

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:

COPY

APPLICATION(S) OF HILCORP ENERGY	CASE NOS. 16267,
COMPANY FOR AN EXCEPTION TO THE WELL	16268, 16269,
DENSITY REQUIREMENTS OF THE SPECIAL	16270, 16271,
RULES AND REGULATIONS OF THE	16272, 16273,
BLANCO-MESAVERDE GAS POOL, SAN JUAN	16274, 16275
COUNTY, NEW MEXICO.	

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

July 12, 2018

Santa Fe, New Mexico

BEFORE: MICHAEL McMILLAN, CHIEF EXAMINER  
LEONARD LOWE, TECHNICAL EXAMINER  
DAVID K. BROOKS, LEGAL EXAMINER

This matter came on for hearing before the New Mexico Oil Conservation Division, Michael McMillan, Chief Examiner, Leonard Lowe, Technical Examiner, and David K. Brooks, Legal Examiner, on Thursday, July 12, 2018, at the New Mexico Energy, Minerals and Natural Resources Department, Wendell Chino Building, 1220 South St. Francis Drive, Porter Hall, Room 102, Santa Fe, New Mexico.

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APPEARANCES

FOR APPLICANT HILCORP ENERGY COMPANY:

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1 (9:55 a.m.)

2 EXAMINER McMILLAN: At this time I would  
3 like to call Case Number 16267, application of Hilcorp  
4 Energy Company for an exception to the well density  
5 requirements of the special rules and regulations of the  
6 Blanco-Mesaverde Gas Pool, combined now with Case Number  
7 16268, Case Number 16269 --

8 MR. RANKIN: Mr. Examiner, I think we start  
9 at 16267.

10 EXAMINER McMILLAN: Okay. 16267, 16268,  
11 16269, 16270, Case Number 16271, Case Number 16272, Case  
12 Number 16273 and Case Numbers 16274, 16275.

13 MR. RANKIN: That's it.

14 EXAMINER McMILLAN: Yes. Please proceed.

15 MR. RANKIN: Mr. Examiner, Adam Rankin  
16 appearing on behalf of Hilcorp Energy Company in these  
17 cases consolidated for hearing today. I have two  
18 witnesses to present today.

19 EXAMINER McMILLAN: Will the witnesses  
20 please stand up and be sworn in at this time?

21 (Mr. Carlson and Dr. Liang sworn.)

22 MR. RANKIN: Mr. Examiner, I would call my  
23 first witness, Mr. Rob Carlson.

24 EXAMINER McMILLAN: Any other appearances?  
25 Please proceed.

1 MR. RANKIN: Thank you, Mr. Examiner.

2 ROBERT "ROB" CARLSON,  
3 after having been first duly sworn under oath, was  
4 questioned and testified as follows:

5 DIRECT EXAMINATION

6 BY MR. RANKIN:

7 Q. Mr. Carlson, after you get situated, would you  
8 please state your name?

9 A. Rob Carlson.

10 Q. By whom are you employed?

11 A. Hilcorp Energy Company.

12 Q. And in what capacity?

13 A. Landman.

14 Q. And have you previously testified before the  
15 Division?

16 A. I have not.

17 Q. So you have not had your credentials as an  
18 expert in petroleum land matters accepted and made a  
19 matter of record?

20 A. No.

21 Q. Will you please review briefly your educational  
22 background?

23 A. Yes. I have a bachelor's degree from Texas  
24 Tech University in petroleum land management. I  
25 graduated in May 2014. From June 2014 to July 2017, I

1 was employed with ConocoPhillips in the San Juan Basin.  
2 From August 2017 to the present, I am now a landman at  
3 Hilcorp Energy.

4 From 2015 to 2016, I was the secretary of  
5 the San Juan Basin Landman's Association and the  
6 president of 2016-2017. I'm currently a member of the  
7 SJBLA and also the AAPL.

8 **Q. And your current duties and obligations as a**  
9 **landman for Hilcorp, do they include responsibilities**  
10 **for the San Juan Basin?**

11 A. Yes.

12 **Q. And are you familiar with the applications that**  
13 **were filed in each of these consolidated cases?**

14 A. Yes.

15 **Q. And have you conducted a study of the lands and**  
16 **noticed the parties who are potentially affected by**  
17 **these applications?**

18 A. Yes.

19 Mr. RANKIN: Mr. Examiner, I would tender  
20 Mr. Rob Carlson as an expert in petroleum land matters.

21 EXAMINER McMILLAN: Yes, well, since you  
22 graduated from Tech. Myself and my wife have spent a  
23 lot of money contributing greatly to Texas Tech.

24 MR. RANKIN: Thank you, Mr. Examiner.

25 **Q. (BY MR. RANKIN) Mr. Carlson, now that you've**

1 been qualified, let's talk a little bit about these  
2 cases.

3 Is the acreage at issue in these  
4 consolidated cases subject to the special pool rules for  
5 the Blanco-Mesaverde Gas Pool?

6 A. Yes.

7 Q. And are you familiar with those pool rules and  
8 the locations, the well density limitations that are  
9 imposed for those wells?

10 A. Yes, I am.

11 Q. What are those, in summary? How do they affect  
12 these cases?

13 A. There is no more than four wells in a 320-acre  
14 spacing unit and no more than two in a quarter section.

15 Q. Okay. And with respect to those limitations,  
16 what relief is Hilcorp seeking in these cases?

17 A. In the majority of these consolidated cases,  
18 Hilcorp is seeking a fifth vertical well in the spacing  
19 unit or a third vertical well in the quarter section.

20 One exception is Case Number 16274, which  
21 is the Newberry B1 and 1E. What we are seeking approval  
22 for is a fifth and sixth in the spacing units and three  
23 in each quarter.

24 Another is 16275, which involves the Moore  
25 1E unit. We are seeking a fifth in the spacing unit,

1 three-and-a-quarter, two and one quarter vertical --

2 (The court reporter requested  
3 clarification of the answer.)

4 A. Two vertical wells in the same quarter-quarter.

5 Q. Thank you, Mr. Carlson.

6 Now, do these pool rules also require that  
7 for any well-density exception or exception to the  
8 well-location permits, that an application needs to be  
9 filed and appear for hearing?

10 A. That's correct.

11 Q. So that's the reason for our encumbering the  
12 Division with these cases today?

13 A. Yes.

14 Q. Now, are these consolidated cases also part of  
15 Hilcorp's strategy to develop and identify existing  
16 wells and infrastructure targeting other formations for  
17 which you come up for the Mesaverde to target undrained  
18 and unrecovered reserves?

19 A. That's correct.

20 Q. And Hilcorp has testified extensively on that  
21 strategy; is that correct?

22 A. That's correct.

23 Q. So this is just -- these cases are part of that  
24 same strategy of identifying existing wells where you  
25 can target these unrecovered reserves where the well

1 density is not allowing you to target -- to recover all  
2 that gas; is that right?

3 A. That's right.

4 Q. Now, with respect to downhole commingling,  
5 because you're going to be commingling these wells, has  
6 the Division already granted preapproval to commingle --  
7 let me back up.

8 In each of these cases, is there a -- are  
9 each of these wells already producing from the Dakota  
10 Formation?

11 A. Yes.

12 Q. Is there any other formation that the wells are  
13 producing from?

14 A. No.

15 Q. And does the Division already -- has the  
16 Division already granted preapproval to commingle  
17 between the Dakota and the Mesaverde Formations?

18 A. Yes.

19 Q. So there are no other approvals necessary other  
20 than the well-density exceptions here limiting through  
21 the Blanco-Mesaverde Gas Pool; is that correct?

22 A. That's correct.

23 Q. Now, has the company also brought a reservoir  
24 engineer to testify today regarding undrained reserves?

25 A. Yes.



1           Q.    So let's talk a little bit now about the notice  
2 issues and the notification of the affected parties.  
3 But before we do, will you just review for the examiners  
4 and orient them to the notebook that's been presented to  
5 them? How are the exhibits for each of these cases  
6 presented in the exhibit notebook?

7           A.    So the exhibit book is organized and tabulated  
8 sequentially by the case number, and behind each case,  
9 there are applicable exhibits provided in the same  
10 order, and then they are also numbered 1 through 7.

11          Q.    All right. So for each case, a similar exhibit  
12 is in the same sequence for each case; is that correct?

13          A.    That's correct.

14          Q.    All right. Well, let's look at the first case  
15 in the exhibit notebook, Case Number 16267, and this is  
16 regarding the Vasaly #2 well. And I'll just point out  
17 that the well, unfortunately, has a misspelling on the  
18 cover page. It should be V-A-S-A-L-Y.

19                   Mr. Carlson, if you turn to Exhibit  
20 Number 1, will you review for the Examiners what this  
21 overview map depicts, what it shows?

22          A.    Yes. This is a high-scale overview map that is  
23 identifying the spacing units that are at issue in these  
24 consolidated cases, which can be seen in the red  
25 crosshatch and the adjoining spacing units that surround

1 the spacing unit at issue in all cases. And this will  
2 be the same exhibit you'll see on all cases.

3 Q. All right. So it shows all nine spacing units  
4 at issue in these nine consolidated cases?

5 A. Yes.

6 Q. And then the black depicts the notice area to  
7 which parties were given notice?

8 A. Correct.

9 Q. And let's move to Exhibit Number 2. What does  
10 that exhibit show?

11 A. So this is a lower-scale view of the spacing  
12 unit at issue for this particular case. The blue  
13 triangle is the wellbore that we want to pursue the  
14 Mesaverde recompletion in. The existing Mesaverde  
15 producers in the spacing unit depicted by the red  
16 crosshatch have also been identified. Those are the  
17 black dots represented there. And the pick hole  
18 boundary represents the adjoining spacing units to which  
19 we've provided notice.

20 Q. And on your next exhibit, Number 3, is this the  
21 notice packet that essentially confirms that notice was  
22 given to each of the parties identified in the notice  
23 area?

24 A. Yes.

25 Q. And the first page of that exhibit, is that an

1 affidavit prepared by me indicating that we provided  
2 notice to all those parties whom you've identified?

3 A. Yes.

4 Q. On the subsequent pages, is this a copy of the  
5 letter that was sent -- two letters that were sent to  
6 those notice parties?

7 A. Yes.

8 Q. And on the following page, is there a copy of  
9 the United States Postal Service shipment confirmation?

10 A. Yes.

11 Q. And on the subsequent pages, it shows each of  
12 the parties that were given notice in that notice area,  
13 correct?

14 A. Correct.

15 Q. Now, in this case, for each of the parties that  
16 you've identified, did you identify a valid and correct  
17 address?

18 A. Yes, in our addresses we had previously used  
19 for JIBs or --

20 Q. And that's true for each of the parties that  
21 required notice?

22 A. Yes.

23 Q. And in each case, these were either offsetting  
24 operators or working interest owners?

25 A. Correct.

1 Q. And did each of these parties either receive  
2 notice, or were there -- actually receive notice, or  
3 were there some cases where signatures were pending?

4 A. Yes.

5 Q. In other words, in some cases, their signature  
6 was pending? It wasn't clear if they actually received  
7 the notice yet; is that correct?

8 A. That's correct.

9 Q. But you are confident, based on your prior  
10 correspondence with these parties, that the addresses  
11 were valid and correct?

12 A. Yes, I am.

13 Q. And did you also provide Notice of Publication  
14 identifying each of those parties by name?

15 A. Yes.

16 Q. Is that reflected in Exhibit Number 4?

17 A. Yes, it is.

18 Q. And that's a copy of the "Farmington Daily  
19 Times," an Affidavit of Publication indicating that each  
20 of those notice parties were identified by name with  
21 respect to this case?

22 A. Correct.

23 Q. Now, going through each of these cases, is the  
24 same -- is the same true that either of the parties  
25 received notice, or there was indication that the

1 notification packet was still pending?

2 A. Yes.

3 Q. But there were no invalid addresses or returned  
4 notification packets?

5 A. There were not.

6 Q. And in every case, did you also -- did Hilcorp  
7 also publish Notice of Publication for each of these --

8 A. Yes.

9 MR. RANKIN: I would point out that there  
10 were a few exceptions, Mr. Examiner, where Hilcorp was  
11 100 percent working interest owner in each of the  
12 offsets. There are a few cases, you'll see in the  
13 exhibit packets, where Hilcorp was 100 percent working  
14 interest owner in the offsets, so in those cases, there  
15 was no one to notify because they were 100 percent  
16 interest owner.

17 Q. (BY MR. RANKIN) Mr. Carlson, did you either  
18 prepare or oversee the preparation of Exhibits 1 through  
19 4 in each of these consolidated cases?

20 A. Yes.

21 MR. RANKIN: Mr. Examiner, I'd move the  
22 admission of Exhibits 1 through 4 in Cases 16267 through  
23 16275 into the record.

24 EXAMINER McMILLAN: Exhibits 1 through 4  
25 may now be accepted as part of the record for Case

1 Number 16267 through Case Number 16275.

2 (Hilcorp Energy Co. Exhibit Numbers 1  
3 through 4 are offered and admitted into  
4 evidence in Case Numbers 16267 through  
5 16275.)

6 MR. RANKIN: With that, Mr. Examiner, I  
7 have no further questions and pass the witness for  
8 questioning by the examiners.

9 EXAMINER McMILLAN: Go ahead.

10 CROSS-EXAMINATION

11 BY EXAMINER BROOKS:

12 **Q. My only question I have is: Does this program**  
13 **include any new drills, or are they all recompletions?**

14 A. They're all recompletions.

15 **Q. Thank you.**

16 EXAMINER McMILLAN: Any questions, Leonard?

17 EXAMINER LOWE: No, I don't have any  
18 questions.

19 EXAMINER McMILLAN: Thank you.

20 MR. RANKIN: Thank you, Mr. Examiner.

21 With that, I would like to call my second  
22 witness, Mr. Alex Liang.

23 YU "ALEX" LIANG, Ph.D.,

24 after having been previously sworn under oath, was  
25 questioned and testified as follows:

DIRECT EXAMINATION

1  
2 BY MR. RANKIN:

3 Q. Mr. Liang, will you please state your full name  
4 for the record?

5 A. Yu Liang. I'm also referred by [sic] Alex  
6 Liang.

7 Q. Would you mind spelling that name for the court  
8 reporter?

9 A. Yes. Yu is Y-U, Liang, L-I-A-N-G, and Alex.

10 Q. Thank you, Mr. Liang.

11 So by whom are you employed?

12 A. By Hilcorp.

13 Q. And in what capacity?

14 A. Reservoir engineer.

15 Q. And what are your responsibilities as a  
16 reservoir engineer?

17 A. So as a reservoir engineer, my duty is to find  
18 the oil and gas for the company by all means, including  
19 the log calculations, seismic integration, decline curve  
20 analysis, numerical simulation, the well testing, big  
21 data, all --

22 (The court reporter requested the witness  
23 speak slower.)

24 A. So as a reservoir engineer, my duty is to find  
25 more oil and gas for the company by all means, so which

1 including the log calculation, seismic integration,  
2 decline curve analysis, numerical simulation and the big  
3 data, data -- well testing and other.

4 My duty also includes to make sure we're  
5 accurate in the project, the completion project, in the  
6 correct and efficient order.

7 **Q. And do your responsibilities in your analysis**  
8 **include areas in the San Juan Basin?**

9 A. Yes.

10 **Q. Now, have you previously testified before the**  
11 **Division as an expert in oil and gas reservoirs?**

12 A. No, I haven't.

13 **Q. Will you please briefly review your educational**  
14 **background?**

15 A. Yes. I got my bachelor's degree in petroleum  
16 engineering from University of Wyoming in 2012, and then  
17 I got my master's degree in petroleum engineering from  
18 University of Texas at Austin in 2014, and I got my  
19 Ph.D. degree in petroleum engineering from U.T. Austin  
20 in 2017.

21 **Q. Okay. And are you familiar with each of the**  
22 **applications that were filed in these consolidated**  
23 **cases?**

24 A. Yes.

25 **Q. And have you conducted -- have you conducted a**



1 **study of the reservoirs at issue in these cases?**

2 A. Yes.

3 MR. RANKIN: Mr. Examiner, I would tender  
4 Mr. Liang as an expert in reservoir engineering.

5 EXAMINER McMILLAN: The only question that  
6 I've got: Did you like eating at Born -- Born in a Barn  
7 in Laramie?

8 (Laughter.)

9 THE WITNESS: I love Laramie (laughter).

10 EXAMINER McMILLAN: Well, that's one of the  
11 best hamburgers I've ever had. We've got a daughter who  
12 goes to school there.

13 So qualified.

14 THE WITNESS: Yay (laughter).

15 Q. (BY MR. RANKIN) Mr. Liang, let's talk a little  
16 bit about your analysis in these cases and Hilcorp's  
17 analysis overall. Will you please briefly explain  
18 conceptually Hilcorp's approach -- analytical approach  
19 to identifying target areas in the northwest area for  
20 underdrained reserves. How have you gone about  
21 identifying where there may be --

22 A. Okay. First of all, we were trying to find all  
23 available wellbore, which means if we want to complete  
24 the Mesaverde, we need to find the wellbore that has  
25 already been completed in Dakota, all over formation.

1 And then we will -- we will use decline curve analysis  
2 and log-derived water metric parameters to calculate  
3 original gas in place and ultimate recovery factor.  
4 Then we will compare the original gas in place and the  
5 cumulative gas production to estimate the remaining gas  
6 in place.

7                   Based on the -- based on the information,  
8 we will analyze the identified area. Whereas, the  
9 drainage area is smaller than expected. In other words,  
10 there are substantial gases remaining in that area, and  
11 those gases cannot be captured by the existing wells.

12           **Q. Mr. Liang, have you coordinated this effort**  
13 **with the company's geologists to identify this original**  
14 **gas --**

15           A. Yes.

16           **Q. -- original gas in place?**

17           A. Yes.

18           **Q. And those geologists have testified previously**  
19 **before this Division on the methodologies and their**  
20 **opinions on the original gas in place, correct?**

21           A. Yes.

22                   MR. RANKIN: Mr. Examiner, I would ask,  
23 just for the record, that we incorporate Hilcorp's prior  
24 testimony as to the determination of the original gas in  
25 place, the geologic testimony.

1 EXAMINER McMILLAN: So accepted.

2 MR. RANKIN: Thank you.

3 Q. (BY MR. RANKIN) Now, Mr. Liang, with each of  
4 these consolidated cases, do these each represent areas  
5 where the company, in your analysis, has shown portions  
6 of the spacing units at issue containing undrained or  
7 unrecovered reserves?

8 A. Yes.

9 Q. And in your opinion, the well density that is  
10 currently permitted is not permitting -- not allowing  
11 the gas to be fully recovered in these areas; is that  
12 correct?

13 A. Right.

14 Q. All right. So let's look at the first case,  
15 and we'll go through your analysis in that case. So  
16 turning to Exhibit Number 5, will you review for the  
17 examiners what this -- what this map shows and explain  
18 to them what the features mean?

19 A. Sure. For the -- for the first map, which is  
20 on page 2, that is a bubble map, and I wait for the  
21 cumulative production. For both the size of the bubble  
22 and the color of the bubble represent how much gas has  
23 been produced from reservoir. In other words, the  
24 larger size of the bubble and the darker of the color  
25 means more gas that has been produced from Mesaverde.

1                   Our proposed infill is identified as the  
2 red circle in this map. And in this case, the names --  
3 or the name of the well is Vasaly #2. And as you can  
4 see, the #2 is located in Southwest 31, 32-11, and it is  
5 drilled in 2068 [sic], which is an older well. And it  
6 will be the third Mesaverde completion in the quarter  
7 section. And the distance from the Vasaly #2 to the  
8 closest of that is 900 feet. And by -- Mesaverde, it  
9 will help us drain the area to the east and the west  
10 part of this color section.

11           Q.     Just to be clear, I think you stated that it  
12 was drilled in 2068, but I think it was 1968.

13           A.     Oh, 1968. I'm sorry.

14           Q.     We suddenly jumped ahead in time, and that was  
15 a little scary to me.

16                   Okay. So this sort of gives an overview of  
17 a conceptual -- a visual idea about how this spacing  
18 unit remains not fully drained; is that correct?

19           A.     Right.

20           Q.     So how did you further analyze whether or not  
21 there are actually unrecovered reserves? Have you  
22 looked at -- you said that you looked at the original  
23 gas in place; is that correct?

24           A.     Yes.

25           Q.     And is that reflected in your Exhibit Number 6?

1 A. Yes.

2 Q. Will you review for the examiners each of these  
3 maps and what the features indicate in Exhibit Number 6?

4 A. Okay. Sure.

5 On page 3, it is the Mesaverde  
6 original-gas-in-place contour map, and the warmer color  
7 means they have higher original gas in place. And our  
8 proposed infill, it's marked as the red star. And as  
9 you can see, this -- our wells located in a vertical --  
10 and where they have -- where they have substantial  
11 original gas in place.

12 And just for information in this map, the  
13 red line represents the natural fracture area, and then  
14 the blue line represents the wet Cliffhouse line, which  
15 means on the west part of the wet Cliffhouse line, the  
16 Cliffhouse wells cannot complete in that area. And as  
17 you can see, for our Vasaly #2, it is at the east side,  
18 which means it should be okay.

19 On the next page, the next page is the  
20 Mesaverde cumulative-gas-production contour map, and the  
21 warmer color means more gas has been produced from the  
22 Mesaverde. And as you can see, for the -- for the  
23 Vasaly #2, there are -- not much gas has been produced  
24 from the Mesaverde, which means there is substantial gas  
25 remaining in the Mesaverde.

1                   On the next page, please. This other one  
2 is the Mesaverde remaining gas, which supports what I  
3 just said, which means there are substantial gas left in  
4 the Mesaverde.

5           **Q. And so this is -- these three maps are sort of**  
6 **the visual representations of original gas in place,**  
7 **cumulative production and remaining gas.**

8                   **Have you also conducted numerical**  
9 **calculations to determine whether or not there is actual**  
10 **estimated reserves that have been unrecovered?**

11           A. Yes, I have.

12           **Q. And is that reflected in your Exhibit Number 7?**

13           A. Yes.

14           **Q. Will you review for the examiners those**  
15 **calculations that you conducted and your opinions with**  
16 **respect to the remaining gas in place?**

17           A. Yes.

18                   Mr. Examiners, so on page 6, this is a  
19 table which has three rows and five columns. For the  
20 first row, it is a quarter section. And for the second  
21 zero, it is section. And on the third row, that is nine  
22 section.

23                   And for the first column, that is  
24 volumetric original gas in place. And on the second  
25 column, it's the section equivalent original gas in

1 place. And on the third column, it's cumulative  
2 production to date and its relevant recovery factor. On  
3 the fourth column, it is remaining gas in place. Under  
4 the fifth column, it's EUR and its EUR recovery factor.

5 The reason why I put the table in this way  
6 is I want to make sure the number I calculate makes  
7 sense at all scales.

8 And please allow me to show you. Please  
9 look at the cumulative to date, the production and  
10 recovery factor for the quarter section, which is 2.3  
11 Bcf and 22 percent. And the compared number to the  
12 cumulative production to date and recovery factor for  
13 the section, which is 29 -- sorry -- which is 39  
14 percent, which means in this quarter section, this  
15 formation is underdeveloped.

16 And if we look at the EUR and the -- and  
17 the EUR recovery factor, this quarter section is only 34  
18 percent, which it's far below the 80 percent, which we  
19 think should be the reasonable recovery factor for  
20 conventional [sic] gas depletion drive.

21 **Q. So the expected recovery factor for this type**  
22 **of reservoir is more -- you would expect to be closer to**  
23 **80 percent, correct?**

24 **A. Yes.**

25 **Q. And so for looking at the cross scales here, it**

1 indicates that this area, this quarter section in  
2 particular, is underproduced?

3 A. Exactly. Yes.

4 Q. Okay. And that's the basis for your  
5 determination that this particular spacing unit has  
6 an -- is an ideal candidate for recompletion?

7 A. Yes.

8 Q. Now, in each case, Mr. Liang, before the  
9 Division today, is it your opinion that there are  
10 reserves remaining in place that are unrecovered and  
11 will be unrecovered under the existing well-density  
12 configuration?

13 A. Yes.

14 Q. And for each case before the Division today, in  
15 your exhibit notebook, have you prepared similar  
16 exhibits for each of the wells at issue?

17 A. Yes.

18 Q. And is it your opinion, Mr. Liang, if we were  
19 to go through each of these cases and walk through each  
20 of the exhibits, would your opinions be the same with  
21 respect to each of the proposed wells?

22 A. Yes.

23 Q. In other words, your opinion is consistent  
24 throughout that there are unrecovered reserves, and  
25 additional completions are necessary to access those



1 reserves?

2 A. Yes.

3 Q. Okay.

4 A. Yes.

5 Q. Is it your opinion, Mr. Liang, that these  
6 proposed wells and recompletions -- will this negatively  
7 impact the reservoir in any way, in your view?

8 A. No.

9 Q. In your opinion, will the proposed wells impair  
10 the correlative rights of any offsetting interest  
11 owners?

12 A. No.

13 Q. And in your opinion, will the granting of the  
14 applications in each of these cases prevent waste and  
15 serve the interest of conservation?

16 A. Yes.

17 Q. Finally, Mr. Liang, did you prepare or oversee  
18 the preparation of Exhibits 5, 6 and 7 in each these  
19 cases?

20 A. Yes, sir.

21 MR. RANKIN: Mr. Examiner, I would move the  
22 admission of Exhibits 5, 6 and 7 in Case Numbers 16267  
23 through 16275.

24 EXAMINER McMILLAN: Okay. Exhibits 5, 6  
25 and 7, Cases 16267 through 16275, may now be accepted as

1 part of the record.

2 (Hilcorp Energy Co. Exhibit Numbers 5, 6  
3 and 7, Case Numbers 16267 through 16275,  
4 are offered and admitted into evidence.)

5 MR. RANKIN: With that, I have no further  
6 questions of this witness, and pass the witness for  
7 further questions by the examiners.

8 CROSS-EXAMINATION

9 BY EXAMINER McMILLAN:

10 Q. Have you looked at the wellbore diagrams for  
11 all of these wells to examine the cement tops for them?

12 A. Yes, we did. Uh-huh.

13 Q. The reason I'm asking that is because Hilcorp  
14 submitted some downhole commingles, and there were some  
15 questions about the cement tops. And what I'd like to  
16 see is a wellbore diagram before and after for all the  
17 wells to help us make a determination.

18 A. Okay.

19 Q. And so you're saying all of these wells, there  
20 is sufficient cement coverage?

21 A. I mean, for some of them, they don't have a  
22 CBL, which means in terms of -- need to run a CBL to  
23 verify the top of cement.

24 Q. So what you're saying is you have looked at the  
25 wellbore diagrams and calculated the cement tops?

1           A.    Yes.  We calculated the cement top.

2           Q.    Okay.  I'd like to -- we need to see that  
3 information, because like I said, Hilcorp did some  
4 downhole commingles, and there are some questions about  
5 the cement tops.  So we would like to see the wellbore  
6 diagram.

7                   MR. RANKIN:  So, Mr. Examiner, just to be  
8 clear, you're asking for wellbore diagrams -- existing  
9 wellbore diagrams for each of these wells?

10                   EXAMINER McMILLAN:  Yes.  And put in the  
11 proposed, too.

12                   MR. RANKIN:  Proposed, too.  Okay.

13                           And then would you also like to see their  
14 calculations -- if there is no CBL, calculation -- where  
15 they calculate the cement top?  Is that right?

16                   EXAMINER McMILLAN:  Yes.

17                   THE WITNESS:  Okay.

18                   MR. RANKIN:  For each of these proposed  
19 wells.

20                   EXAMINER McMILLAN:  Yes.

21           Q.    **(BY EXAMINER McMILLAN) Have you discussed any**  
22 **of these wells with the Aztec District Office?**

23           A.    No, we haven't.  I don't think we have.

24           Q.    Okay.

25                   EXAMINER McMILLAN:  Go ahead, Leonard.

CROSS-EXAMINATION

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BY EXAMINER LOWE:

**Q. Can you define for me the reason for the Cliffhouse water line?**

A. I mean, for the Cliff -- for the Cliffhouse water line, actually that information passed on by COP, by ConocoPhillips, and actually that is line drawn by them. And I think the methodology [sic] identifies what Cliffhouse water line when they drilled the well and when they drilled the Cliffhouse. And they used water production. They just pushed the boundary of the Cliffhouse water line a little bit, and that is how they define this whole line.

**Q. Okay. All right. Thank you. That's all I've got.**

EXAMINER BROOKS: No questions.

EXAMINER McMILLAN: Thank you very much.

MR. RANKIN: Mr. Examiner, we will work to get you the information that you requested and supplement the record. If that's okay, by email?

EXAMINER McMILLAN: Yes.

MR. RANKIN: And we'll get that to you as soon as we can.

EXAMINER McMILLAN: That would be great.

MR. RANKIN: With that, Mr. Examiner, we

1 would ask, pending our supplementation, that the  
2 Division take these cases under advisement.

3 EXAMINER McMILLAN: Okay. Cases 16267  
4 through 16275 shall be taken under advisement.

5 Thank you very much.

6 MR. RANKIN: Thank you, Mr. Examiner.

7 (Case Numbers 16267 through 16275 conclude,  
8 10:26 a.m.)

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I hereby certify that the foregoing is  
a correct and true transcript of the proceedings in  
the Examination of Case No. \_\_\_\_\_  
heard by me on \_\_\_\_\_  
\_\_\_\_\_, Examiner  
Oil Conservation Division

1 STATE OF NEW MEXICO  
2 COUNTY OF BERNALILLO

3

4 CERTIFICATE OF COURT REPORTER

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

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

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

20 DATED THIS 11th day of August 2018.

21

22

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

25