

## Goetze, Phillip, EMNRD

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**From:** Goetze, Phillip, EMNRD  
**Sent:** Friday, August 22, 2014 4:09 PM  
**To:** Kay Havenor (Kay@georesources.com)  
**Cc:** Ezeanyim, Richard, EMNRD; Dawson, Scott, EMNRD; McMillan, Michael, EMNRD; jamesbruc@aol.com; Gary Larson (glarson@hinklelawfirm.com)  
**Subject:** Case No. 15059 - Request for Proposed Completion Diagram

RE: Case No. 15059 - Request for Proposed Completion Diagram

Dr. Havenor:

In review of the exhibits for the referenced case, I find the open-hole completion inappropriate for the proposed injection operation (commercial) and am requesting a well completion design, on behalf of Mesquite, for inclusion as part of the C-108 application that contains the following elements:

1. production casing that extends from surface to total depth that is to be perforated in the proposed injection interval; and
2. a cement program (i.e. volume, type, as is typically found in the supplemental sheets to the C-108 application) for the production casing.

You may change surface and intermediate casing sizes to accommodate the new string, but all casing strings will be cemented to surface as originally proposed. I will petition that you expedite this request so that the order may be issued. Please direct any questions you may have regarding this request by e-mail. The completion diagram may also be sent by e-mail. Thank you. PRG

Phillip R. Goetze, P.G.  
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3 IN THE MATTER OF THE HEARING CALLED  
4 BY THE OIL CONSERVATION DIVISION FOR  
5 THE PURPOSE OF CONSIDERING:

6 APPLICATION OF MESQUITE SWD,  
7 INCORPORATED FOR APPROVAL OF  
8 A WATER DISPOSAL WELL, LEA  
9 COUNTY, NEW MEXICO.

CASE NO. 15059

ORIGINAL

10 REPORTER'S TRANSCRIPT OF PROCEEDINGS

11 EXAMINER HEARING

12 January 9, 2014

13 Santa Fe, New Mexico

14 BEFORE: PHILLIP GOETZE, CHIEF EXAMINER  
15 MICHAEL McMILLAN, TECHNICAL EXAMINER  
16 GABRIEL WADE, LEGAL EXAMINER

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18 This matter came on for hearing before the  
19 New Mexico Oil Conservation Division, Phillip Goetze,  
20 Chief Examiner, Michael McMillan, Technical Examiner,  
21 and Gabriel Wade, Legal Examiner, on Thursday,  
22 January 9, 2014, at the New Mexico Energy, Minerals and  
23 Natural Resources Department, 1220 South St. Francis  
24 Drive, Porter Hall, Room 102, Santa Fe, New Mexico.

25 REPORTED BY: Mary C. Hankins, CCR, RPR  
New Mexico CCR #20  
Paul Baca Professional Court Reporters  
500 4th Street, Northwest, Suite 105  
Albuquerque, New Mexico 87102

## 1 APPEARANCES

2 FOR APPLICANT MESQUITE SWD, INCORPORATED:

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6 FOR INTERVENORS YATES PETROLEUM CORPORATION, ABO  
7 PETROLEUM CORPORATION, AND MYCO INDUSTRIES, INC.:

8 GARY W. LARSON, ESQ.  
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1 (8:23 a.m.)

2 EXAMINER GOETZE: Next we will go to Case  
3 15059, application of Mesquite SWD, Incorporated for  
4 approval of a water disposal well, Lea County,  
5 New Mexico.

6 Call for appearances.

7 MR. BRUCE: Mr. Examiner, Jim Bruce of  
8 Santa Fe representing the Applicant, and I have one  
9 witness.

10 MR. LARSON: Good morning, Mr. Examiner.  
11 Gary Larson on behalf of Yates Petroleum, Abo Petroleum  
12 and Myco Industries. I have two witnesses.

13 EXAMINER GOETZE: Will the witnesses stand  
14 and give your name for the clerk [sic].

15 MR. BONEAU: My name is David Boneau,  
16 B-O-N-E-A-U, with Yates Petroleum.

17 MR. MORAN: Charles Moran, Yates Petroleum.

18 DR. HAVENOR: Kay Havenor, Mesquite SWD.

19 EXAMINER GOETZE: Would the clerk apply the  
20 oath, swear these folks in?

21 (Mr. Boneau, Mr. Moran and Dr. Havenor  
22 sworn.)

23 EXAMINER GOETZE: Proceed, Mr. Bruce.

24 KAY HAVENOR, Ph.D.,  
25 after having been first duly sworn under oath, was

1           questioned and testified as follows:

2                               DIRECT EXAMINATION

3   BY MR. BRUCE:

4           Q.   Dr. Havenor, would you state your full name for  
5   the record.

6           A.   Kay, K-A-Y, initial C., Havenor, H-A-V-E-N-O-R.

7           Q.   And where do you reside?

8           A.   Roswell, New Mexico.

9           Q.   And what is your occupation?

10          A.   I'm a consulting geologist.

11          Q.   What is your relationship to Mesquite SWD in  
12   this case?

13          A.   As a consultant.

14          Q.   Have you previously testified before the  
15   Division?

16          A.   Yes, I have.

17          Q.   And were your credentials as an expert  
18   petroleum geologist accepted as a matter of record?

19          A.   Yes, they were.

20          Q.   And are you familiar with the application filed  
21   in this case?.

22          A.   Yes, I am familiar.

23                       MR. BRUCE:  Mr. Examiner, I tender  
24   Dr. Havenor as an expert petroleum geologist.

25                       EXAMINER GOETZE:  He's so qualified.

1 Q. (BY MR. BRUCE) Dr. Havenor, before we get into  
2 your C-108 -- and by the way, was that C-108 prepared by  
3 you?

4 A. Yes, it was.

5 Q. This case was originally scheduled for a couple  
6 of months ago, and Yates objected, and, also, I believe  
7 Devon Energy objected; is that correct?

8 A. That is correct.

9 Q. Have you since come -- has Mesquite since come  
10 to terms with Devon regarding its objection?

11 A. Yes. We have reconciled that.

12 Q. And will you get into the modifications to  
13 C-108 as a result of your discussions with Devon?

14 A. Yes.

15 Q. Dr. Havenor, can you please, again, just  
16 briefly identify Exhibit 1 and describe the well we are  
17 here for today?

18 A. The C-108 is an application for the SWD permit  
19 for a new drill location in Lea County, New Mexico, in  
20 Section 11 of 25 South, Range 32 East.

21 Q. And will it be in Unit letter F?

22 A. That is correct, Unit F.

23 Q. And the third page describes the proposed well  
24 construction; does it not?

25 A. Yes, that does.

1           Q.    Now, what zone does Mesquite propose to inject  
2   salt water into?

3           A.    May I elaborate on that, please?

4           Q.    Yes.

5           A.    Originally the application was filed for  
6   Mesquite to apply for disposal into the Bell Canyon and  
7   the Cherry Canyon.  Devon indicated that they had a  
8   prospect that they were considering drilling in the  
9   Upper Cherry Canyon and requested that we raise the  
10  lowest depth of injection back to 6,200 feet.  And  
11  Mesquite agreed to that change, and an amendment was  
12  appropriately made to the C-108.

13          Q.    Okay.  So when we're going through -- and what  
14  are the depths that you seek to inject into, the footage  
15  depths?

16          A.    The top interval was 4,790 feet, and the lowest  
17  interval is 6,200.

18          Q.    So there will be no disposal into the Cherry  
19  Canyon?

20          A.    That is correct.

21          Q.    If, on some of these pages, it shows up that  
22  you're injecting into the Cherry Canyon, that should be  
23  excised because you're only injecting into the Bell  
24  Canyon?

25          A.    Yes.  The only -- the reasonable correction



1 that needed to be made to the original C-108 is on the  
2 first couple of pages, and so ignore "Cherry Canyon" in  
3 any other reference.

4 Q. And although not on yours, on page 1 of the  
5 C-108, there is a cover sheet. It's just basically a  
6 summary of changes to the C-108; is that right?

7 A. Yes, that's correct.

8 Q. Let's move on. I think starting with page 5,  
9 the pages are numbered. What is page 5?

10 A. Page 5 is a copy of the land plat for the  
11 region, and it shows the one-half and the two-mile  
12 radius area of review.

13 Q. Now, with respect to the two-mile radius, are  
14 there any freshwater wells in that area?

15 A. None that have been reported.

16 Q. And did you check with the State Engineer on  
17 this in Roswell?

18 A. Yes.

19 Q. And then page 6 just shows a larger blowup of  
20 the half-mile area of review. At this time, are there  
21 any wells inside the one-half mile area of review,  
22 existing wells?

23 A. No. There are no existing wells in the  
24 half-mile area.

25 Q. What type of injection operations do you

1 propose with respect to injection volumes and pressures?

2 A. The proposed volumes are shown on page 7, and  
3 the maximum is indicated to be approximately 6,000  
4 barrels of water per day, with an average of  
5 approximately 3,500 barrels per day.

6 Q. And will the maximum injection pressure comply  
7 with the Division's .2 psi depth to top perf?

8 A. Yes. That is 958 psi.

9 Q. And what -- where do you anticipate most of the  
10 injected water will come from? Which other formations?

11 A. Which other formation?

12 Q. Yes.

13 A. It will be Bell Canyon.

14 Q. No, no. I mean, what type of water will be  
15 injected --

16 A. Excuse me.

17 Q. -- into?

18 A. Bone Spring.

19 Q. Bone Spring, primarily?

20 A. Primarily.

21 Q. And will that injected water be compatible with  
22 the disposal zone water?

23 A. Yes, it would.

24 Q. And your C-108 does contain a water sample from  
25 the Delaware Formation, I believe?

1           A.    Yes.  That's on page 7.

2           Q.    There are some Delaware wells out there, are  
3   there not, that could possibly dispose into this well,  
4   also?

5           A.    Not likely.

6           Q.    And as you've already discussed, there are no  
7   wells in the area of review -- there are no plugged and  
8   abandoned wells and no producing wells in the area of  
9   review?

10          A.    That is correct, no wells plugged and  
11   abandoned.

12          Q.    And is there any geologic evidence of open  
13   faults or hydrologic connection between the disposal  
14   zone and underground fresh water?

15          A.    No, there are no known connections.

16          Q.    Would you turn to Exhibit 10 and discuss the  
17   construction of the well?

18                   MR. LARSON:  Mr. Bruce, did you mean page  
19   10?

20                   MR. BRUCE:  Page 10.  Thank you,  
21   Mr. Larson.

22                   MR. LARSON:  It's still early.

23                   MR. BRUCE:  I'm not used to having only one  
24   or two exhibits.

25          Q.    (BY MR. BRUCE) Could you discuss -- just

1 briefly give a discussion of the construction of the  
2 proposed injection well.

3 A. Well, as the diagram shows, we'll run a 20-inch  
4 conductor string and circulate it back to the surface,  
5 and then seven-inch string that will run down into the  
6 Bell Canyon. And that will be circulated back to the  
7 surface, and it will then be open hole to TD at 6,200.

8 Q. Will the well be constructed so as to prevent  
9 movement of fluid between zones?

10 A. Yes, it will be.

11 Q. And does page 11 show the surface owner and the  
12 offset operators?

13 A. Yes.

14 MR. BRUCE: Mr. Examiner, one -- and I'll  
15 get into this in a minute when I present my notice  
16 exhibit. Matador Petroleum shows up on all the plats as  
17 owning an offset tract. I sent notice to Matador  
18 Petroleum. I received a call from an attorney at  
19 Matador, and they said that this interest is actually  
20 owned by a Cimarex entity.

21 For your information, about nine or ten  
22 years ago, Matador sold a bunch of leasehold interests  
23 to what eventually -- what eventually turned into Magnum  
24 Hunter, which is a Cimarex entity. Then there was a  
25 legal dispute over it, so there was some question about

1 who owned the interest. But Matador confirmed that  
2 Cimarex does indeed own the interest, so notice has been  
3 given to them, as well as Matador.

4 EXAMINER GOETZE: Very good.

5 Q. (BY MR. BRUCE) Dr. Havenor, is there a need for  
6 saltwater disposal wells in this area?

7 A. A significant need.

8 Q. You're talking about injecting Bone Spring  
9 water through the Bone Spring wells that are being  
10 developed in this area to produce a significant amount  
11 of salt water?

12 A. Yes. They produce a significant amount of salt  
13 water.

14 Q. And insofar as technically, do you see any  
15 problem with the drilling of the saltwater disposal  
16 well?

17 A. No, sir, I don't.

18 Q. Do you think it will adversely affect any  
19 offset leasehold interest owners?

20 A. No, I do not. I do not believe that it will.

21 Q. And in your opinion, is the granting of this  
22 application in the interest of conservation and the  
23 prevention of waste?

24 A. Yes, it is.

25 MR. BRUCE: Mr. Examiner, I'm handing you a

1 copy of Exhibit 2, which is the Affidavit of Notice,  
2 and, again, I sent the notice to the parties entitled to  
3 notice. And then the last two pages are the copy of the  
4 letter sent to Cimarex after Matador notified me of the  
5 change of ownership, and all parties did receive actual  
6 notice.

7 And I would move the admission of Exhibits  
8 1 and 2.

9 EXAMINER GOETZE: Exhibits 1 and 2 are  
10 accepted.

11 (Mesquite SWD, Inc. Exhibit Numbers 1 and 2  
12 were offered and admitted into evidence.)

13 MR. BRUCE: And I have no further questions  
14 of the witness.

15 EXAMINER GOETZE: Mr. Larson?

16 CROSS-EXAMINATION

17 BY MR. LARSON:

18 Q. Morning, Dr. Havenor.

19 A. Morning.

20 Q. <sup>How</sup> Has Mesquite injected any water into the  
21 ~~Paducah~~ Federal #3 well that is from Case 14979?

22 A. I can't answer that question without checking  
23 back some records as to actual injection.

24 Q. Do you know if the well's been drilled?

25 A. The #3?

1 Q. Yes, the Paducah Federal #3.

2 A. I have to orient myself. Paducah #3 is located  
3 in the same section. It has not -- it has not been  
4 drilled.

5 Q. Your C-108 application indicates that the  
6 proposed interval has been without significant  
7 hydrocarbon shales. What's the factual basis for that  
8 statement?

9 A. Experience is, it essentially attempts -- there  
10 has been significant development in the uppermost Ramsey  
11 and Olds interval, which is a very thin interval on top.  
12 And beneath that, logging and sample descriptions and  
13 other penetrations of wells in the area have not found  
14 any indications of commercial production.

15 Q. I believe you testified that the producing  
16 water that Mesquite proposes to inject will come from  
17 Bone Spring?

18 A. The vast majority will probably be from the --  
19 from Bone Spring production. That is correct.

20 Q. And will that water be trucked to the well  
21 site?

22 A. Not to the well site. It will be taken to a  
23 station, which will then transfer it to the well site.

24 Q. And does your application include analysis of  
25 any of the Bone Spring water?

1           A.    No.  It only includes a Delaware analysis.

2                   MR. LARSON:  That's all I have for  
3  Dr. Havenor.

4                   EXAMINER GOETZE:  Very good.

5                   First of all, I would like to get an  
6  analysis of what's going to be provided as commercial  
7  operation.  Let's make that available to both --

8                   MR. BRUCE:  Yes, sir.

9                   EXAMINER GOETZE:  -- the Hearing Examiner,  
10 as well as to Mr. Larson.

11                               CROSS-EXAMINATION

12  BY EXAMINER GOETZE:

13           Q.    With regards to the construction, we are seeing  
14 more and more of the open hole at shallow depth, meaning  
15 something shallower than -- ideally Devonian wells.  
16 Though this is an economic advantage, would there be any  
17 benefit for putting in casing for this lower portion,  
18 the injection interval, as opposed to having an open  
19 hole?

20           A.    I cannot see any significant difference.  And  
21 let me say that, for example, if they were to run and  
22 cement a string of casing across the presently proposed  
23 interval, then it would be perforated with probably 400,  
24 maybe 500 shots through the interval, so you're still  
25 exposing the perceived porosity zones where the disposal



1 will be to disposal. Does that answer your question?

2 Q. Thank you. It does.

3 With regards to plans to run the logs, is  
4 there any specific suite [sic] we are looking at as far  
5 as preferred or just -- we're going to see what the  
6 State suggests?

7 A. Well, it's a federal lease.

8 Q. Okay.

9 A. My preference would be that they run a porosity  
10 log and a resistivity log. That's what we have done in  
11 the past. However, during penetration, there will be a  
12 logging unit -- a sample logging unit on the well, and  
13 we'll have examination of samples on probably ten-foot  
14 intervals, as well as hydrocarbon analysis of returns. |

15 EXAMINER GOETZE: I have no further  
16 questions for this witness.

17 Are you done?

18 MR. BRUCE: I have no further questions of  
19 the witness either, Mr. Examiner.

20 EXAMINER GOETZE: Very good.

21 Mr. Larson?

22 MR. LARSON: No, nothing further.

23 EXAMINER GOETZE: Mr. Larson, would you  
24 like to present?

25 MR. LARSON: I would like to.

1 CHARLES MORAN,

2 after having been first duly sworn under oath, was  
3 questioned and testified as follows:

4 DIRECT EXAMINATION

5 BY MR. LARSON:

6 Q. Good morning, Mr. Moran. Would you please  
7 state your full name for the record?

8 A. Charles Moran.

9 Q. And where do you reside?

10 A. Artesia, New Mexico.

11 Q. And by whom are you employed and in what  
12 capacity?

13 A. I'm employed by Yates Petroleum Corporation.  
14 My title is chief landman.

15 Q. And have you previously testified in an  
16 Examiner Hearing?

17 A. Yes, I have.

18 Q. And during each of those hearings, were you  
19 qualified as an expert in land matters?

20 A. Yes, I was.

21 Q. And who are you testifying on behalf of today?

22 A. I am here on behalf of Yates Petroleum  
23 Corporation, Abo Petroleum Corporation and Myco  
24 Industries, Inc.

25 Q. And do you have personal knowledge of each

1 entity's interest in the area surrounding the surface  
2 location of the proposed SWD well?

3 A. Yes, I do.

4 MR. LARSON: Mr. Examiner, I'd move to  
5 admit Mr. Moran's qualifications as an expert in land  
6 matters for purposes of this hearing.

7 EXAMINER GOETZE: He is so qualified.

8 Q. (BY MR. LARSON) Mr. Moran, I'll direct your  
9 attention to the document marked as Yates Exhibit Number  
10 1 and ask you to identify the document.

11 A. Exhibit 1 is a land plat that I worked with and  
12 had built intending to show Yates' leasehold ownership  
13 directly offsetting the location of the proposed well in  
14 Unit letter F of Section 11.

15 The various colors represent different  
16 record title ownership in the leasehold. Primarily, the  
17 yellow was dominated by Yates Petroleum Corporation.  
18 They have the largest interest there. The blue was  
19 dominated by Abo and Myco, having the largest interest  
20 there. The whole area is covered by a joint operating  
21 agreement that makes Yates Petroleum Corporation the  
22 operator of the leaseholds that are colored on the map.

23 Q. And did you or somebody under your supervision  
24 prepare this document?

25 A. Yes.

1 Q. And I'll direct your attention to the numerous  
2 wells that are indicated -- I guess it's to the west of  
3 the Yates, Myco, Abo interests. And who is the operator  
4 of those wells?

5 A. I don't remember who the operator of the wells  
6 is at this point. I did not look into that. I was  
7 going to let the engineer pay attention to that detail.

8 Q. And for any wells in which Myco, Abo and/or OXY  
9 Y-1 have an interest, which entity operates those wells?

10 A. Yates Petroleum Corporation.

11 Q. And is Yates currently operating any producing  
12 wells in the area of review?

13 A. Yes. We have one well in the area of review,  
14 producing in Section 2.

15 Q. And that's a horizontal well?

16 A. It is a horizontal well.

17 Q. And does Yates currently have any plans to  
18 develop additional horizontal wells within the area of  
19 review?

20 A. Yes. We have plans to develop additional wells  
21 in the area. I'm currently working to get those moving  
22 forward.

23 Q. And are those drilling plans the subject area  
24 for Dr. Boneau's testimony?

25 A. Yes, they are.

1 Q. And does Yates currently have any plans to  
2 develop any horizontal wells in any of the adjoining  
3 sections?

4 A. Yes, we do.

5 Q. Will Yates be the operators of those?

6 A. Yates Petroleum will be the operator of those  
7 wells.

8 Q. And do you know the time frame for Yates'  
9 horizontal drilling program within the half-mile area of  
10 review?

11 A. The time frame is -- we intend to get out there  
12 and commence drilling as soon as we can get out there.  
13 There are some permitting issues that we are working  
14 with to drill, so I can't give an exact timetable. But,  
15 you know, we are ready to go and move forward,  
16 and within the year, I anticipate we'll be out there  
17 drilling wells.

18 Q. And from a land perspective, have all of the  
19 entities with interest in the project areas for those  
20 planned wells within the area of review joined in the  
21 wells?

22 A. At this point, I have had conversations with  
23 the owners out there, and everybody is excited about  
24 drilling. I haven't triggered, by sending them an AFE,  
25 their commitment to drill the well. So at this point,

1 nobody -- you know, everybody's excited about doing it.  
2 We're looking forward to doing it. I just need to send  
3 the AFE, which I'm waiting on a permit so I can get the  
4 AFE moving.

5 Q. Has anybody verbally communicated to you  
6 opposition?

7 A. No. Everybody's excited about doing it, and  
8 everybody's looking forward to getting them drilled.

9 Q. And how about the time frame for horizontal  
10 wells in the adjoining sections.

11 A. It will be part of our program out there. My  
12 understanding is, we're going to have a rig out there  
13 drilling continuously, once we get things moving.

14 Q. And how about the interests -- mineral  
15 interests in the project areas for those wells? Have  
16 they communicated to you their position on the proposed  
17 wells?

18 A. I haven't talked to the mineral owners. I  
19 presume -- the leases are federal and state. I believe  
20 they want those minerals developed.

21 Q. And why are Yates, Myco and Abo opposing the  
22 Mesquite --

23 A. Because we believe that it will interfere with  
24 our plans out there to develop our leasehold.

25 Q. And in your opinion, would the proposed

1 injection of produced water negatively impact Yates',  
2 Abo's and Myco's correlative rights?

3 A. My understanding is that we believe it will  
4 negatively impact our drilling program.

5 Q. And why is that?

6 A. Because it has the potential to make it more  
7 costly to develop the minerals by -- and, you know, this  
8 is me listening to the engineers, by creating a zone of  
9 high-pressure water that we will have to drill through  
10 that creates drilling problems, thus driving up our  
11 drilling costs.

12 MR. LARSON: Mr. Examiner, I'd move the  
13 admission of Exhibit Number 1, and pass the witness.

14 EXAMINER GOETZE: Exhibit Number 1 is so  
15 accepted.

16 (Yates Exhibit Number 1 was offered and  
17 admitted into evidence.)

18 EXAMINER GOETZE: Mr. Bruce?

19 MR. BRUCE: Just a few questions.

20 CROSS-EXAMINATION

21 BY MR. BRUCE:

22 Q. Looking at your exhibit, Mr. Moran, I'm kind of  
23 confused as to the exact boundaries. You have like a  
24 dark purple outline around certain of the acreage, but  
25 it doesn't seem to fully connect.

1           A.    The -- as you pointed out, there is some  
2   leasehold out there owned by third parties. The parties  
3   that I can represent formed a working interest unit.  
4   The working interest unit is much larger than what is  
5   intended to be reflected on this map. It extends over  
6   to the east farther. I did not color everything we had  
7   in the map. The colors on the map were just intended to  
8   be immediate offset to the Section 11.

9           Q.    Okay. But definitely --

10          A.    I had more colors to the south, more colors to  
11   the east.

12          Q.    Okay. But on this map, definitely the bright  
13   yellow, bright blue and crosshatched yellow are within  
14   the working interest unit?

15          A.    The crosshatched yellow is a contractual  
16   interest that is subject to a different agreement than  
17   the Farber Working Interest Unit. It's a separate,  
18   distinct agreement, but under that agreement, Yates has  
19   the operator. They are other owners of the wells.

20          Q.    And then looking at the existing wells in  
21   Exhibit 1 -- excuse me -- in Sections 1 and 2, are the  
22   open holes the surface locations?

23          A.    Yes. The open holes are where the surface is  
24   at, and the dark hole is where the bottom hole is at.

25          Q.    And you mentioned some permitting issues out



1     there.  Is that due to potash or --

2           A.     Since they are federal permits, the permits  
3     have not been issued, and the leases are currently  
4     suspended.

5           Q.     Ah.

6           A.     And so I did not have permits.  I've applied  
7     for the APD to get them drilled, but I have not received  
8     permits for the wells yet.

9           Q.     Yes, because I was looking at Dr. Havenor's  
10    exhibit, and it looked like some of these leases were  
11    past their primary term.

12          A.     Yes, but they are suspended.

13          Q.     Are any state leases suspended or only the  
14    federal?

15          A.     Only the federal.  The state lease is Section  
16    2, and it is drilled and producing.

17          Q.     Thank you, Mr. Moran.

18                   MR. BRUCE:  That's all I have,  
19    Mr. Examiner.

20                   EXAMINER GOETZE:  Very good.

21                   I have no questions of you.

22                   Let's move on to the next witness, please.

23                   DAVID FRANCIS BONEAU, Ph.D.

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

DIRECT EXAMINATION

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BY MR. LARSON:

Q. Dr. Boneau, please state your full name for the record.

A. David Francis Boneau.

Q. And where do you reside?

A. Artesia, New Mexico.

Q. And by whom are you employed and in what capacity?

A. I'm employed by Yates Petroleum Corporation. My title is reservoir engineering manager.

Q. And are you also testifying today on behalf of Abo Petroleum, Myco Industries and Yates Petroleum?

A. That is correct. Yes, sir.

Q. And what is your terminal degree?

A. I have a Ph.D. in nuclear physics from Iowa State University in 1969.

Q. And have you previously testified in an Examiner Hearing?

A. Yes, I have.

Q. And during those hearings, were you qualified as an expert in petroleum engineering?

A. Yes, that did happen several times.

MR. LARSON: Mr. Examiner, I'd move that Dr. Boneau be qualified as an expert in petroleum

1 engineering for purposes of this hearing.

2 EXAMINER GOETZE: For purposes of this  
3 hearing, he is so qualified.

4 Q. (BY MR. LARSON) Dr. Boneau, are you familiar  
5 with the Yates horizontal drilling plans that Mr. Moran  
6 has discussed?

7 A. Yes. I'm probably more familiar with them than  
8 he is.

9 Q. And directing your attention to the document  
10 marked as Yates Exhibit 2, would you please identify  
11 that document?

12 A. The document is a map showing nine sections  
13 centered on Section 11 where the Mesquite Blue Quail SWD  
14 well is proposed to be drilled.

15 Q. And did you or somebody under your supervision  
16 prepare this document?

17 A. That's correct. Yes.

18 Q. And how many surface locations or planned  
19 horizontal wells are located within the half-mile area  
20 of review?

21 A. Within the half-mile area of review, as  
22 Mr. Moran pointed out, there is one existing well whose  
23 surface location is -- I would call it Unit O of Section  
24 2, in the south of Section 2, and extends north to Unit  
25 B of Section 2. That wells exists. It's called

1 Undaunted. It's actually a very good 2nd Bone Spring  
2 producer.

3 Undrilled wells, the wells with dashed  
4 lines are horizontal -- proposed horizontal wells that  
5 Yates Petroleum would drill on this acreage owned by the  
6 various companies. And obviously from a land  
7 perspective, I only know yellow, so regardless of what  
8 Yates' ownership is, it's marked yellow on mine. That's  
9 the -- well, whatever. That's the non-landman. That's  
10 the engineer.

11 Finally, to your question, by my count,  
12 there are five surface locations that are clearly,  
13 definitely within the half-mile area of review, and  
14 there are two on like 2:00 of that circle that are  
15 really close to the edge. And I couldn't swear they're  
16 in or out, actually. On the map, they look to be barely  
17 out, but they are very close to the edge. So somewhere  
18 between five and seven surface locations for horizontal  
19 Bone Spring wells are within the half-mile area of  
20 review.

21 Our plans are that those wells would be 2nd  
22 Bone Spring wells, just because I'm talking -- the well  
23 that exists, Undaunted, has a major vertical depth of  
24 about 11,000 feet. So the 2nd Bone Spring is about  
25 11,000 feet, and then with the lateral, it extends to

1 almost 16,000 feet of depth.

2 Q. And based on Yates' experience with the  
3 Undaunted, does Yates believe that the planned  
4 horizontal wells within the area of review will be  
5 productive?

6 A. We expect them to be productive, yes.

7 Q. And the Undaunted is also a 2nd Bone Spring  
8 well?

9 A. The Undaunted produces from the 2nd Bone Spring  
10 Sand, yes, sir.

11 Q. I next direct your attention to the document  
12 marked as Exhibit 3. Can you please identify that  
13 document?

14 A. Yes. Exhibit 3 is a map showing a larger area  
15 around -- mostly around the proposed Blue Quail  
16 location. And, honestly, it stands sort of to the east.  
17 But it just shows that Yates has quite a bit of acreage  
18 to drill in this area. And the wells that are on our  
19 drilling schedule are all those dotted lines, and by my  
20 count, there are -- I don't know -- 21 or 22 that are  
21 within that two-mile area of review. And you can see  
22 that there are a whole bunch of them. There are 40 or  
23 50 wells. We have a major drilling program under way or  
24 almost under way in this area. We're really excited  
25 about this area. We want to drill these wells.

1           Q.    And did you or someone under your supervision  
2   prepare the document marked as Exhibit 3?

3           A.    Yes, sir. Exhibits 2 and 3 were made by me  
4   with some help, at the same time.

5           Q.    And Mr. Moran touched on the time frame for the  
6   drilling program both in the half-mile area of review  
7   and the two-mile radius you've indicated on Exhibit 3.  
8   Do you have any insight to the time frame of these wells  
9   being drilled?

10          A.    We have our drilling program laid out for 2014,  
11   '15, '16, and many of the wells that we're talking about  
12   here are on that drilling schedule. Some of them, this  
13   year. Some of them, definitely in 2015. And the  
14   engineers and the associate technical people, you know,  
15   make plans, and then the land people have got to come  
16   through with the permits, et cetera, for us, but we have  
17   a plan that includes drilling a huge number of these  
18   wells within the next year, two years, two-and-a-half  
19   years.

20          Q.    In relation to the wells outside the area of  
21   review but within your two-mile radius, what are the  
22   target zones for those wells?

23          A.    The target zones for all the dotted lines, all  
24   the wells proposed in this area is the 2nd Bone Spring  
25   Sand. And like I said, it's at 11,000 feet in the well

1 in Section 2, and it's going to be a similar depth in  
2 the wells throughout this area.

3 Q. And if Mesquite were granted authority to  
4 inject produced water, would the zone of influence of  
5 the produced-water plume extend out into that two-mile  
6 area indicated on your plat there?

7 A. It will eventually. It won't the first month.  
8 Obviously, it will impact the half-mile area of review  
9 and move out. But within the time frame -- we think  
10 we're talking about drilling these wells in the near  
11 term. The near term is not next week and the week  
12 after. The near term to get these wells drilled and  
13 whatever is the three years I'm talking about or  
14 something on that order, and within that time frame, the  
15 water injected into the proposed well could clearly  
16 influence outside the half-mile circle.

17 Q. And what impact would the proposed injection of  
18 produced water have on Yates' drilling program both  
19 within the half-mile area of review and within the  
20 two-mile area indicated on Exhibit 3?

21 A. Well, I'm sure everybody realizes that the deal  
22 is, they're injecting shallow, and we're drilling deep.  
23 And so we have got to -- to reach this 2nd Bone Spring  
24 Sand interval, we have got to drill through their  
25 injection zone, and we do not want to run into

1 high-pressure water in that injection zone as we try to  
2 drill through. I've got an example or two, but there  
3 are various kinds of minor to major disasters that can  
4 occur when that happens.

5 Q. The next document is marked as Exhibit Number  
6 4. I'd direct you to that.

7 A. Okay. I'm looking at it.

8 Q. And could you identify that document for the  
9 record?

10 A. That document shows four sets of numbers,  
11 basically, and it's my attempt to put some numbers  
12 involving pressures to the assertions that I'm making  
13 about high-pressure water. And so there is a table in  
14 the middle of the page. We're talking about Mesquite's  
15 proposed Blue Quail Number 1 proposed injection  
16 interval. It's 4,790 to about 6,200 feet, open hole.  
17 And I tried to compare the pressure. Their -- by  
18 their -- the Commission and myself, I think, agreed on  
19 using the top of the zone, 4,790 feet.

20 So the first line, under "Condition," says  
21 "Natural - No Well." What I think is out there now is  
22 at 4,790 feet. The pressure is going to be  
23 approximately -- 2,074 pounds is what it -- .4. It's  
24 the normal gradient in southeast New Mexico. It's  
25 basically a freshwater gradient. The pressure there is



1 2,074 pounds. The most right-hand column then puts that  
2 in terms of equivalent mud weight. This is just  
3 something that appeals to drilling people. And I don't  
4 know how many drilling people are in the room, but the  
5 natural condition, you would need a mud weight of 8.3  
6 pounds per gallon, which is more or less fresh water, to  
7 balance the natural pressure at 4,790 feet.

8                   Second line, then, says: "Wellbore filled,  
9 Total Dissolved Solids, 276,000 parts per million."  
10 That's the really heavy brine, from the analysis, that  
11 appears in the Mesquite C-108. So if you fill that  
12 wellbore to 4,790 feet with that heavy brine, you've got  
13 a higher pressure down there because you've got more  
14 weight sitting on it, and the pressure at that point  
15 then becomes 2,526 psi, or approximately that, with no  
16 surface pressure. Just because you filled it with that  
17 heavy brine, you raised the pressure by 450 pounds.

18                   Then the third line says: "Apply .2 psi  
19 per foot at the surface." And as Dr. Havenor indicated,  
20 that's 958 psi, and you then raise the pressure at the  
21 top of the injection zone by 958 psi. And you're now up  
22 to 3,484 pounds, 1,400 pounds above where you started.  
23 And the mud weight you would need to overcome that, to  
24 balance that, is 13.9 pounds per gallon, which is on the  
25 high end of what's possible in the real world.

1                   Anyway, you've raised the pressure a lot by  
2     injecting at the presumed allowable pressure that the  
3     Commission always uses. And those are just -- those are  
4     just the numbers that you get by applying the  
5     conventional thinking. That's, I think, what I'm trying  
6     to say.

7                   And then the last line talks about the  
8     case -- and I don't know if it's applicable here or not.  
9     I hope it's not applicable, actually. But the case  
10    where, via a step-rate test, the surface pressure can be  
11    administratively raised, and the -- well, there are lots  
12    of orders that have that wording in them. And I just  
13    put an example here where the step-rate test resulted in  
14    raising it to .3 psi per foot. I mean, there is another  
15    case floating around today where they're proposing .6  
16    psi per foot. Anyway, the last line is an example of a  
17    step-rate test allowing the surface pressure to be  
18    raised to .3 psi per foot. And then, of course, you  
19    have more pressure at the surface, so you have more  
20    pressure down in the injection interval. And you're now  
21    up to 3,963 psi, so you're up to 1,900 pounds higher  
22    than the natural condition down there. You've  
23    essentially doubled the pressure in that zone.

24                  And if Yates has to drill into a zone with  
25    twice as much pressure as it's supposed to have,

1 normally has, we're going to have blowouts, washouts,  
2 low circulation. We're going to have water we can't  
3 handle. We're going to be hauling water maybe to  
4 another one of Mesquite's disposal wells. But we're  
5 going to have a big problem on our hands. Well, in  
6 other words, we could have a big problem on our hands.

7           Exhibit Number 4 is an attempt to put some  
8 numbers on the magnitude of the pressures that are  
9 possible under the operation proposed, and my plea is  
10 that the step-rate test, on top of all the other  
11 pressure you add in, it really doesn't seem like a good  
12 idea to me. It really seems like a bad idea to me.

13       Q. And did you or someone under your  
14 supervision --

15       A. Number 4?

16       Q. -- create the document marked as Number 4?

17       A. Number 4 you must blame entirely on me. I  
18 prepared Number 4.

19       Q. I'll give you all the credit for that.

20           And you mentioned various problems that  
21 arise as you produce the mud weights. How does that  
22 translate into dollars in terms of drilling costs?

23       A. Okay. I have two exhibits, 5 and 6, that  
24 relate to one example --

25       Q. And we'll get into those in a moment.

1           A.    -- close to the -- close to the most  
2 catastrophic example we've run into in the past few  
3 years. Anyway, I have this catastrophic example where  
4 it cost us millions of dollars.

5                   Recently we had a water flow in a well in  
6 northern Lea County that we were able to control in  
7 three or four days, at a cost of \$75,000, something like  
8 that.

9                   We've had other examples in the \$300,000  
10 range, one-million-dollar range, hundreds of thousands  
11 of dollars, you know. The one example is \$3.5 million.  
12 I'm not saying that every well we drill is going to cost  
13 \$3.5 million more because of this injection. That's the  
14 high end of the catastrophes that can happen.

15                   If I had to pick a number, if we get one of  
16 these water flows, it's going to cost us 750,000, a  
17 million dollars to fight what seems, in my head, to be  
18 in every one of them. But I have a example of \$75,000.  
19 I have a multimillion-dollar example. But it adds up to  
20 significant dollars, and it takes the momentum out of a  
21 drilling program. It's hell is what it is. It's just  
22 horrible.

23           Q.    I'll direct your attention to Exhibit Number 5.  
24 Do you take sole credit for this one as well?

25           A.    I took a copy of a map that was more or less

1 commercial, and I wrote all the good words that are in  
2 the middle of the exhibit.

3 Q. And is this your worst-case-scenario example?

4 A. This is a worst-case-scenario example. It's an  
5 example of a water flow causing drilling problems, with  
6 probably a big-time S on the end.

7 The wells involved -- well, I sort of  
8 apologize for the map in that I wish there were two  
9 wells instead of all those circles that you see. But  
10 more or less in the middle of the map, it says "State T  
11 #2," and it has kind of a -- it has a black circle, and  
12 it has a gas well symbol, and it has a northeast-  
13 southwest line through it. But that is the injection  
14 well that was the problem in this case.

15 And south of that, it says "Door BIW State  
16 #1" and "#1Y." Those are the -- that's the well -- and  
17 it actually turned out to be two wells -- that Yates  
18 attempted to drill, and you can see that it's  
19 approximately -- the two wells are approximately a half  
20 mile apart.

21 So the story and my example, item number  
22 one, says: "Pronghorn" -- who was the operator --  
23 "State T SWD #2 injected into the Glorieta." And it was  
24 the Glorieta. It was not Delaware. It was the  
25 Glorieta. But it was 4,810 to 6,880 feet, sort of the

1 same depth of the injection interval we're talking about  
2 with the Mesquite well. That injection well began  
3 operations in February of 2004. It injected 1.6 million  
4 barrels of water from there through November 6; maximum  
5 injection rate, 3,000 barrels a day; average injection  
6 rate, 1,590 barrels of water a day.

7               So that injection was going on when we get  
8 to item number two. Yates began drilling its Door BIW  
9 State #1 well on June 10th, 2006, so about two years  
10 after this well a half mile away had been injecting  
11 water. We hit a water flow at 6,257 feet on June 26th.  
12 Water was flowing into our wellbore 15 to 18 barrels per  
13 minute.

14               I'm making the story long, but to make it  
15 shorter than it would be if we went through 23 days of  
16 misery, we fought the water flow for 23 days, extended  
17 the depth down to 6,811 feet, got all kinds of stuff  
18 stuck in the hole and plugged the original well.

19               Item number three: We then moved 50 feet  
20 away and redrilled what is called the #1Y well, and that  
21 was -- immediately continuing operations. So that well  
22 spudded on July 22nd, 2006. We successfully drilled it  
23 to 11,660 feet in the Strawn and cemented casing. And  
24 this time we were able to get the well drilled because  
25 we knew what was coming. So we used heavy mud through

1 the Glorieta, and you'll see that it was 11- and  
2 12-pounds-per-gallon mud. And as soon as we got through  
3 the Glorieta, we ran an extra string of casing to cement  
4 off that injection interval, and then we were able to  
5 drill the bottom part of the well, which you would call,  
6 normally.

7                   So item number four tells you the dollar  
8 numbers involved. The AFE original well was  
9 \$2.83 million. When we prepared an AFE for the redrill,  
10 that AFE was \$3.1 million. So what we expected to be  
11 the cost of the well was somewhere around \$3 million.  
12 We actually spent \$2.9 million on the #1 well, you know,  
13 and never got anywhere near TD, most of that fighting  
14 the water flow. And we actually spent \$3.65 million on  
15 the replacement well. So we spent \$6.55 million, when  
16 normal operation would have required a cost of about  
17 \$3 million. So we spent an extra amount of money,  
18 around \$3.5 million, caused by this water flow from a  
19 well 2,300-some feet away.

20                   Can I continue on to Exhibit 6, which is --

21           Q. I was just going to --

22           A. -- kind of the rest of the story?

23           Q. I was just going to ask you about that. For  
24 the record, was this document also prepared by you?

25           A. Yes. This was -- Excel and I made this

1 exhibit.

2 Q. And what is it intended to depict?

3 A. It's intended to give a better picture of what  
4 happened in this instance than my words, and hopefully  
5 it did that. But it's a plot of mud weight on the  
6 left-hand column in pounds per gallon versus the depth  
7 that the well is at. And there are little blue diamonds  
8 representing tie [sic] #1, Door BIW State #1, and there  
9 are red squares representing the mud weights during the  
10 drilling of the replacement well.

11 So we started to the left with the blue  
12 diamonds. At zero depth and at shallow depth, the mud  
13 weight is nine and a half, ten, those kind of numbers,  
14 out until you get to the 6,000-foot range. We hit the  
15 water flow, and the mud weight drops. You've got three  
16 little diamonds down there around 9.5. Water flow  
17 dilutes the drilling mud, and then the diamonds shoot up  
18 as we put in heavy mud trying to fight that. And the  
19 water flow keeps diluting our mud, and we finally give  
20 up. Maybe we flooded too long.

21 Then the red squares show the picture with  
22 the replacement well. And so at shallow depths, the red  
23 squares and the blue diamonds are more or less in the  
24 same place, but as we get close to the water flow, we  
25 raise the mud weight to 12.5 pounds. So there are some



1 red squares way up there on the top with the words that  
2 say "raise the mud weight before reaching the water  
3 flow." And then the red squares kind of fall off maybe  
4 down to 11, 6 or something.

5 And as the -- as the -- the water flow  
6 moves our heavy mud a little, but we're still able to  
7 keep a high mud weight. We get through the Glorieta.  
8 We cement the casing across the Glorieta, and then from  
9 7,000 out to 11,000-something, the mud weights are down  
10 to 9.5, normal. We cured the problem. We drilled the  
11 rest of the well with normal mud weights.

12 To me, it was just a way to better  
13 illustrate the story, and I hope that it helps some of  
14 the people here. It helped me picture what actually  
15 happened there.

16 Q. And, Dr. Boneau, in your opinion, can Yates'  
17 experience in drilling the Door BIW State #1Y well be  
18 applied to Yates' horizontal well drilling program in  
19 the area of Mesquite's proposed SWD well?

20 A. There are similarities in the area. They're  
21 absolutely not right next to each other, but in the  
22 example I gave, the offsetting well was approximately  
23 half mile away, and we have five locations to drill that  
24 approximately half mile away from the proposed Mesquite  
25 Blue Quail well. The injection interval is roughly the

1 same kind of depth that we're talking about. Actually,  
2 the volumes of water injected in my Door example are 50  
3 percent or lower than what's proposed by Mesquite in the  
4 example here. You know, no analogy is perfect, but  
5 there are a number of similarities. And it indicates  
6 that you can have significant water flows at 6,000 feet,  
7 and they cause big problems.

8 Q. And are you able to estimate the amount of  
9 increased drilling costs that Yates could be facing if  
10 water were injected into the proposed well?

11 A. You're going to get the same answer I said like  
12 five minutes ago. It can vary. A recent example,  
13 \$75,000, \$3.5 million, some other examples in between.  
14 My idea of an average is \$750,000, \$900,000, around a  
15 million dollars. When you have one of these problems,  
16 dig in your pocket for an extra million dollars. You  
17 can't do that very often.

18 Q. And in your opinion, would the proposed  
19 injection of produced water impair Yates' correlative  
20 rights?

21 A. I think there's a good chance that that will  
22 happen. We've got a lot of good wells to drill, and  
23 we're going to be -- you know, we're going to be taking  
24 a lot of shots into this zone where they're injecting  
25 water. And I'd be surprised if we -- I'd be shocked if

1 we had no problems, with the magnitude of our program  
2 and the close proximity of their proposed injection.

3 Q. And even though Yates requests that Mesquite's  
4 application be denied, in the event that it is granted,  
5 do you believe that Mesquite should be allowed to  
6 administratively increase the injection pressure for the  
7 well?

8 A. No. I believe -- I believe that Mesquite  
9 should not be made available of an administrative  
10 procedure to raise the injection pressure. Pretty much,  
11 I believe that nobody should, you know, have that right.  
12 You just look at the numbers, and you're getting really  
13 high pressures down there, with the .2 psi, and to raise  
14 that administratively, without a really close look, just  
15 seems like a bad idea to me.

16 MR. LARSON: And at this point,  
17 Mr. Examiner, I'll move the admission of Yates Exhibits  
18 Numbers 2 through 6.

19 EXAMINER GOETZE: Exhibits 2 through 6 are  
20 so entered.

21 (Yates Exhibit Numbers 2 through 6 were  
22 offered and admitted into evidence.)

23 MR. LARSON: And I'll pass the witness.

24 EXAMINER GOETZE: Very good.

25 Mr. Bruce?

1 CROSS-EXAMINATION

2 BY MR. BRUCE:

3 Q. First, Dr. Boneau, could you refer to Exhibit  
4 2.

5 Go ahead and take a drink of water if you  
6 need to.

7 A. I'm not going to ask you for permission for a  
8 drink of water. Sorry. No offense (laughter).

9 Q. I had a witness a few months ago who almost  
10 choked to death when his throat got dry, so --

11 A. Okay. One per year is enough to die.

12 MR. BRUCE: Mr. Examiner, if I could  
13 approach the witness for a second?

14 Q. (BY MR. BRUCE) Dr. Boneau, I've handed you  
15 Mesquite's Exhibit 1, and turn to page Exhibit [sic] 6.

16 MR. LARSON: Exhibit or page?

17 EXAMINER GOETZE: Page.

18 Q. (BY MR. BRUCE) Page 6.

19 A. Is that the one on top?

20 Q. Yeah. I opened yours up to page 6.

21 A. I see it.

22 Q. Now, the footage of this well pursuant to  
23 Mesquite's application is 2,100 from the north line and  
24 1,660 feet from the west line, which is pretty much  
25 shown on page 6 of Mesquite's Exhibit 1. In looking at

1 your Exhibit 2, you have moved the well significantly  
2 northward, until it's about 1,320 feet from the north  
3 line, haven't you?

4 A. I'm not going to use the word "moved," but --

5 Q. I'm saying somebody put it --

6 A. -- the location on our map is north of the  
7 location on your page 6.

8 Q. So as a result, there are a lot more wells that  
9 you say are in the area -- potentially in the area of  
10 review. And I think you used the number of five to  
11 seven wells would be in the area of review, but if you  
12 use Mesquite's area of review and compare that with your  
13 Exhibit 2, it really only looks like maybe two or three  
14 wells would be in the area of review, correct?

15 A. It looks to me like four would be, the three in  
16 the north edge of 11. Well, in D, C and B of 11, I  
17 think would still be, and the one in N of 2 would still  
18 be, in my opinion. But it's really close. You're  
19 right.

20 Q. And I'd also note there it looks like not only  
21 has the well location on your Exhibit 2 been moved to  
22 the north, it has also been moved to the east several  
23 hundred feet. And that's just eyeballing it, and --

24 A. Well, I'm just eyeballing your red circle in  
25 the location of our wells. Anyway, whether it's two or

1 four, it's less than seven.

2 Q. Okay. Because the surface location for the  
3 Undaunted is outside the area of review, according to  
4 Dr. Havenor.

5 A. It's really close.

6 Q. It's close, but it's outside the area of  
7 review. So what you're looking at is a couple of wells  
8 in the west half of Section 11, insofar as I can see.

9 A. Well, you're --

10 Q. And I don't want to argue with it --

11 A. Yeah.

12 Q. -- but it depends --

13 A. I would just say --

14 Q. Go ahead.

15 A. I've always looked at the two-mile area of  
16 review as having equal status with the half, and that's,  
17 of course, up to the Commission. But you're correct in  
18 that fewer of our locations are within your red circle  
19 on page 6 than are within my circle on my Exhibit 2.

20 Q. Now, in looking also at your Exhibit 2, certain  
21 wells are being drilled from south to north, and others  
22 are being drilled from north to south. So since they're  
23 all stand-up well units, it doesn't matter whether you  
24 head from the south to the north or the north to the  
25 south. Is that a fair statement in drilling the 2nd

1 Bone Spring tests?

2 A. I agree and disagree. The reason for having  
3 them where they are is so that they can be -- so the two  
4 of them can be closer together, maybe on the same path.  
5 And so it depends on what acreage you own as to -- I  
6 mean, first, we own -- we're talking about drilling  
7 wells in 2 and 11, and so for those surface locations to  
8 be close together, they have to be at the south edge of  
9 2 and the north edge of 11.

10 If all we had was 11 and 14, for example,  
11 then going to 11 would be -- have surface locations at  
12 the south edge of 11 and go north, and the ones in 14  
13 would be at the north edge of 14 and go south.

14 So it depends on your ownership position as  
15 to which way you would do it. So I reject your hint  
16 that we could go out and change them all around either  
17 way, but I agree with you that there is some leeway.  
18 And this is the way -- you know, the way we have them  
19 drawn here, with our ownership, is the way that makes  
20 sense with the ownership that's here. And they're not  
21 capaciously put where they are. They're put where  
22 they're located on my map so that adjacent --

23 Q. And I have no -- I'm not quibbling with you  
24 about that, Dr. Boneau. But, for instance, if you look  
25 at Exhibit 3, also, your Exhibit 3, up to the north --

1 and I presume these aren't Yates' wells, but you can see  
2 that the operator up in Section 25 has taken wells and  
3 basically used one pad to drill two wells in each  
4 160-well unit. And Yates could do that, obviously;  
5 could it not?

6 A. We could do that, and we could put more of them  
7 within the half-mile area of review or fewer of them in  
8 the half-mile area of review by those adjustments, yes,  
9 sir.

10 Q. Now your Exhibit 5. First of all, what  
11 township and range are these wells in? We're not  
12 talking --

13 A. Yeah. I wasn't supposed --

14 Q. We're not talking 25 North, 32 East, are we?

15 A. No. The answer to your question is shown in  
16 Exhibit 5 in the title block. It's 16 South, 35 East.

17 Q. So up near Lovington?

18 A. So it's up near Lovington, yes.

19 Q. And you're talking about water flows in the  
20 Glorieta, not the Bell Lake?

21 A. Bell Canyon, yeah.

22 Q. Bell Canyon.

23 A. I'm talking about -- this water flow is in the  
24 Glorieta. It is not in the Bell Canyon.

25 Q. And you said that these Door wells were half a



1 mile from the State T2. It looks like they're more like  
2 a quarter mile away.

3 A. They're 2,310 feet away, I think is the number  
4 I calculated. They're about 2,300 feet away.

5 Q. Now, you gave another example, and I don't know  
6 if you were talking about these Door wells. You said  
7 you were in northern Lea County and had an issue with  
8 water flow.

9 A. This is in northern Lea County. The recent one  
10 is in 19-32, I think Section 35. The well is called  
11 L-U-S-K, Lusk.

12 Q. Lusk.

13 A. It's in the Lusk area, 10H. It has our  
14 letters. It's in the ABH [sic], but Lusk 10H well. We  
15 drilled it in November. Relatively recently, we ran  
16 into a water flow at 5-, 6,000 feet. It would not be in  
17 the Bell Canyon. We would be in the -- we ran into a  
18 water flow at 5- or 6,000 feet. We were able to control  
19 it by raising the mud weight for three or four days and  
20 no extensive hole-in costs; some delay, but the number  
21 was put at \$75,000 as the cost of that delay.

22 Q. But, again, it wasn't Bell Canyon?

23 A. I don't think it was Bell Canyon.

24 Q. Was there a saltwater disposal well in the  
25 area?

1           A.    Yes, there is a saltwater disposal in the area.  
2           I cannot tell you the name of it. I do not remember the  
3           name of it this morning.

4           Q.    Or its location?

5           A.    Well, other than "close by," I cannot tell you  
6           its location.

7           Q.    Kind of nebulous, "close by," isn't it, Doctor  
8           (laughter)?

9           A.    It's in southeast New Mexico (laughter).

10          Q.    Let me just make sure I have nothing else,  
11          Dr. Boneau.

12                       Well, my only comment is, Dr. Boneau,  
13          you've successfully avoided coming up here for quite  
14          some time.

15          A.    Well, I've done that, and then I've  
16          successfully avoided retirement (laughter).

17                       MR. BRUCE: That's all I have.

18                       EXAMINER GOETZE: No more questions?

19                       Very good.

20                       CROSS-EXAMINATION

21          BY EXAMINER GOETZE:

22          Q.    I have one question. Are you familiar with the  
23          drilling of the Undaunted? Were there any problems  
24          associated with its completion?

25          A.    No.

1 Q. So there were no flooding issues? There were  
2 no abnormalities associated with drilling and completing  
3 it other than your typical?

4 A. That is correct, yes. And it's turned out to  
5 be a very good well, so (crossing fingers) --

6 Q. Do you know what production is?

7 A. Oh, yes. I'm glad you asked. It was drilled  
8 last January, February. It was drilled early in 2013.  
9 It went on production in March of 2013. Through the end  
10 of 2013, it has produced 95,000 barrels of oil, an  
11 average of 350 barrels of oil per day, and it's  
12 currently producing 275 barrels of oil per day.

13 Q. With water -- do you know how much water is  
14 coming in just roughly?

15 A. 2- to 300 barrels, similar kind of numbers. So  
16 it's on its way to being a 3- or 400,000-barrel well,  
17 the kind of well that we like.

18 Q. And with regards to drilling, the scheduling of  
19 locations tends to be driven more by holding leases, or  
20 would it be something that would be adjusted based upon  
21 events that were going to happen later on? Say, for  
22 instance, the pressure would be to get something done in  
23 this area if this well were to be permitted. Would  
24 there be availability for changing schedules?

25 A. Oh, gosh. That's a multifaceted question.

1 Q. Yes, sir.

2 (Mr. Wade exits the room.)

3 A. First of all, I'd like to say, I'm really  
4 trying to convey some information. Yates has the  
5 reputation of drilling wells to hold leases. We have  
6 had many internal knock-down, drag-outs about changing  
7 that policy. And I have been on the change-the-policy  
8 side of those discussions, and I have made some -- I --  
9 we, whoever -- have made some progress. We are actually  
10 letting some leases go, et cetera. So I know I can't  
11 destroy that stereotype, but I'm trying to -- we're  
12 trying to move away from that. So we're really trying  
13 to have -- well, how much do you want me to say? We  
14 probably have a minute or two. Let me go this way if  
15 you like.

16 Last spring, the land people and the  
17 geologist at Yates Petroleum came to me with a map of  
18 3600 locations of wells that we could drill and asked --  
19 told me to tell them which of them would be clearly  
20 economic, give a rate of return of 20 or 25 percent on  
21 our money. I spent three months on this project, and I  
22 gave them a list of 1,040 wells that would -- that we  
23 should drill, that we could drill and make money on, in  
24 my opinion. And almost all the wells that we've drilled  
25 since then are among those 1,040 wells. I'm not saying

1 we've gone totally away from these labors [sic], but  
2 we've gone quite a bit away.

3           Anyway, we've got a lot of wells that look  
4 good to us to drill, and we are scheduling those out.  
5 They actually fall into four areas that you would  
6 roughly call north Eddy County, south Eddy County, north  
7 Lea County and south Lea County. And this is basically  
8 the south Lea County area that you're seeing here.

9           We now have four rigs drilling these Bone  
10 Spring wells, basically one in each of those areas.  
11 We're planning, in the near future, to add a fifth rig,  
12 you know, which is more or less immaterial, but that rig  
13 we'll be drilling in Lea County. I can Scout's honor  
14 tell you.

15           So we have a -- you know, I'm telling you  
16 that we have a plan that is not based on saving leases.  
17 It's based on drilling good wells. It gets modified  
18 when somebody else drills a really good well offsetting  
19 us, offsetting a well that we have four years down the  
20 road and we move it up to one year down the road. You  
21 know, we make those kind of adjustments, but within the  
22 group of wells that we think are good to drill. And, of  
23 course, I'm going to the board of directors every  
24 quarter and reporting on what the wells we're drilling  
25 are doing. And, I mean, I may be way off base, but my

1 last report was of the first -- we've drilled 18 wells,  
2 and I have data they're from our list. And 16 of them  
3 are clearly good, and one of them's on the edge, and one  
4 is not good. Anyway, we're going back to the board of  
5 directors. And when five of my wells fail, we will move  
6 away from that area or something. You know, anyway --  
7 but there are ways -- the point I'm trying to make is  
8 that we're going to modify the drilling schedule, but  
9 we're going to modify it based on our own drilling  
10 results and on drilling results of offset people, not on  
11 saving leases. You can believe that or not believe  
12 that, but I am -- I and some other people in the company  
13 are really trying to get this happen [sic], and we are  
14 moving down this drilling schedule.

15 Does that come anywhere close to  
16 answering --

17 Q. That gives me a handle, yes.

18 A. -- where you started from?

19 (Mr. Wade enters the room.)

20 Q. So this is a significant prospect as far as  
21 Yates goes, as far as your plan?

22 A. Yes. It's one of our four big areas, and, you  
23 know, it's the best or second best. You know, it's not  
24 the worst of the four. It's among the top two of the  
25 four. It's an area we are going to drill a lot of wells

1 and count on it being one of our main focus areas, yes.

2 Q. And then one last question: Porosity and  
3 permeability. Based on your information, is Bell  
4 Canyon, let's say, to the Glorieta, are they similar or  
5 dissimilar?

6 A. Bell Canyon -- I mean, my guess -- I think, in  
7 general, that Bell Canyon is going to be better  
8 porosity, better permeability than Glorieta.

9 Q. Very good.

10 EXAMINER GOETZE: I have no further  
11 questions.

12 Mr. Bruce?

13 MR. BRUCE: I have nothing further in this  
14 case, Mr. Examiner.

15 EXAMINER GOETZE: Mr. Larson?

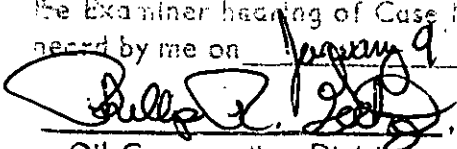
16 MR. LARSON: Nothing further, Mr. Examiner.

17 EXAMINER GOETZE: At this point, I will ask  
18 one thing: If you could provide the API numbers for the  
19 Undaunted, so we can enter that into record, also the  
20 two Door, State #1 and State #1Y, wells, so we can have  
21 those. We will take the information presented, and take  
22 this under advisement. So Case 15059 is taken under  
23 advisement.

24 And we're going to take a 15-minute break,  
25 please.

(Case Number 15059 concludes, 9:45 a.m.)

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I do hereby certify that the foregoing is  
a complete record of the proceedings in  
the Examiner hearing of Case No. 15059  
heard by me on January 9, 2014  
  
\_\_\_\_\_, Examiner  
Oil Conservation Division



1 STATE OF NEW MEXICO  
2 COUNTY OF BERNALILLO  
3

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5 I, MARY C. HANKINS, New Mexico Certified  
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7 Reporter, do hereby certify that I reported the  
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9 the foregoing pages are a true and correct transcript of  
10 those proceedings that were reduced to printed form by  
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13 Record of the proceedings truly and accurately reflects  
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15 I FURTHER CERTIFY that I am neither  
16 employed by nor related to any of the parties or  
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