maybe for the foreseeable future?

9 A. That is correct.

10 Q. Okay. So really the only way to access the
11 reserves here -- and we can discuss this more at length
12 with the engineer. But as you understand, the only way
13 to access these reserves is to do a commingling
14 operation?

15 A. That's correct.

16 Q. For it to be economical?

17 A. Yes.

18 Q. So but for the opportunity for downhole
19 commingling, reserves in the Pictured Cliffs may remain
20 unrecoverable?

21 A. Yes.

22 Q. Resulting in waste?

23 A. Yes.

24 Q. Okay. Let's look to the next map in this
25 exhibit.

1 A. Can I point out --

2 **Q. Yes.**

3 A. -- that there are three pools. And there are
4 eight wells in the La Jara-Pictured Cliffs Pool, one
5 well in the Blanco-Pictured Cliffs Pool, and one well in
6 the Gobernador-Pictured Cliffs Pool within the
7 boundaries of this unit.

8 **Q. So the point being that there are multiple**
9 **Pictured Cliffs pools in the unit, and you've got some**
10 **development across those different pools?**

11 A. Yes.

12 **Q. All right. And the last page, the map of this**
13 **exhibit?**

14 A. Yes. The last map is for the Fruitland Coal,
15 and it's a fully expanded -- you can see a lot of
16 Fruitland Coal wells here. It's a fully expanded PA.
17 I believe it's a fully expanded PA, and also in the
18 Basin Fruitland Coal Pool.

19 **Q. Okay. Now, this is just to orient the**
20 **examiners to the existing conditions for the Fruitland**
21 **Coal production in this area. But, again, just to**
22 **reiterate, you're not seeking preapproval under all the**
23 **criteria for downhole commingling of Fruitland Coal at**
24 **this time?**

25 A. No.

1 Q. Just the elimination of notice in the reference
2 case for -- for this unit?

3 A. Yes.

4 Q. Okay. All right. So that covers the different
5 zones within the 30-6 Unit.

6 Now let's talk a little bit about -- about
7 the notice issues we've kind of alluded to throughout
8 your testimony. Let's talk first about this
9 application. Hilcorp provided notice of this
10 application and hearing, okay, indicating that we were
11 seeking the elimination of notice for all future
12 downhole commingle applications for the Pictured Cliffs
13 and Fruitland Coal and preapproval for all criteria of
14 the Pictured Cliffs to all the owners in this -- in
15 this -- in this unit; is that correct?

16 A. Right. Correct.

17 Q. And is Exhibit 3 a copy -- I'm sorry -- 4 a
18 copy of the affidavit that was prepared by my office --

19 A. Yes.

20 Q. -- reflecting that we have sent out a notice
21 letter in the application to each of the owners that
22 were identified to us by Hilcorp?

23 A. Yes.

24 Q. And is that second page of that exhibit the
25 actual letter that went out on August 16th?

1 A. Yes, it is.

2 Q. And it gave notice of this hearing. Originally
3 it was scheduled for September 5th, but we continued it
4 on the record to this date; is that correct?

5 A. Yes.

6 Q. Okay. And then the following pages are of the
7 United States Postal Service tracking sheets reflecting
8 the voluminous number of individuals who we sent notice
9 to. Do you have a recollection, Mr. Creekmore, of how
10 many people were sent notice?

11 A. 335.

12 Q. And the status of each of those is on the right
13 column. The individuals -- the tracking number is in
14 the far left column. The individuals are in the second
15 column, and then the status of those deliveries that we
16 received from the postal service is in the far right
17 column; is that right?

18 A. That's correct.

19 Q. To the best of your knowledge, is this list
20 accurate and complete?

21 A. Yes.

22 Q. And did we also prepare a Notice of Publication
23 in the newspaper in Rio Arriba County reflecting that we
24 had filed this application?

25 A. Yes.

1 Q. And is that the last page of Exhibit Number 4?

2 A. Yes, it is.

3 Q. Actually, it's long. So it actually starts at
4 the third-to-the-last page, I think, of Exhibit 4.

5 A. That's correct.

6 Q. And we identify each of the interest owners by
7 name, so if you wanted to try to match them up, you
8 could do that. And that shows that we published
9 successfully in the "Rio Grande Sun" timely and in
10 advance of this hearing; is that correct?

11 A. Yes.

12 Q. Now, as a result of your efforts to provide
13 notice to all these individuals, have you received or
14 are you aware of any formal objection being filed or
15 raised against these -- this application for the
16 approval you're seeking?

17 A. I just received two phone calls from
18 individuals wondering what a reference case was.

19 Q. Okay. But they weren't objecting or anything?

20 A. No.

21 Q. Now, that's the extent of your inquiries that
22 you received?

23 A. Yes.

24 Q. Okay. So you explained earlier that the
25 different producing intervals or PAs, there will be

1 different -- there may be different owners, different
2 ownership interests or percentage interests across
3 different formations within the San Juan Unit 30-6 --

4 A. Yes.

5 Q. -- right?

6 And under the rules, whenever an operator
7 seeks to downhole commingle and there is diverse
8 ownership, you have to provide notice to everybody where
9 there is that diverse ownership; is that right?

10 A. Correct.

11 Q. Okay. And for that -- and that's the reason
12 why that these -- for the interest owners, you're
13 seeking elimination of that notice here today?

14 A. Correct, and the expense associated with it.

15 Q. And so here you would have to give notice to
16 over 300 individuals every time you wanted to file one
17 single downhole commingle application --

18 A. Yes.

19 Q. -- for an operation that's been done almost 600
20 times across the basin?

21 A. That's correct.

22 Q. Okay. Now, in your opinion, is the burden
23 provided by -- imposed upon you by providing additional
24 notice, in your opinion, is it necessary?

25 A. No.

1 Q. And that everyone who has gotten notice that
2 you're proposing to eliminate notice -- formal notice
3 through future applications?

4 A. Correct.

5 Q. Okay. Now, because the downhole commingling,
6 should you proceed to do so, will allow Hilcorp to
7 produce and develop wells in zones that might not
8 otherwise be developed due to economics, is it your
9 opinion that the downhole commingling relief that you're
10 seeking will result in a benefit to the working interest
11 owners, royalty interest owners and the other overrides
12 that have ownership in this acreage?

13 A. Yes.

14 Q. And is it also your opinion, then, that
15 Hilcorp's application will not violate or impair any
16 correlative rights?

17 A. Correct. Yes.

18 Q. All right. So that covers us for the San Juan
19 30-6 Unit.

20 MR. RANKIN: I wonder, before we go on, if
21 I might stop here to let -- let you guys ask questions,
22 because I would like to ask Mr. Creekmore more questions
23 on the other cases. So I might at this point stop and
24 ask if the examiners have any questions they would like
25 to follow up on.

1 CROSS-EXAMINATION

2 BY EXAMINER MURPHY:

3 Q. I do have a question. You sent out 335
4 notices?

5 A. Yes.

6 Q. How many came back?

7 MR. RANKIN: The tracking -- so I guess --

8 EXAMINER MURPHY: And just were accepted
9 and delivered.

10 MR. RANKIN: Not all of them. Some of them
11 are still in transition. The postal service -- we've
12 learned, by doing these large mailings through the well
13 density cases that we've had with the Division and
14 others, that the postal service doesn't always -- is not
15 always able to keep up with the volumes. So we have
16 found that sometimes even though we have correct
17 addresses, the postal service doesn't always keep up
18 with their scanning of the information. So it's all
19 done by computer.

20 CONTINUED DIRECT EXAMINATION

21 BY MR. RANKIN:

22 Q. I might ask, Mr. Creekmore, to properly answer
23 your question, I think, the basis for these addresses
24 and information is based off of your pay decks to the
25 operator of the well; is that correct?

1 A. Yes, sir. We get that information from our pay
2 decks.

3 **Q. Yeah.**

4 A. It's the most accurate that we have of where
5 they can be found. They tend to deep up with the --

6 EXAMINER MURPHY: Which is a good thing.

7 So the bulk of those were delivered
8 successfully, right? They should have been if it's --

9 MR. RANKIN: Yeah. I mean, I think -- I
10 can't tell you because I haven't -- I haven't added them
11 all up, but if you go through, you'll see that it says,
12 on the first line, that your item was delivered, and it
13 gives you the date and time. But not all of them were
14 delivered. And we -- I can't tell you exactly when we
15 ran this -- this report. We try to run it before -- you
16 know, give us some time so we can get the most updated
17 version of it.

18 THE WITNESS: It's the last column over on
19 the right where it says, "Your item was delivered" at
20 such and such time.

21 MR. RANKIN: It just appears to me that --

22 EXAMINER MURPHY: Okay.

23 MR. RANKIN: -- most of these were
24 delivered.

25 EXAMINER MURPHY: Okay. Thank you.

1 MR. RANKIN: But you'll see that they don't
2 have updated dates. It goes back to August 19th. So,
3 you know, you'd assume that by now they would have
4 picked it up.

5 EXAMINER GOETZE: So are you saying that we
6 may still have people in transit with regards to notice?

7 MR. RANKIN: I can't tell you when this
8 report was run, but it was -- I don't have that. I
9 don't know exactly. But as of the date reflected on
10 this tracking sheet, they had not yet picked it up.
11 They're valid and correct addresses, but they just
12 hadn't picked them up yet.

13 EXAMINER DAVID: Some people don't like to
14 get certified mail.

15 EXAMINER GOETZE: Well, most oil companies
16 don't like to get certified mail, too.

17 CROSS-EXAMINATION

18 BY EXAMINER GOETZE:

19 Q. I have one question regarding the notice level.
20 We did royalty and overriding royalty, so we did the
21 most expansive?

22 MR. RANKIN: Yeah. The regulations require
23 notice to all interest owners.

24 EXAMINER GOETZE: Just want to make sure.

25 THE WITNESS: Yes.

1 MR. RANKIN: Yes.

2 EXAMINER GOETZE: I have no more questions.

3 EXAMINER MURPHY: Mr. David?

4 CROSS-EXAMINATION

5 BY EXAMINER DAVID:

6 Q. So the rule requires notice to all -- so you
7 said you identified the parties to whom notice was
8 provided through your pay decks?

9 A. Yes.

10 Q. Was there any additional investigation or title
11 searches done to identify current title owners?

12 A. Well, as far as -- most of these were unitwide
13 participating areas, so most people were involved there.
14 Our largest lessor was the BLM and then the State. We
15 didn't for this because of the uniform ownership
16 throughout, so --

17 Q. Okay.

18 A. And also the publication notice.

19 Q. Right.

20 And then -- so you can certify that all of
21 the names on the certified-mail notice -- I'm sorry --
22 the certification of publication -- Affidavit of
23 Publication, certified that all those are current with
24 your pay deck reference?

25 A. Yes. They're -- both lists are the same.

1 **Q. Okay. Okay. No further questions.**

2 A. We had multiple owners, too. And we
3 consolidate a voluminous amount of separate ownerships
4 in different formations down to sending notice one time
5 to these owners that have multiple ownerships --

6 MR. RANKIN: Across the different
7 formations.

8 THE WITNESS: -- across the unit.

9 EXAMINER DAVID: Okay.

10 MR. RANKIN: So with that, no further
11 questions on Case Number 13988.

12 I'd like to move into the Case Number
13 13989, which relates to the San Juan 27-4 Unit. And
14 Examiners, we'll be following the same sequence here,
15 the same -- just so your mind is oriented and thinking
16 what you're going to be hearing. This is the same
17 pattern here.

18 **Q. (BY MR. RANKIN) So, Mr. Creekmore, turning to**
19 **what's been marked as Exhibit 5 in this case, will you**
20 **review for the examiners what this map shows?**

21 A. This is the outer boundary of the 27-4 Unit.

22 **Q. And the next page of that exhibit, what is that**
23 **map showing?**

24 A. This map shows the Blanco-Mesaverde wells and
25 where the Mesaverde wells are shown here. It's almost a

1 fully expanded PA. And this shows all of the wells, and
2 then you can see there are some over in the right-hand
3 side that aren't in the PA, not -- not in the hashmark.

4 EXAMINER MURPHY: How many acres in this
5 unit?

6 THE WITNESS: What?

7 EXAMINER MURPHY: What's the acreage size
8 of this unit?

9 THE WITNESS: Oh, I'm sorry.

10 MR. RANKIN: It's in our application.

11 THE WITNESS: Yeah.

12 Q. (BY MR. RANKIN) It is 20,000- -- tell me,
13 Mr. Creekmore, if this is right: 20,966.19 acres.

14 A. Yeah. I'm on the wrong page here. Yeah, it's
15 20,966.19 acres, and 20,484.43 are federal acres, and
16 481.76 are fee.

17 Q. So, again, as you -- as you testified for the
18 30-6 Unit, this is the Mesaverde PA formation, and this
19 is among the zones that we're talking about that would
20 provide Hilcorp with the infrastructure to come uphole
21 and do the Pictured Cliffs above; is that right?

22 A. Yes.

23 Q. So each of these wells represents a potential
24 recompletion overlying the Pictured Cliffs?

25 A. Well, we show 143 wells here.

1 Q. Okay. So 143 of those in the Mesaverde.

2 What's the next map?

3 A. The next page are the Dakota wells, and it's
4 not a fully expanded PA either, and we show 81 wells in
5 the Basin Dakota.

6 EXAMINER MURPHY: How many?

7 THE WITNESS: 81.

8 Q. (BY MR. RANKIN) And these are potential wells
9 that you can utilize for uphole recompletions in the
10 Pictured Cliffs as well, right?

11 A. I do want to point out, for some reason our
12 system showed these as oil wells, but they're actually
13 all gas wells. And I don't know why they showed up as
14 green, but they're not oil wells.

15 Q. Okay. And these also are potential
16 infrastructure for uphole recompletions?

17 A. Yes.

18 Q. All right. And the next page of the exhibit?

19 A. The next page are the existing Pictured Cliffs
20 within the unit, and, again, you can see it's not a
21 fully expanded PA.

22 Q. And this zone here in the Pictured Cliffs has a
23 little more extensive development than the 30-6 did?

24 A. Yes.

25 Q. But still is it Hilcorp's opinion that they're

1 still under -- under -- underdeveloped -- there are
2 opportunities here for development in the Pictured
3 Cliffs?

4 A. Yes. We -- we definitely feel it has
5 potential.

6 Q. And as for the other -- again, is it Hilcorp's
7 opinion that these Pictured Cliffs-only wells are
8 uneconomic?

9 A. Correct.

10 Q. So the only way to access them would be to have
11 a commingle situation where you could --

12 A. To make them economically viable, you'd have to
13 do it on a recompletion basis.

14 Q. And without that, these reserves would be
15 likely left in place for some time, if not ever?

16 A. Correct, undeveloped.

17 Q. And then your last map here, what does that
18 show?

19 A. The last map is Fruitland Coal. And you can
20 see two wells here in the Basin Fruitland Coal Gas Pool,
21 but we only have two wells within this unit.

22 Q. And, again, here you're not seeking the
23 preapproval authority for all criteria of downhole
24 commingling for the Fruitland Coal, simply the
25 elimination of notice for future applications for

1 downhole commingling with respect to the Fruitland Coal?

2 A. That is correct.

3 Q. All right. Now, let's -- as we did before,
4 let's talk about notice here. In this case you followed
5 the same procedure as you did for the 30-6 Unit in terms
6 of identifying the parties entitled to notice within
7 this unit as well?

8 A. That is correct.

9 Q. It's a smaller unit, so there are somewhat
10 fewer owners that you've got to notice in this case?

11 A. Yes.

12 Q. So is Exhibit 6 a copy affidavit prepared by me
13 reflecting that my office sent out notice to each of the
14 parties identified to us by Hilcorp entitled to notice
15 for this application and case?

16 A. Yes. We -- we sent out -- we provided you 54
17 names to -- to send out certified mail.

18 Q. And is the next page of that exhibit a copy of
19 the letter that was sent out indicating that we have --

20 A. Yes.

21 Q. -- provided notice of the application and of
22 the hearing date which was originally set for September
23 5th but was continued to this date?

24 A. Correct.

25 Q. And in the following pages, is that a copy of

1 the USPS, postal service, tracking information sheet
2 reflecting the names and identities of each of the
3 parties you identified as being entitled to notice,
4 along with the status of their tracking information?

5 A. Yes.

6 Q. I think if you go through this list, you see
7 most, not all of them, have been actually received in
8 this case. Some of them -- the majority of them have
9 been received. Is that what appears to be what you see
10 as well?

11 A. (No response.)

12 Q. And in addition, did we also provide notice by
13 publication of this application?

14 A. Yes, we did.

15 Q. And is that reflected on the last page of
16 Exhibit 6?

17 A. Yes.

18 Q. And is this an ad that ran in the "Rio Grande
19 Sun" identifying each of the parties by name and the
20 date of the hearing originally set?

21 A. Yes.

22 Q. Mr. Creekmore, to the best of your knowledge,
23 is the notice list that you provided for notice of all
24 the parties entitled to notice, is it accurate and
25 complete without addresses, to the best of your

1 knowledge?

2 A. Yes.

3 Q. Now -- I think that's it for this case. The
4 calls that you got in response, you weren't able to
5 differentiate what unit they were in?

6 A. No.

7 Q. So you just got calls, and they were from
8 everybody?

9 A. Yeah.

10 Q. So for everybody, you got two calls, and that
11 was it?

12 A. Yes.

13 Q. All right. So now the same situation applies
14 here where you've got different ownership in different
15 zones, and for every single individual downhole
16 commingle application, you have to provide that notice
17 to every person for every recompletion?

18 A. That's correct.

19 Q. And for the case where these procedures have
20 been done more than 600 times -- or nearly 600 times for
21 the zones you're talking about here and it's really
22 routine --

23 A. It is.

24 Q. -- is it your opinion that as a consequence,
25 that the provision of notice in this case is an

1 unnecessary burden on Hilcorp for each individual
2 downhole commingle?

3 A. Yes.

4 Q. In your opinion, will each of those owners that
5 we've identified, will they stand to benefit should you
6 proceed to downhole commingle these owners?

7 A. Yes.

8 Q. And is it your opinion also that the granting
9 of this application will not adversely impact any of
10 their correlative rights?

11 A. Correct. Yes.

12 MR. RANKIN: With that, Madam Examiner, I
13 have no further questions for Mr. Creekmore, so I'll
14 pass the witness for questioning.

15 EXAMINER MURPHY: Do you have any
16 questions?

17 EXAMINER GOETZE: I'll wait until we go to
18 the next one.

19 EXAMINER MURPHY: I have no questions.
20 Mr. David?

21 EXAMINER DAVID: Neither do I.
22 Proceed, Counsel.

23 MR. RANKIN: Thank you very much.

24 Before we get too much farther into it, I
25 will say that yesterday while we were preparing the

1 case, Mr. Creekmore -- and he'll testify to this --
2 identified a potential discrepancy in the notice list
3 that we had prepared for the Unit 27-4 list. So we are
4 going to ask that this case only be continued to the
5 October 17th date so that we can confirm whether there
6 is a discrepancy, and if so, whether we can rectify it
7 by that next hearing date. I'll have -- Mr. Creekmore
8 will testify just to essentially reiterate the same
9 thing.

10 THE WITNESS: You mean 28-4?

11 MR. RANKIN: 28-4. Sorry. Case Number
12 13987, San Juan Unit 28-4, is the case and unit we're
13 asking be continued to the October 17th date. And,
14 unfortunately, we only identified the discrepancy
15 yesterday while we were preparing the case, so we were
16 unable to identify it sooner.

17 So as I understand the procedure, we will
18 make the submission formally and pay the fee online
19 after this hearing.

20 EXAMINER MURPHY: Okay.

21 Q. (BY MR. RANKIN) Okay. So, Mr. Creekmore, let's
22 move on to Case 13987, which relates to the San Juan
23 28-4 Unit, which is the smallest of the three units that
24 we're considering today.

25 A. That's correct.

1 **Q. If you would please turn to what's been marked**
2 **as Exhibit Number 7 and just review for the examiners**
3 **again what each of these maps behind that exhibit shows.**

4 A. This is a rather unusual unit where you have it
5 scattered. These are all federal leases. That's all
6 that qualified to be part of the unit. So these are all
7 federal leases, and there are 6,443.84 acres.

8 **Q. So what's unusual about this one -- or tell me**
9 **if it's unusual. It's not contiguous? The acreage is**
10 **not contiguous?**

11 A. It's not contiguous, but it's within the
12 confines of the unit agreement, that you can have a unit
13 that looks like this, so -- to qualify for entry into
14 the unit. You have -- when you do sign up, you have to
15 qualify the tracts to be part of the unit.

16 **Q. So that's the exterior boundaries.**

17 **And the next exhibit in the same sequence**
18 **as the others shows you the Mesaverde PA zones; is that**
19 **right?**

20 A. Yes. It is a Mesaverde, and you can see most
21 of it, except for those partial tracts, 11 and 12 --
22 this is a correction township. 11 and 12 didn't get in
23 the participating area, but the rest of the area is a
24 Mesaverde participating area. And there are 29
25 Mesaverde wells.

1 **Q. And, again, as for the other cases, these are**
2 **potential infrastructure for uphole completions within**
3 **the Pictured Cliffs above?**

4 A. That's correct.

5 **Q. And what's your next map?**

6 A. The next map is the Basin Dakota wells, and
7 half -- half of the unit is in the PA. And there are
8 some additional wells in the area, and these are
9 potential candidates for recompletion uphole. And there
10 are ten wells here.

11 **Q. And the next page?**

12 A. Well, there are more than ten. I had ten on
13 my -- sorry. I just looked at the number. I guess I
14 should say all these are approximations when I'm telling
15 you how many numbers are here. I apologize.

16 EXAMINER MURPHY: We can look at the
17 exhibits and count them if needed.

18 THE WITNESS: Thank you.

19 **Q. (BY MR. RANKIN) All right. And your next page**
20 **here, I think it's the Pictured Cliffs.**

21 A. The next case, there is only one Pictured
22 Cliffs well, and it's in the Choza-Mesa-Pictured Cliffs
23 Pool, and -- and I see the pool outlined. I don't know
24 why the GIS shows the 11 and 12 are part of a PA --

25 **Q. Oh. Uh-huh.**

1 A. -- without a well up there. But it may not
2 have shown up. I'm not sure. But anyway, this is the
3 extent of the Pictured Cliffs development in the pool --
4 in the unit. I'm sorry. In the unit.

5 Q. And, again, the same holds true here. The
6 Pictured Cliffs just wasn't developed, and at this time,
7 it's not economic to do so with the Pictured Cliffs-only
8 wells, new drills?

9 A. Correct.

10 Q. And so the only way to really access these
11 zones is through a commingling operation?

12 A. Yes.

13 Q. Walk us through this exhibit here.

14 A. The last map are the three Fruitland Coal wells
15 within the unit boundaries.

16 Q. And, again, as with the other cases, you're not
17 seeking preapproval for criteria -- for all criteria
18 downhole commingling as to the Fruitland Coal simply --
19 and then for this reference unit to eliminate the notice
20 requirement for the future downhole commingling
21 involving the Fruitland Coal?

22 A. That's correct.

23 Q. All right. Now, as I introduced at the outset
24 at the presentation for this case, Mr. Creekmore, will
25 you just explained that during the review of the case

1 and the notice issues yesterday, you discovered a
2 discrepancy, isn't that right --

3 A. Yes.

4 Q. -- with respect to the notice list that you
5 were unable to confirm prior to today's hearing?

6 A. That's correct.

7 Q. Okay. As a consequence of that, are you
8 requesting that this case only be continued to the
9 October 17th hearing docket to enable you to confirm
10 whether the notice list that was prepared and sent out
11 was the complete and correct notice list?

12 A. Yes.

13 Q. And in the event that it is, we will present
14 that notice list by affidavit on the October 17th date?

15 A. Yes.

16 Q. And in the event that there are additional
17 parties that require notice, we will go ahead and
18 provide that notice and provide an updated affidavit at
19 that hearing date as well?

20 A. That's correct.

21 MR. RANKIN: With that, I have no further
22 questions for this witness on this case.

23 I ask that Exhibits 1 through 8 be entered
24 into the record.

25 EXAMINER GOETZE: What is 8?

1 THE WITNESS: 1 through 7.

2 MR. RANKIN: 1 through 7. Sorry.

3 EXAMINER GOETZE: That's a snow -- a cat
4 skiing in the snow.

5 MR. RANKIN: 8 is not here. That 1 through
6 7 be entered into the record in Case Numbers 13987,
7 13988 and 13989.

8 EXAMINER MURPHY: Exhibits 1 through 7 are
9 accepted.

10 (Hilcorp Energy Company Exhibit Numbers 1
11 through 7 are offered and admitted into
12 evidence.)

13 MR. RANKIN: No further questions of this
14 witness. Pass the witness for questioning.

15 EXAMINER MURPHY: I would just like to say
16 it was very interesting, but I don't have any further
17 questions.

18 RE CROSS EXAMINATION

19 BY EXAMINER GOETZE:

20 Q. Pictured Cliffs. We have several pools that
21 are involved. Have we compiled them to take a look at
22 them to see if there any restrictions that may impair
23 this commingling? I'm sorry. Everything else is nice
24 and simple because we have -- Mesaverde is one pool, but
25 the concern was raised by the district geologist if we

1 end up with a wildcat, how do we deal with it as far as
2 pooling. So I hear several pools. It may be no issue
3 whatsoever, but I think the research validates the
4 effort and make sure we're not overstepping.

5 MR. RANKIN: And just so I'm clear, I'm
6 thinking in terms of like what kind of pool -- special
7 pool rules or restrictions might be --

8 EXAMINER GOETZE: Yeah. Just to make sure
9 we're not stepping over and causing more of a problem.

10 MR. RANKIN: Okay. So would you like us to
11 do that research and confirm with you that we've looked
12 at it, and we don't have any issues?

13 EXAMINER GOETZE: Yeah. What are we
14 working with? I mean, I know the Basin Mancos and the
15 awful history of that in the Mesaverde, and the Pictured
16 Cliffs are very individual. Let's take a look and see
17 if there is something in there. Otherwise, just to be
18 make sure we've covered that.

19 MR. RANKIN: How would you like us to
20 update the Division on that effort? Would you like it
21 provided by email or submit additional affidavits or --

22 EXAMINER GOETZE: She's (indicating) in
23 charge.

24 MR. RANKIN: Yeah. I guess we could pull
25 the pool rules and send them to you and --

1 EXAMINER GOETZE: Oh, don't send me the
2 pool rules. You know, this is your application. All I
3 want is just a simple affirmation that you have taken a
4 look and this is the summary of what we have.

5 MR. RANKIN: Okay.

6 EXAMINER GOETZE: Is or isn't.

7 MR. RANKIN: We can do that. We can do
8 that by email, if that's okay.

9 EXAMINER GOETZE: Yes.

10 EXAMINER MURPHY: He wanted us to do it and
11 go into a black hole.

12 MR. RANKIN: 100 percent.

13 EXAMINER GOETZE: Well, I mean, this was a
14 question raised yesterday. You had Mr. Jones and I
15 looking for -- about the proration -- prorated gas issue
16 and, you know, Mr. Ezeanyim was very actively trying to
17 bring proration up to the modern age, but our records
18 for it are very sparse. So hopefully we'll address that
19 issue, too.

20 MR. RANKIN: Okay. Very good. We will
21 follow up with what we learn.

22 EXAMINER GOETZE: And we will continue on
23 the proration gas side, too, because we want to know
24 just as much what our search turned up. So it may not
25 be an issue, but just something in the pool rules that

1 has it addressed and we say there is no problem. Then
2 you folks can move about without having someone step
3 forward and saying it was not done properly.

4 MR. RANKIN: Understood.

5 EXAMINER GOETZE: Okay. Other than that,
6 very nice to see you again, Mr. Creekmore.

7 THE WITNESS: Nice to see you, too.

8 EXAMINER MURPHY: Mr. David, do you have
9 any questions?

10 EXAMINER DAVID: No, I don't.

11 MR. RANKIN: With that, I would ask
12 Mr. Creekmore to be removed from the witness stand.

13 THE WITNESS: I shall remove myself.

14 (Laughter.)

15 MR. RANKIN: I would call our second
16 witness of the day, Ms. Ashlyn Murphy.

17 ASHLYN V. MURPHY,
18 after having been previously sworn under oath, was
19 questioned and testified as follows:

20 DIRECT EXAMINATION

21 BY MR. RANKIN:

22 Q. Ms. Murphy, will you please state your full
23 name for the record?

24 A. Sure. Ashlyn Victoria Murphy.

25 Q. And by whom are you employed?

1 A. Hilcorp Energy Company.

2 **Q. And in what capacity.**

3 A. I'm a geologist.

4 **Q. And have you previously testified before the**
5 **Division?**

6 A. I have not.

7 **Q. Will you please review for the examiners your**
8 **educational background, including the years, and your**
9 **relative work experience as a petroleum geologist?**

10 A. Sure. I hold a Bachelor of Science in
11 petroleum geology from the University of Oklahoma. I
12 obtained that in 2015. I also hold a Master of Science
13 in geological sciences from the University of Texas at
14 Austin, and I obtained that in 2017.

15 My relative work experience, I have about
16 three years total. I have an internship that I did in
17 2014 with Resolute Energy Corporation, now Cimarex.
18 There, I worked on the Paradox Basin, the greater Aneth
19 Field, looking at the Desert Creek and the Ismay.

20 I did an internship in 2015 with QVP
21 Resources also in the Paradox Basin. I ended up towards
22 Bern necessarily in the Red Wash Field looking at the
23 Gothic as a resource play.

24 And then I did an internship in 2016 with
25 Apache Corporation in Houston building reservoir models

1 for the Alam El Buib -- it's cretaceous -- in the
2 Berenice Field in Egypt.

3 And then I did an internship with Hilcorp
4 in the summer of 2017, and I worked with the west
5 Louisiana asset team looking at conventional Gulf Coast
6 sands in the South Houma Field, South Chauvin Field and
7 Duke Lake Field. My first six months at Hilcorp were
8 spent with the west Louisiana asset team working on Duck
9 Lake Field.

10 And then in January of 2018, I was moved to
11 the northeast U.S. team working the Appalachian Basin,
12 so Utica-Point Pleasant unconventional. I was in
13 charge of geosteering and planning the March 2019
14 drilling program, which we just finished executing. And
15 then a few months ago, I was moved to the San Juan Basin
16 team working on the eastern side and all of the
17 reservoirs of the San Juan Basin.

18 **Q. So your duties now include all the acres that**
19 **are the subject of these applications?**

20 A. Yes.

21 **Q. Have you conducted a study of the lands that**
22 **are the subject of these applications?**

23 A. Yes.

24 **Q. And are you familiar with the applications that**
25 **were filed?**

1 A. Yes.

2 MR. RANKIN: With that, Madam Examiner, I
3 would tender Ms. Murphy as an expert in petroleum
4 geology.

5 EXAMINER MURPHY: So qualified.

6 MR. RANKIN: Very good.

7 THE WITNESS: Thank you.

8 MR. RANKIN: Now you've got it (laughter).

9 THE WITNESS: All right.

10 Q. (BY MR. RANKIN) So let's talk about you've done
11 here in your analysis and the work you've done and what
12 your conclusions are about the various Pictured Cliffs
13 in particular and then the different factors that go
14 into the commingle issues. So you prepared some
15 exhibits for the examiners?

16 A. Yes, I have.

17 Q. Let's turn to the first one, which is marked as
18 Exhibit 9, and let's just get the -- review for the
19 examiners the background and what the geologic setting
20 is here and review for them, if you would, what's on
21 this exhibit.

22 A. Sure. So this slide's going to cover the
23 Dakota, the Mesaverde and the Pictured Cliffs. We'll
24 focus on the Pictured Cliffs because that's what we're
25 talking about today. The block diagram on the left is

1 an idealized field environmental reconstruction of what
2 the San Juan Basin would have looked like during the
3 Cretaceous, when the Dakota and the Mesaverde and the PC
4 were all deposited. Under the Pictured Cliffs is the
5 PC.

6 The red oval outlining the beach sands and
7 the deltas, that's the depositional environment that
8 we're looking at. So these sands were deposited on the
9 western shoreline of the inland sea line during the
10 Cretaceous, and the Dakota, the Mesaverde and the
11 Pictured Cliffs all were deposited as prograding,
12 wave-dominated deltaic deposits and shorefaces.

13 The thickness of the PC sands is between 60
14 and 260 feet gross, so your isopach does change as you
15 move across the basin. And the Pictured Cliffs does
16 directly underlie the Coastal Plain deposits of the
17 Fruitland Formation, so those are your fluvial sands and
18 coals.

19 The morphology of the Pictured Cliffs and
20 gamma ray, as well as the Dakota and the Mesaverde, you
21 get coarsening upward sequences, so you'll notice that.
22 And on the next couple of pages, I'll be showing well
23 logs. And the fine-grain sandstones and your porosity
24 and permeability generally decrease with depth because
25 you're moving into your offshore facies at that point

1 where you're introducing mud into the system.

2 And you do have highly variable
3 permeability within the Pictured Cliffs between .1 and
4 4.3 millidarcies. And then basinwide, the Pictured
5 Cliffs has produced approximately 4.8 TCF of gas from
6 around 4,500 wells.

7 **Q. What is your next exhibit, Number 10? What**
8 **does that show?**

9 A. So this is a regional type log we use in the
10 section that refers to the three units that we're
11 referring to, the 30-6, the 28-4 and the 27-4. So this
12 is -- the type log is split up because I couldn't fit it
13 all in one column. The shallowest will be on the left,
14 and the deepest will be on the right. The well log on
15 the left is a gamma-ray log, so that's your natural
16 radiation showing either you have sand or you have
17 shale. So your sands are indicated with the yellow, if
18 you notice that on the left. And then the right log is
19 an induction resistivity log.

20 So we'll start on the very right with our
21 deepest formation, and it's showing being the Dakota.
22 You can see it's a series of smaller coarsening upward
23 sand packages, exactly what I talked about with the PC
24 morphology, what it exhibits.

25 And then we move into our shales, so the

1 Mancos is next up on top of the Dakota after the Gallup.
2 The Mancos is one of our source rocks in this area. And
3 then we move into the Mesaverde, to the Point Lookout,
4 the Menefee and the Cliffhouse, which is capped by the
5 Lewis Shale. And the Lewis Shale is another one of our
6 source rocks in this area. And then we move into the
7 Pictured Cliffs, which is directly on top of the Lewis
8 Shale and underlies the Fruitland, and you can see the
9 coals are indicated in black.

10 The regional type log also shows how we
11 have that -- the sea-level interaction. I also show
12 that on the block diagram how we're right on the
13 coastline. And so our shales are going to be deposited
14 when our sea level is high, and our sands are going to
15 be deposited when our sea level is low. So the Dakota:
16 Sea level is low; we have encroachment. We have the
17 Mancos. It goes back out to the Mesaverde. Encroach
18 again. You have the Lewis, and then it goes back out.
19 You have the Pictured Cliffs, and then it stays out when
20 we deposit the Fruitland.

21 **Q. So for each of these zones that we're talking**
22 **about, the Mesaverde, the Dakota and the Pictured**
23 **Cliffs, the geologic conditions that give rise to their**
24 **deposition were all similar at the time when they were**
25 **deposited?**

1 A. Yes.

2 Q. So they're analogous geologically?

3 A. Yes.

4 Q. And if you were -- oh, I had one other
5 question, but it just popped out of my mind. If I think
6 of it, I'll ask you. But that was the main point to get
7 across, is that -- that the geologic setting and the
8 conditions give rise to those zones --

9 A. Yes.

10 Q. Very good.

11 Anything else you want to comment on this
12 exhibit?

13 A. No.

14 Q. All right. Oh, I know what I was going to ask
15 you. You said this type log is used for all three
16 units. And that's because they're all fairly close
17 together?

18 A. Correct.

19 Q. And so what you say for one is consistent and
20 true for all -- all of them?

21 A. Correct, the characteristic of each of the
22 formations in the three units we are discussing.

23 Q. So your testimony is representative of the --
24 of -- of -- of what you're seeing for each of these
25 units?

1 A. Correct.

2 **Q. So looking at Exhibit 11, what does that show?**

3 A. So this is a basinwide structure map on the top
4 of the Pictured Cliffs. The colors -- the hot colors
5 represent higher in the subsurface. And then you move
6 slowly to the northeast, and you see that we are
7 deepening as we move towards the basin center, which is
8 your bluish colors or greenish-bluish colors. Also
9 you'll notice the strike of the Pictured Cliffs is
10 relatively northwest to southeast, and that's fairly
11 consistent over the basin.

12 The red box shown on that structure map
13 indicates the area that we're talking about with 30-6,
14 28-4 and 27-4. And then I've blown up that area in the
15 map in the lower right-hand corner, and I've denoted
16 these units broadly with the blue boxes. They're also
17 labeled with their names. And the cross section shows
18 from A to A prime, so it's that blue line that goes from
19 northwest to southeast. That's the cross section I will
20 be showing on the next page. So it does run through
21 each of the units in question, and it relatively follows
22 strike of the Pictured Cliffs based on the structure
23 map.

24 **Q. Go ahead and talk about that cross section.**

25 **What do you see there? What conclusions do you draw**

1 based on your analysis of the cross section as to each
2 of these --

3 A. Sure. So this is the stratigraphic cross
4 section, which means it's hung on a datum. The datum
5 that it's hung on is the top of the Pictured Cliffs. So
6 on the right-hand side, you'll see the two formations
7 that are shown are the Pictured Cliffs and then the
8 Fruitland Formation on top. The Pictured Cliffs is
9 shown in red, and that's a top and base. And then the
10 Fruitland top is shown, and then its base is to the top
11 of the Pictured Cliffs in this cross section. And so
12 this cross section is hung on that top of the Pictured
13 Cliffs.

14 On the right-hand side is the northwest
15 part of the cross section, and then we move to the
16 southeast as you move to the left. So we start in 30-6
17 on the right, and then we end in 28-4 and 27-4 on the
18 left.

19 The goal of this cross section was to show
20 that there is very little change in isopach in the
21 Pictured Cliffs as we move across the three units. It
22 goes from about 131 feet to 142 feet, so negligible in
23 terms of great change in isopach. We also don't see any
24 structural difference. There is also very little change
25 in the sand morphology. So your gamma ray looks fairly

1 consistent. The coarsening sequence doesn't change
2 tremendously as you move across these three units.

3 So based on this analysis, my opinion is
4 that the division of the units and pools is geographical
5 rather than geological.

6 Q. All right. Anything else you want to bring out
7 on that map -- or that exhibit?

8 A. No, sir.

9 Q. So --

10 A. I did forget to mention that this is a triple
11 combo log. I forgot to say that. So your gamma ray is
12 on the left. Your induction is the brown curve in the
13 middle, and then on the right-hand side, you have your
14 two porosity curves, the neutron and the density. The
15 neutron's in blue. The density is in red. I apologize.

16 Q. So in summary, essentially what this cross
17 section shows is that there is a consistency with the --
18 across the region here that we're looking at for all
19 three units, correct?

20 A. Yes.

21 Q. And so -- and not only that, but the geologic
22 setting -- depositional setting that gave rise to the
23 Pictured Cliffs is analogous and very similar to what --
24 the formation of the Mesaverde and Dakota as well?

25 A. Correct, very laterally continuous beach

1 deposits.

2 Q. All right. Very good.

3 MR. RANKIN: I don't have any further
4 questions.

5 And I will ask at this time that Exhibits
6 9, 10, 11 and 12 be admitted to the record.

7 EXAMINER MURPHY: Exhibits 9 through 12 are
8 admitted.

9 (Hilcorp Energy Company Exhibit Numbers 9
10 through 12 are offered and admitted into
11 evidence.)

12 MR. RANKIN: I have no further questions of
13 this witness.

14 EXAMINER MURPHY: Mr. Goetze?

15 EXAMINER GOETZE: I have no questions of
16 this witness. It's thorough.

17 MR. RANKIN: Thank you.

18 Thank you very much. You may be excused --
19 or removed.

20 EXAMINER GOETZE: Whoops.

21 EXAMINER DAVID: Go ahead. Pardon me. I'm
22 jumping ahead.

23 EXAMINER MURPHY: Thank you.

24 I don't have any questions, but thank you.

25 Mr. David?

CROSS-EXAMINATION

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BY EXAMINER DAVID:

Q. Ms. Murphy, I was looking at the -- just for the record -- it's probably not that important -- but on Exhibit 12 of the logs, there's some -- there are some colors on these logs. I don't see a legend that explains. So in certain areas in the Fruitland Formation, it's kind of uniform, kind of a dark gray color. What does that represent?

A. So there is also a bulk density curve shown, and that's to denote the coals. So that's a bulk density cutoff, and I used 1.94. It allows you to flag the coals when you're correlating.

Q. Okay. And also there is some -- there is some yellow patches as well.

A. Yes, sir. So that's a gamma-ray cutoff, and it's 75 API units, which is a common set of units we use for gamma ray.

Q. Okay. And what would that cutoff designate?

A. That denotes more sandy, so cleaner sand.

Q. Okay.

A. Yes.

Q. Thank you very much.

A. Yes.

MR. RANKIN: So no further questions from

1 me, and if there are no other questions from the
2 examiner, I think Ms. Murphy may be excused.

3 THE WITNESS: Okay. Thank you.

4 MR. RANKIN: With that, I'd like to call
5 our third and final witness of the day, Mr. Braden
6 Riley.

7 BRADEN L. RILEY,
8 after having been previously sworn under oath, was
9 questioned and testified as follows:

10 DIRECT EXAMINATION

11 BY MR. RANKIN:

12 Q. Mr. Riley, will you please state your full name
13 for the record?

14 A. Braden Lee Riley.

15 Q. By whom are you employed?

16 A. Hilcorp Energy Company.

17 Q. In what capacity?

18 A. Reservoir engineer.

19 Q. Have you testified before the Division before?

20 A. I have not.

21 Q. Will you please review for the examiners
22 briefly your educational background and your relative
23 work experience as a reservoir engineer?

24 A. I graduated with a bachelor's in petroleum
25 engineering from Marietta College. During my time in

1 school, I held two field internships in the
2 Pennsylvania-Ohio area, one of which was with Hilcorp.
3 I also held an office internship as a reservoir engineer
4 for our south Texas asset team.

5 And upon graduation in 2017, I received --
6 or I started working full time for Hilcorp as an
7 operations engineer for our central Texas asset team.
8 During that time, I worked primarily conventional
9 reservoirs on the Texas Gulf Coast. I worked in fields
10 that had primary, secondary and tertiary recovery
11 processes. I worked both oil and gas reservoirs. And
12 for about a year's worth of time during my time as a
13 operations engineer, I was assigned some reservoir
14 engineering duties for various fields.

15 Earlier this year, I was transferred to one
16 of our San Juan Basin asset teams as a reservoir
17 engineer. And to summarize my job duties here as a
18 reservoir engineer, my job is to study reservoirs and
19 well histories in order to identify reserves that have
20 been left in the ground and develop a plan to extract
21 them in the most economical way possible.

22 **Q. So you're familiar with the three applications**
23 **filed in this case to come up with a way of developing**
24 **the Pictured Cliffs?**

25 A. Yes, I am.

1 **Q. Have you conducted a study and evaluation of**
2 **the engineering to accomplish that?**

3 A. I have.

4 MR. RANKIN: At this time, Madam Examiner,
5 I would move to tender Mr. Riley as an expert in
6 petroleum engineering.

7 EXAMINER MURPHY: So qualified.

8 MR. RANKIN: Thank you.

9 **Q. (BY MR. RANKIN) Mr. Riley, let's talk about**
10 **your analysis here, if you would. Explain the process**
11 **here that Hilcorp would undertake to downhole commingle**
12 **the Pictured Cliffs with existing completions for**
13 **potential new drills down the road with the Mesaverde**
14 **and Dakota Formations, referring to Exhibit Number 13.**

15 A. All right. Exhibit 13 here shows a cartoon of
16 essentially what we're trying to accomplish here.
17 Starting on the left-hand side with the first wellbore,
18 you can see that kind of green-looking box with the
19 flange on top. That signifies our wellhead at the
20 surface, and then the larger cylinders downwards from
21 that are our casing strings in the ground that have been
22 cemented, with the gray coloring there, and then within
23 another cylinder that signify their tubing. And in this
24 first wellbore here on the left-hand side, this wellbore
25 would be what we currently have existing as a

1 stand-alone Mesaverde producer.

2 What we are proposing to do then would be
3 to enter this wellbore that is producing at fairly lower
4 rates in the single -- in the single zone and plug back,
5 recomplete that to the Pictured Cliffs Formation. So we
6 would pull the tubing out of the well, isolate the
7 Mesaverde Formation, perforate the Pictured Cliffs,
8 complete it, drill the plug out or whatever the
9 isolation tube was, remove it, and then re-install our
10 tubing string and produce both the zones commingled.
11 And that is denoted there in the middle wellbore.

12 And then also there are many instances
13 where the Mesaverde and Dakota Formations are already
14 produced commingled. The last wellbore on the far right
15 signifies a trimingle between all three zones.

16 **Q. Very good.**

17 **Now, when this is accomplished,**
18 **Mr. Riley, does Hilcorp have a method in place or**
19 **proposed to allocate production as to the different**
20 **owners in the different zones?**

21 A. Yes, sir.

22 **Q. Well, that's good.**

23 **Is that depicted on Exhibit 14?**

24 A. Yes, sir. This is a -- this is the -- Exhibits
25 14 and 15 both help to demonstrate our allocation

1 method, which is the subtraction method that the NMOC
2 recognizes.

3 **Q. How exactly will you employ that method here by**
4 **way of example using these exhibits?**

5 A. So if you look at Exhibit 14, this is a
6 production graph which is gas rate on the y-axis and
7 date or time on the x-axis. And this is a wellbore's
8 total production. And I would like to demonstrate that
9 the well came online producing singly from the Dakota in
10 late 2008, and then the well was then recompleted to the
11 Mesaverde Formation in 2018, and it was commingled with
12 the Dakota production.

13 And then if you flip to Exhibit Number 15,
14 this is -- this is the allocated production for each
15 zone within the wellbore. So in the background, we have
16 the stand-alone Dakota production. And in the
17 foreground, you have the Mesaverde Formation's allocated
18 production.

19 As you can see in the background chart,
20 there is a trend line drawn through the -- through the
21 production from roughly 2011 to 2017 of the Dakota
22 Formation, and the actual production is shown with --
23 these are monthly values, I believe. And those data
24 points are shown with the red boxes on that chart. And
25 the blue box in about -- just before 2011 and right at

1 the end of 2017, that's on trend with the red boxes. It
2 shows the production trend line.

3 And then if you jump over past when the
4 wellbore was recompleted to the Mesaverde in 2018, we
5 see that there is a solid red line there. And due to
6 the coloring, I went ahead and added a vertical blue
7 line to this to signify -- the red boxes to the left of
8 that vertical line are actually the allocated production
9 volumes to the formation. The red boxes to the right of
10 that line are the production trend. And as you can see,
11 the allocated production follows that trend very well.

12 In the foreground, you see the allocated
13 Mesaverde production, and this is -- these volumes come
14 from the gross production on the last exhibit and
15 subtracted from the allocated production from the
16 Dakota's production trend to give you what the overall
17 Mesaverde's production is.

18 **Q. So that's the method you would employ here**
19 **where you're in the commingling of the Pictured Cliffs?**

20 A. That is correct. So we would be looking --
21 rather than Dakota-Mesaverde, it would be Mesaverde and
22 Pictured Cliffs or a commingled zone already and
23 Pictured Cliffs.

24 **Q. Okay. And in your opinion, is the subtraction**
25 **method as applied in these circumstances as we just**

1 discussed, in your opinion, would that be a fair and
2 reasonable method of allocation that would accurately
3 allocate production as to different owners?

4 A. Yes, it would.

5 Q. And is it your opinion that -- would you need
6 to at any time update or amend or change that -- your
7 analysis of the trend line in any way?

8 A. I don't believe so.

9 Q. Why is that?

10 A. So typically whenever we're doing these
11 recompletions and commingles, the existing completion
12 has already declined enough to establish a very
13 well-defined linear trend on a production plot similar
14 to this. Therefore, we find that the production trend
15 will continue until the well ceases to produce even
16 after commingling.

17 Q. And just by the age of these wells and the
18 production history, are their -- their trends are pretty
19 well established by this point? There is no variation
20 that they will be able to produce?

21 A. That's correct.

22 Q. So you expect that trend to be consistent over
23 time?

24 A. Yes.

25 Q. In your opinion, the subtraction method, as you

1 have proposed it here, will be protective of correlative
2 rights of all the owners in each of these wells?

3 A. Yes.

4 Q. Now, in addition to the question of allocation,
5 you've also looked at some of the other factors that go
6 into the preapproval analysis for downhole commingling?

7 A. That's right.

8 Q. And you've looked at the properties of the
9 Pictured Cliffs reservoir and the reservoirs that you're
10 proposing to commingle, correct?

11 A. Correct.

12 Q. So let's go ahead and talk a little bit about
13 those properties. I think you're first going to talk
14 about pressures, right, the first topic we're going to
15 discuss?

16 A. That's right.

17 Q. So let's turn to the next exhibit, 16, and talk
18 about what this exhibit shows and explain the
19 significance of this exhibit as it factors into your
20 analysis.

21 A. Uh-huh. So Exhibit 16 shows a table with --
22 bearing reservoir qualities of various reservoirs in the
23 San Juan Basin. And the big takeaway I want to be noted
24 here is in the original pressure column. So the three
25 main reservoirs we are looking at here is, of course,

1 the Pictured Cliffs, which has a fairly low pressure in
2 comparison to the Mesaverde, which is much lower than
3 the Dakota's original pressure.

4 I will note in Exhibit 17 recently
5 witnessed fracture pressures in the -- in the Pictured
6 Cliffs Formation, and it's over 1,900 psi. And I want
7 to note here, based on the values in this table, only
8 the Dakota Formation would be at risk to fracture the
9 Pictured Cliffs Formation upon commingling.

10 Q. And that's just based on the original --
11 original pressures for those formations based on the
12 original measurements, right?

13 A. That's correct. At original conditions, it
14 could have been --

15 Q. Yeah, because we're only looking here at
16 Dakota, Mesaverde and Pictured Cliffs, right?

17 A. That's right.

18 Q. Those are the only commingling options here?

19 A. That's right.

20 Q. And the Dakota is the only one that has high
21 enough original pressures to cause any kind of concern
22 for the Pictured Cliffs?

23 A. That's correct.

24 Q. Now, just real quick, the Pictured Cliffs'
25 range here is fairly wide. Is there a reason -- can you

1 explain why the range of pressures are so variable here?

2 A. These -- this table takes into account
3 basinwide values. So where Ashlyn had noted that the
4 Pictured Cliffs is much higher in structure, then you
5 would typically see a much lower reservoir pressure due
6 to less -- less vertical stress on that formation.

7 Q. Yeah. Because her map -- she had a structure
8 map showing how the Pictured Cliffs is relatively high
9 in the southwest, right?

10 A. Correct.

11 Q. And as you get down to the northeast, it's a
12 little bit -- it's deeper on structure?

13 A. That's right.

14 Q. So the pressures are going to be higher in the
15 Pictured Cliffs as you get deeper in structure into the
16 northeast part, right?

17 A. That's correct.

18 In the area we're looking at, they tend to
19 be on the deeper end, so on the higher range of these
20 pressures.

21 Q. Okay. So let's go to your next exhibit, and
22 you can tell us a little bit more about what you've done
23 to confirm that the pressures between these zones are
24 not going to cause any problems between the Pictured
25 Cliffs. What does Exhibit 17 show?

1 A. So Exhibit 17 shows a chart here -- or a graph
2 showing bottom-hole pressure related to time. And
3 reason that these -- the data points kind of end here in
4 the mid-'90s is because these are actually from the
5 state-required bottom-hole pressures that were no longer
6 required around the time that the data ends.

7 So what this shows are various bottom-hole
8 pressures from the Dakota Formations, which are the 27-4
9 noted in the blue dots, along with its blue trend line;
10 the 28-4 Dakota noted in the orange color with its trend
11 line in the orange as well. And in the 30-6, the Dakota
12 bottom-hole pressures is noted in gray with its trend
13 line noted in gray as well.

14 Noted with the green dots are the recently
15 witnessed fracture pressures within the Pictured Cliffs
16 interval. And as you can see, the bottom-hole pressure
17 of the Dakota started out fairly high and with time and
18 depletion became much lower. And in the mid-'90s, it's
19 roughly looking at the trend line between 1,500 and less
20 than 1,000 pounds.

21 And please note that with time, we will
22 continue to deplete this reservoir. Therefore, the
23 pressures will be even lower than what is noted here in
24 the mid-'90s. So this trend line should continue to
25 decrease, and we'll be significantly lower than that the

1 fracture pressures we have witnessed here this year in
2 the Pictured Cliffs Formation.

3 Q. So the point I guess being the takeaway is that
4 even 20-plus years ago, the downhole pressures that
5 you're measuring in each of the three units are all
6 below the lowest fracture pressure you've measured
7 recently for the Pictured Cliffs Formation during your
8 frac jobs; is that right?

9 A. That's correct.

10 Q. Okay. Those green dots on the far right
11 represent -- explain those in more detail. I'm not sure
12 if I fully covered that, and I want to make sure I
13 understand what those are.

14 A. So during our completion process of these four
15 wells, we had perforated the wellbore and were fracking
16 the wellbore -- or fracking the formation, the Pictured
17 Cliffs Formation. And during the fracturing process, we
18 have gauges on the well giving us realtime pressure
19 data, and you can see when the -- or you can see the
20 pump pressure build up, and then this pressure is when
21 you actually break over on the pressure chart. And that
22 signifies that you are creating a fracture within the
23 formation, and that's what these pressure signify.

24 Q. So production in the Dakota here within these
25 three units didn't just stop in 1995 or '6?

1 A. No.

2 Q. All right. So all this time, you've been
3 continuing to produce from the Dakota, thereby depleting
4 the pressures -- the native pressures in those zones,
5 right?

6 A. That's correct.

7 Q. So while you don't have any present-day values,
8 bottom-hole pressures for any these units, is it your
9 opinion that those pressures that are represented here
10 in this graph are going to be lower than what are
11 represented here from the early '90s?

12 A. That's correct.

13 Q. And you can say that with -- with great
14 confidence.

15 A. Yeah, very high confidence.

16 Q. And so the takeaway then is that none of the
17 pressures that you measured even in the early '90s
18 approach what are your fracture parting pressures for
19 the Pictured Cliffs based on your frac jobs of just a
20 short time ago?

21 A. That's correct.

22 Q. So in your opinion then -- just to conclude,
23 it's your opinion that there is no risk should
24 commingling commence between the Pictured Cliffs, the
25 Mesaverde and the Dakota, particularly the Dakota, that

1 there will be any risk of shut-in or flow-in well pore
2 pressures higher than the fracture parting pressure for
3 the Pictured Cliffs?

4 A. That's correct.

5 Q. And also as a result of the commingling and the
6 pressure differentials, if any, between these zones, is
7 there any risk, in your opinion, of permanent loss due
8 to cross-flow between these zones?

9 A. I don't believe so.

10 Q. My exhibits just came apart. I'll put them
11 together.

12 So that addresses the pressure issues.

13 Okay.

14 Now, the other criteria that we need to
15 address in order to get preapproval: Have you evaluated
16 also the gas composition and the nature of the gas, the
17 compatibility of the gas between these different zones?

18 A. I have.

19 Q. And has that been sort of summarized in Exhibit
20 18?

21 A. Yes, sir.

22 Q. Will you review this for the examiners as well?

23 A. Yes. So this outlines various measurements of
24 the gas composition for the Pictured Cliffs, Mesaverde
25 and Dakota reservoirs.

1 Starting in the upper left-hand corner, you
2 can see the -- the Pictured Cliffs, Mesaverde and Dakota
3 reservoir gas are compared and average BTU content both
4 here and in dry and in wet values. So wet is prior to
5 being dehydrated for water content. And as you can see,
6 based on these bar charts, the BTU contents here are all
7 fairly similar.

8 Going in a clockwise manner here, the next
9 chart signifies CO2 content in blue and nitrogen content
10 in gray. And you can see that the PC does have a
11 slightly higher CO2 content to it. However, with the
12 blended composition of the three reservoirs' gases, this
13 shouldn't be an issue in production or corrosion
14 problems.

15 And jumping down to the NGL composition,
16 here the NGLs are broken out by component signifying the
17 Pictured Cliffs' percentages of each component in blue.
18 The Mesaverde's in green, and the Dakota in gray.

19 And our last graph in the lower left-hand
20 corner is demonstrating the majority composition, the
21 methane composition of each of the three formations in
22 question. And as you can see, they're all roughly in
23 the mid-80s, percentages. So overall you can see that
24 the gas from each reservoir is fairly similar, notes
25 similar quality.

1 Q. And based on Ms. Murphy's testimony about the
2 formation of this basin, the layering of not just the
3 reservoir rock here, the Pictured Cliffs, but the Dakota
4 and Mesaverde but also the source rock and shales, is it
5 surprising to you that the gas composition and the
6 quality of the gas is similar between these different
7 zones?

8 A. No, it's not really surprising.

9 Q. Okay. Because the depositional environment was
10 essentially the same for these different shales that are
11 the source rock here?

12 A. That's right.

13 Q. Now, based on this, is it your opinion that
14 commingling will not -- between the Dakota, Mesaverde
15 and Pictured Cliffs will not reduce the value of
16 existing production with the Dakota and Mesaverde?

17 A. I don't believe so.

18 Q. And is it your opinion, then, also that
19 production from the Pictured Cliffs commingled with the
20 existing Mesaverde and Dakota production will not reduce
21 the value of the total remaining production in the
22 deeper Dakota and Mesaverde zones?

23 A. That's correct.

24 Q. Will not, right?

25 A. Right. It will not.

1 Q. In your opinion, will the granting of this
2 application in commingling these zones result in
3 impairment to anybody's correlative rights as a result?

4 A. No, sir.

5 Q. So I want to ask you some more questions. You
6 have another slide here that kind of talks more about
7 the additional benefits, kind of summarizes the benefits
8 of commingling, and I want to just ask you to address
9 the last slide, Number 19.

10 A. Yes, sir. As you stated, this is simply a
11 summary slide hitting all the key concepts here of
12 commingling with the Pictured Cliffs.

13 Again, we have almost 600 commingles and
14 the deep -- commingles of the Pictured Cliffs and the
15 deeper reservoirs and over 800 total with all
16 reservoirs. The gas quality is very similar like we
17 went over. The reserves in the Pictured Cliffs is
18 uneconomic to drill for due to certain -- or due to
19 current pricing. And if it became economic, this would
20 still be a much more economic way to go about recovering
21 these reserves, and it's the least environmentally
22 invasive way to do it as well.

23 The current completion of the wellbores
24 also see a benefit because they're seeing some remedial
25 attention. And typically this is because we're

1 expecting much higher rates coming from the well.
2 Therefore, we can spend money on putting a new tubing
3 string in to extend the life or upgrading the pairing of
4 production equipment to make the well flow optimally.

5 And due to the commingling, all of the
6 zones, then, are sharing in the lifting cost, making the
7 gas more economic as well that's allocated to each zone.
8 And all of these things lead to more gas being produced
9 than would be otherwise.

10 Q. And so I just want to kind of go back on a
11 couple of points just to make sure I have it covered
12 because to this point we haven't discussed it with you,
13 but we did to some extent with Mr. Creekmore. I think
14 the point was that Hilcorp would not at this time drill
15 a stand-alone Pictured Cliffs well. Is that a fair
16 statement?

17 A. That's a fair statement.

18 Q. Because it's just not economic?

19 A. That's true.

20 Q. And in your opinion, is it economic in the
21 foreseeable future that you would ever drill a
22 stand-alone Pictured Cliffs well?

23 A. No.

24 Q. So is it your opinion, then, that the only
25 way -- viable way economically to access these reserves

1 would be through a commingling operation, as you've
2 proposed here?

3 A. Yes, it is.

4 Q. And is it your opinion that failure to do so
5 would strand those reserves, essentially, in the
6 Pictured Cliffs zone?

7 A. Yes.

8 Q. Now, you've mentioned that you believe that
9 utilizing these wellbores would limit the environmental
10 footprint and at least the environmental intrusiveness
11 and that's because you wouldn't have to be drilling new
12 surface locations; is that correct?

13 A. That's correct.

14 Q. Okay. And so you're able to use existing
15 infrastructures and facilities and maybe upgrade that
16 will help just the operation work a little more cleaner
17 and smoothly?

18 A. Right. That's true.

19 Q. Now, I wanted to just touch on a couple of
20 other points that I want to make sure is clear for the
21 record.

22 Now, you talked about the gas composition,
23 the hydrocarbon composition, in one of your slides.

24 A. Uh-huh.

25 Q. Is it your opinion that to the extent there are

1 any fluids, which I imagine there will be some fluids in
2 these zones, that the commingling of these wells will
3 not result in any of those fluids harming or damaging
4 any of the other reservoirs?

5 A. No, I don't believe so.

6 Q. No more than any of the other commingling
7 operations that are going on or any of the other times
8 you've done it between these same zones?

9 A. That's right. The majority of these wells
10 already has some sort of artificial lift installed. So,
11 therefore, some more fluid but with more gas should not
12 be an issue.

13 Q. And you've done it -- this operation has been
14 done 9 -- you know, between these zones, approximately
15 600 times, and in between all the different zones,
16 almost 800 times; is that right?

17 A. That's correct.

18 Q. So whatever issues come up, it's in the normal
19 course for such commingling operations?

20 A. Correct.

21 Q. And then I just want to make clear because it's
22 in the rule. Are the Dakota and Mesaverde and Pictured
23 Cliffs Formations potential candidates for tertiary
24 secondary recovery at all anytime in the future, in your
25 opinion?

1 A. No.

2 Q. So there is no risk as a result of this
3 commingling that you would be cutting off or inhibiting
4 any potential secondary tertiary recovery operations in
5 this area?

6 A. That's correct.

7 Q. Now, your testimony here is applicable to all
8 three of these cases and all three units equally? There
9 is no difference in your opinion between the three of
10 them, right?

11 A. That is correct.

12 Q. Same opinion applies?

13 A. Yes, sir.

14 Q. So finally, in your opinion, will the granting
15 of this application be in the interest of conservation,
16 the protection against waste and the protection of
17 correlative rights?

18 A. Absolutely.

19 Q. You think it's the best thing to do and should
20 be granted?

21 A. Yes, I do.

22 MR. RANKIN: Mr. Examiner -- Madam
23 Examiner, I move the admission of our last exhibits --
24 get the numbers right -- 13, 14, 15, 16, 17, 18 and 19
25 into the record in these three cases.

1 EXAMINER MURPHY: Exhibits 13 through 19
2 are accepted.

3 (Hilcorp Energy Company Exhibit Numbers 13
4 through 19 are offered and admitted into
5 evidence.)

6 MR. RANKIN: No further questions. I pass
7 the witness.

8 EXAMINER MURPHY: Mr. Goetze?

9 CROSS-EXAMINATION

10 BY EXAMINER GOETZE:

11 Q. Just one question: In your experience with
12 Pictured Cliffs, what is the water content? Do you see
13 a lot, or is this still what you would consider a dry
14 reservoir?

15 A. It varies depending on certain areas. Again,
16 we are trying to produce the hydrocarbons, so if we come
17 across an area that tends to be more wet, we would stray
18 away from it.

19 Q. So you'll make a decision based upon what you
20 find in the fields?

21 A. That's correct, based on the reservoir studies.

22 Q. Okay. That's all I have. Thank you.

23 EXAMINER MURPHY: I don't have any
24 questions.

25 Mr. David?

1 EXAMINER DAVID: Oh, yeah. The lawyer's
2 got to act like a petroleum engineer. Sorry (laughter).

3 MR. RANKIN: Me, too.

4 EXAMINER DAVID: It's an ego problem, I
5 know.

6 CROSS-EXAMINATION

7 BY EXAMINER DAVID:

8 Q. Looking at Exhibit 18, you know, counsel asked
9 you kind of a general question about this, but this may
10 be my ignorance. Something more specific, I guess we're
11 talking about perhaps either not valuable constituents
12 in the CO2 in the nitrogen. Are there any other -- any
13 other deleterious materials that could affect the
14 reservoir? Let's say -- the constituent that comes to
15 mind would be hydrogen sulfide that would be of concern.

16 A. Not that I'm aware of. Not that I've seen.

17 Q. Thank you very much.

18 MR. RANKIN: If there are no further
19 questions, Madam Examiner, I ask that these two cases
20 be -- Case Numbers 1398 -- shoot --

21 EXAMINER GOETZE: 88, 13989.

22 MR. RANKIN: Yeah. Be taken under
23 advisement, and that 13987 be continued to October 17th.

24 EXAMINER MURPHY: Okay. 13988 and 13989
25 will be taken under advisement. 13987 will be continued

1 to October 17th.

2 MR. RANKIN: Thank you very much. We'll
3 make formal submissions and payments later today.

4 EXAMINER GOETZE: There's a machine right
5 outside.

6 (Laughter.)

7 EXAMINER MURPHY: Shall we take a break?

8 (Case Numbers 13987, 13988 and 13989
9 conclude, 3:04 p.m.)

10 (Recess, 3:04 p.m. to 3:18 p.m.)

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1 STATE OF NEW MEXICO
2 COUNTY OF BERNALILLO

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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 9th day of October 2019.

21

22

23 MARY C. HANKINS, CCR, RPR
24 Certified Court Reporter
New Mexico CCR No. 20
Date of CCR Expiration: 12/31/2019
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