

1 STATE OF NEW MEXICO
2 ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
3 OIL CONSERVATION DIVISION
4 IN THE MATTER OF THE HEARING CALLED
5 BY THE OIL CONSERVATION DIVISION FOR
6 THE PURPOSE OF CONSIDERING:
7 APPLICATION OF COG OPERATING, LLC, Case No. 14613
8 FOR SPECIAL RULES,
9 EDDY AND LEA COUNTIES, NEW MEXICO

10 TRANSCRIPT OF PROCEEDINGS
11 EXAMINER HEARING

12 BEFORE: RICHARD EZEANYIM, Technical Examiner
13 DAVID K. BROOKS, Legal Examiner

14 May 16, 2011
15 Santa Fe, New Mexico

16 This matter came on for hearing before the New
17 Mexico Oil Conservation Division, RICHARD EZEANYIM,
18 Technical Examiner, and DAVID K. BROOKS, Legal
19 Examiner, on Monday, May 16, 2011, at the New Mexico
20 Energy, Minerals and Natural Resources Department,
21 1220 South St. Francis Drive, Room 102, Santa Fe,
22 New Mexico.

23 REPORTED BY: PAUL BACA, CCR #112
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1 TECHNICAL EXAMINER EZEANYIM: My
2 apologies. We will come to order. Good morning,
3 everybody.

4 I think I'm seeing a lot of new faces
5 here, so I need to do some introductions.

6 My name is Richard Ezeanyim. I'm going to
7 be the technical examiner today.

8 Sitting by my left is David Brooks, who is
9 going to be the legal examiner today.

10 We are fortunate to have Mr. Paul Baca
11 himself. He's our contractor for court reporters,
12 so we're going to do well.

13 As you all know, this is an off-docket
14 hearing. It's not a regularly-scheduled hearing
15 because of the issues that are contested and in
16 controversy here.

17 Today is May 16. It's 8:30 in the
18 morning, and we're going to present this off-docket,
19 Docket Number 1211.

20 I think first of all, I would like to read
21 into the record the two cases.

22 Case Number 14613 is the amended
23 application of COG Operating, LLC, for Special
24 Rules, Eddy and Lea Counties, New Mexico.

25 This case number will agree to consolidate

1 with the testimony for Case Number -- Application
2 Number 14647. That's the application of Burnett Oil
3 Company, Inc., and Hudson Oil Company, for
4 consolidation and the expansion of -- and addition
5 of special pool rules for second pools in Lea and
6 Eddy Counties, New Mexico.

7 Before I call for appearances, I would
8 like to make some comments, which most of you
9 already know, because on Wednesday we had the
10 conference. We did a good job by narrowing down the
11 issues. We said that there would be 20 hours. We
12 may not take three days because of -- you know
13 everybody is busy, so we're not going to do this
14 Friday. Wednesday and Thursday are not available,
15 so we have only Monday and Tuesday.

16 We came up with 20 hours divided as
17 follows. The 7 -- 11 hours will go to COG, Apache,
18 and Premier. And 7 hours will go to Burnett and
19 Hudson. And 2 hours will go to the examiners.

20 Maybe I won't ask questions, so we can use
21 that a little bit, if you -- if I don't have
22 questions. So that is the initial and the
23 cross-examination.

24 You'll be, you know, timed. And the legal
25 examiner here is going to be timing you for now,

1 until we find somebody else to do it. So when you
2 are cross-examining, you are using your time. When
3 you are examining, you are using your time.

4 What I -- the examiner would like to do is
5 that I usually -- I want to explore the facts and
6 the technical issues. I may not do it at this time,
7 so that you -- I don't want to take away one minute
8 of your time. I will wait, at the end of all the
9 cross-examination, to ask any questions that I may
10 have. And that will be charged to me, to the
11 examiner, so that nobody is affected by my asking
12 questions to try to explore it. And when Counsel is
13 examining you, I will maybe write it down and ask at
14 the end of it.

15 Today we are going to be taking little
16 breaks, maybe 10-minute breaks. So I suggest that
17 we have lunch from 11:45 to 1:00 p.m. Is that okay
18 with everybody?

19 I think that would be enough for everybody
20 to have the good Santa Fe food before coming back.

21 As you all know, we narrowed down these
22 issues, and I want to make it clear and point out to
23 you what issues we are trying to discuss today.

24 One of them that we are going to talk
25 about is allowables, several discussions about this,

1 and the thought of where this should be. I don't
2 want anybody to deviate from these issues.

3 We're dealing with the overproduction and
4 the conservation. We're going to take care of that.
5 We are taking care of that.

6 So I want to warn you that when you're
7 direct examining or cross-examining to focus on
8 these strict issues. That will really stimulate our
9 time. Because if you just -- you know, to expand
10 this to how much you interrupt, then I'll stop you
11 right there, and then we'll go back to allowables
12 and our other issues.

13 As you all know, this is really serious
14 business. However, this is an administrative
15 hearing. We are not in a civil court or a criminal
16 court, so we're going to have fun. I want you to be
17 nice to each other. I don't want the
18 cross-examination to be, as you say, you're going to
19 put them on a pedestal. I want you all to have fun
20 and examine with the facts, to see what we are going
21 to do with this pool. So let us be nice to each
22 other and have fun.

23 Any comment before I call for appearances?

24 MS. MUNDS-DRY: Mr. Examiner, I think we
25 do have one question, and we just don't recall from

1 the prehearing conference, the order you set.
2 Really, specifically, we're wondering about Premier
3 and whether they are -- you wanted them to go after
4 Apache or whether you wanted them -- because they're
5 really in rebuttal to Burnett's well density part of
6 its applications. So I don't know if it made sense
7 for them to go after Burnett put on its direct case,
8 or if you wanted them all to go on together.

9 TECHNICAL EXAMINER EZEANYIM: Well, I --
10 we have agreed on timing. Are you the counsel for
11 Premier?

12 MS. MUNDS-DRY: Yes, sir.

13 TECHNICAL EXAMINER EZEANYIM: Then, I
14 mean, you have to use your time to see if they want
15 to cross-examine when they present their evidence.
16 We're giving you 11 hours. We've agreed to that. I
17 think 11 hours is appropriate. And since you are
18 the counsel for both, or counsel for Apache, I
19 think, so you know when -- when you --

20 Is there any other legal issue that you
21 see that I am not covering?

22 LEGAL EXAMINER BROOKS: No, I can't think
23 of anything. If you -- if Premier's case is merely
24 rebuttal, you might want to save it to the rebuttal
25 phase of your argument or your response.

1 MS. MUNDS-DRY: I think that makes the
2 most sense to do that.

3 LEGAL EXAMINER BROOKS: That would seem
4 reasonable to me.

5 TECHNICAL EXAMINER EZEANYIM: The
6 important thing here is for you to manage your time.
7 You will be timed. And once your time is up your
8 time is up.

9 And you're not going to say well, you
10 know, that's why you are going to come in here,
11 because your time is up. We gave you the time.
12 We've agreed to that, and I'm going to use my time,
13 because I don't want my time to expire and I walk
14 out and there is no hearing.

15 So -- anyway --

16 MS. MUNDS-DRY: Thank you, Mr. Examiner.

17 TECHNICAL EXAMINER EZEANYIM: -- at this
18 point, since there is no comment, then I call for
19 appearances.

20 MR. CAMPBELL: Let me, if I might,
21 Mr. Examiner. We were tendered the Premier exhibits
22 last night at 11:00.

23 TECHNICAL EXAMINER EZEANYIM: What
24 happened?

25 MR. CAMPBELL: We received, for the first

1 time, Premier's exhibits at 11:00. We think it's
2 quite clear that they don't just go to the density
3 issues, they go to allowables and GOR as well. And
4 we would suggest for ease of flow, here, that
5 Premier follow Apache, who follows Concho, to put
6 their direct case on.

7 TECHNICAL EXAMINER EZEANYIM: Is that
8 okay?

9 MS. MUNDS-DRY: That's fine. It was
10 really just a question as to what you preferred.

11 TECHNICAL EXAMINER EZEANYIM: You know
12 what? I'm here to get the facts and the issues.
13 That is why I'm here. Do it -- however you present
14 it, it doesn't matter. Once I get the facts then we
15 can make a decision on this case. So it's okay if
16 you guys agree on that.

17 LEGAL EXAMINER BROOKS: And as long as I'm
18 keeping time, I will state the time when I start the
19 person's time and when I stop it, and I'll put it on
20 this pad here, which is available for people to
21 check.

22 TECHNICAL EXAMINER EZEANYIM: I had
23 wanted -- and we might do this, after a break, to
24 get that arranged for you not to do that, because I
25 wanted you to concentrate. Because like I told you,

1 this is an issue involving millions and millions of
2 dollars. We need to concentrate on what we are
3 doing, so we will get somebody to keep time.

4 MR. GRABLE: Just two comments,
5 Mr. Ezeanyim. First, in your recitation of the
6 applications, you correctly noted that Concho had
7 filed an amended application. I couldn't quite tell
8 if you noted that for Burnett and Hudson as well.
9 But we did file an amended application on May 6, and
10 I just want to make sure that you have our amended
11 application.

12 TECHNICAL EXAMINER EZEANYIM: Yes, I do.

13 MR. GRABLE: And then secondly, I agree
14 with your statement of the issues. We will do our
15 best to keep our evidence to those issues, but I
16 would like the record to reflect as well, that we
17 have disposed by agreement the other issues of
18 overproduction and consolidation.

19 TECHNICAL EXAMINER EZEANYIM: You have
20 done that.

21 MR. GRABLE: And I would like to have that
22 on this record. I don't know what record, if any,
23 was made of that prehearing conference. But my
24 understanding of the disposition of those issues are
25 that with respect to overproduction, when the

1 division has finally entered an order in this case
2 and adopted new allowable rules, then each operator
3 will recalculate the amount, if any, overproduction
4 under the new rules back to first production.

5 Is that your understanding of where we
6 left it last Wednesday?

7 MS. MUNDS-DRY: I don't recall us getting
8 that far.

9 TECHNICAL EXAMINER EZEANYIM: I think
10 what -- let me -- let me make a point on that.

11 I have got here some of the oil production
12 that was given to me by some of the operators, you
13 know. I think the division has a right to say what
14 will happen to that -- those oil productions. We're
15 going to do that.

16 In the evidence today, we're going to look
17 at the evidence, facts. And I think we're going to
18 determine how that overproduction will be handled.
19 I don't know.

20 I can say, Okay, let me grandfather
21 evidence in every overproduction. But then I have
22 to look at, well, did I -- did I infringe on -- do
23 everything right, if that is the case?

24 I might say, Okay, let's make it up. I
25 mean it depends on what the evidence is of what this

1 pool is doing. So I think the division now has to
2 deal with the overproduction from all of the
3 operators. I think that's my -- I don't want to
4 have another hearing to consider overproduction.

5 Is that all right with you, we can handle
6 the overproduction like that?

7 MR. GRABLE: So that I'm clear on
8 exactly -- and we filed a pleading on that point,
9 they filed a pleading on that point. We put the
10 issue in the case, and now we have taken it out of
11 the case somehow at a prehearing conference.

12 LEGAL EXAMINER BROOKS: Well, after we
13 reviewed the exhibits that have been submitted, it
14 might become necessary to have another hearing
15 limited to that issue, but we'll decide that.

16 Let me add that I'm skeptical that we can
17 get in 20 hours in two days, because we would have
18 to go very late into the evening. But that's up to
19 the presiding examiner and the attorneys.

20 I'm ready to start.

21 TECHNICAL EXAMINER EZEANYIM: Yeah.
22 Anybody?

23 MR. GRABLE: Well, I have -- just the
24 final point was on the consolidation issue. Again,
25 my impression of how that was left at the prehearing

1 conference was Concho and Apache did not object to
2 consolidation but for a single field, the West
3 Maljamar field, and so that our application to
4 consolidate the other five fields and the
5 surrounding undesignated areas is now uncontested.

6 And thank you.

7 LEGAL EXAMINER BROOKS: Well, at this
8 point the cases are consolidated for purposes of the
9 hearing.

10 MR. GRABLE: Yes.

11 LEGAL EXAMINER BROOKS: And as the OCD
12 typically does, we wait and determine, after we have
13 heard the evidence, whether or not it is appropriate
14 to enter one order or more than one order and
15 dispose of the applications before it.

16 MR. GRABLE: Yes, Mr. Brooks. I just
17 wanted the record to reflect what disposition has
18 been made of that issue. Since we put it in issue
19 in the case --

20 LEGAL EXAMINER BROOKS: Yes.

21 MR. GRABLE: -- if it was resolved at a
22 prehearing conference. I had stated my
23 understanding and I think opposing counsel agrees
24 with us.

25 LEGAL EXAMINER BROOKS: I believe that is

1 correct.

2 MR. GRABLE: Thank you. That's all I
3 have.

4 TECHNICAL EXAMINER EZEANYIM: And that is
5 on the consolidation of the five pools.

6 MR. GRABLE: Yes.

7 TECHNICAL EXAMINER EZEANYIM: With the
8 exception of West Maljamar.

9 MR. GRABLE: Right.

10 TECHNICAL EXAMINER EZEANYIM: Okay. Yeah.
11 Talking about the record, if you have not
12 given your business card to Mr. Paul Baca, please do
13 so, so he can get your name spelled right. That's
14 very important.

15 Okay. If nothing else, at this time I'm
16 going to call for appearances on these two cases. I
17 call for appearances.

18 MS. MUNDS-DRY: Good morning,
19 Mr. Examiners. My name is Ocean Munds-Dry, with the
20 law firm Holland & Hart, LLP.

21 Sitting with me here today at counsel
22 table is Adam Rankin. We represent COG Operating,
23 LLC, and Premier Oil and Gas. And we will be
24 calling four witnesses on our direct case today.

25 MR. CAMPBELL: Mr. Examiner, I'm Michael

1 Campbell, with Campbell Trial Law, here in Santa Fe,
2 entering an appearance for Burnett, the
3 Burnett/Hudson group.

4 MR. GRABLE: And I am Robert Grable, of
5 Kelly Hart & Hallman, in Fort Worth. And I also
6 appear here today on behalf of Burnett and Hudson.

7 MR. COONEY: Mr. Hearing Examiner, I'm
8 John Cooney, of the Modrall, Sperling Firm, in
9 Albuquerque. I represent Apache Corporation.

10 I would like to briefly advise the hearing
11 examiner that here today from Apache are Andy
12 Taylor, in-house counsel; Michelle Estes, production
13 engineering manager; Keevin Barnes, a reservoir
14 engineer who will testify; Jevbak Mattamana,
15 production engineer; John Long, production engineer;
16 Clint Mills, district manager of the Eunice Office,
17 who will testify; and Brett Percy, geologist.

18 Thank you.

19 TECHNICAL EXAMINER EZEANYIM: How many
20 witnesses all together does Apache have?

21 MR. COONEY: We plan to use two witnesses
22 at this time.

23 TECHNICAL EXAMINER EZEANYIM: Okay. Two
24 witnesses.

25 And you are planning to use four?

1 MS. MUNDS-DRY: Four.

2 TECHNICAL EXAMINER EZEANYIM: How many
3 from Burnett/Hudson?

4 MR. GRABLE: Three, Your Honor.

5 TECHNICAL EXAMINER EZEANYIM: Now,
6 before -- any other appearances?

7 Okay. What will happen at this time is
8 that all the people that are going to testify stand
9 up, state your name, and be sworn in. Everybody,
10 please, at this time.

11 State your name, starting from there.

12 THE WITNESS: Richard Prentice, Concho
13 resources engineer.

14 TECHNICAL EXAMINER EZEANYIM: Okay.

15 THE WITNESS: Ramon Reyes, geologist for
16 Concho.

17 TECHNICAL EXAMINER EZEANYIM: Okay.

18 THE WITNESS: TJ Midkiff, engineer for
19 Concho.

20 THE WITNESS: Brandon Gaynor, landman for
21 Concho.

22 THE WITNESS: Kenneth Jones, president,
23 Premier.

24 THE WITNESS: Keevin Barnes, engineer,
25 Apache Corporation.

1 LEGAL EXAMINER BROOKS: Gentleman in the
2 back?

3 THE WITNESS: Clint Mills, district
4 manager for Apache Corporation.

5 THE WITNESS: Wayman Gore, petroleum
6 engineer representing Burnett/Hudson.

7 THE WITNESS: Mark Jacoby, engineering
8 manager for Burnett.

9 THE WITNESS: John Haiduk, geological
10 manager for Burnett.

11 TECHNICAL EXAMINER EZEANYIM: Okay.

12 (Witnesses sworn.)

13 TECHNICAL EXAMINER EZEANYIM: Okay. Any
14 opening statements? COG?

15 MS. MUNDS-DRY: Yes, sir.

16 LEGAL EXAMINER BROOKS: Okay. COG's time
17 will start at 8:44.

18 MS. MUNDS-DRY: Thank you, Mr. Examiners.

19 Concho is seeking three things, which you
20 have already clarified this morning:

21 An increase in the allowable, which was
22 based from the state-wide rule. We're seeking an
23 increase to 300 barrels a day for the 12 pools that
24 are now subject to Concho's application. We're
25 seeking a no-limiting gas/oil ratio and cancellation

1 of Concho's existing overproduction.

2 We will present four witnesses to you
3 today: Brandon Gaynor, who is our landman; Raymond
4 Reyes, who is our geologist; and Concho's two
5 reservoir engineers, TJ Midkiff and Richard
6 Prentice.

7 Your task, as you know, Mr. Ezeanyim and
8 Mr. Brooks, over the next two days -- and let's hope
9 it's two days -- is to determine whether a higher
10 allowable and GOR may be granted if Concho can show
11 to you that it will not harm the reservoir with what
12 it has requested; and that the application, if
13 granted, prevents waste and protects correlative
14 rights.

15 Virtually all operators in the 12 pools
16 that are subject to Concho's application are
17 overproduced to some extent. All parties that are
18 here before you today have admitted they are
19 overproduced, and now we must focus on what the
20 right allowable and gas/oil ratio should be for
21 those pools.

22 The division itself has, fortunately,
23 looked at this Yeso formation, this shelf -- this is
24 what you will hear it be referred to as -- twice in
25 recent years.

1 Both Devon and Mewbourne have actually
2 brought similar applications dealing with nearby
3 Yeso pools.

4 Concho agrees with those findings and
5 conclusions that have been made by the division in
6 these cases, and will be reiterating to a large
7 degree the same geologic and engineering testimony.
8 In fact, in a pool adjacent to the pools in Concho's
9 application, the division has already set a
10 300-barrel-per-day allowable.

11 You will hear testimony today that the
12 Yeso formation -- that this reservoir is a solution
13 gas drive reservoir with low permeability.

14 These types of reservoirs are not damaged
15 by high production rates, and you will hear our
16 testimony and evidence on that issue.

17 You will also hear testimony of the
18 extensive geologic and engineering analysis of this
19 shelf area, which includes core holes, mud logs,
20 FMIs, et cetera.

21 In fact, Concho has the largest -- the
22 most extensive inventory of this data in this Yeso
23 area.

24 Now, Concho has graduated to a more
25 sophisticated statistical analysis, which you will

1 hear testimony and explanation about today, that it
2 uses to pick its well locations and perforations.

3 I ask you to note the differences when you
4 hear testimony today from Concho and Burnett on how
5 they complete their wells. These differences are
6 important to understand, because they affect the
7 data that you will hear today and other very
8 important factors, including:

9 Concho drills and completes its wells to
10 not only optimize for primary recovery, but to
11 maximize and put itself in the best position for
12 secondary recovery.

13 Concho's drainage calculations, which you
14 will hear testimony about today, show that the
15 increased allowable will not violate correlative
16 rates, and it is needed to avoid leaving reserves in
17 the ground, going back to the beginning with your
18 charge of preventing waste and protecting
19 correlative rights. This is why approximately
20 94 percent of the operators with active wells in
21 these 12 pools are supporting Concho's application.

22 And with that, Mr. Examiners, thank you
23 very much.

24 MR. COONEY: Mr. Examiner, I am John
25 Cooney, for Apache.

1 I have prepared a brief statement.

2 We support COG's application. We believe
3 the allowables should be increased to -- as
4 requested, and the GOR limit removed, and we request
5 that our overproduction also be cancelled.

6 We will present two witnesses, in an
7 effort to cut down the presentation, as we all
8 agreed we would try to do at the prehearing
9 conference.

10 Mr. Barnes, a reservoir engineer, will
11 address initially the issues of the allowable and
12 GOR. He will also testify in rebuttal to
13 Burnett/Hudson's case concerning well density.

14 We'll also present Mr. Clint Mills,
15 production manager, who will testify concerning the
16 allowable issues.

17 Thank you.

18 MR. GRABLE: Good morning, Mr. Examiners.

19 LEGAL EXAMINER BROOKS: It's 8:47.

20 Go ahead.

21 MR. GRABLE: I'm Bob Grable of Kelly Hart
22 & Hallman, in Fort Worth. And it's my pleasure,
23 along with Michael Campbell here today to represent
24 Burnett Oil Company and Hudson Oil Company of Texas.

25 We thank you for the careful attention you

1 have already given to this matter, and we know you
2 will do so going forward.

3 As Mr. Ezeanyim has noted, this is an
4 important case. It involves a large and developing
5 oil trend. I believe it's the most active and
6 largest oilfield in the state now. It is also a
7 central key property to my two clients, as it is to
8 our opponents.

9 We all have great interest in the outcome
10 of this hearing. And we all believe, I suspect -- I
11 know my clients believe -- that the rules we propose
12 are the best to produce the most oil at the least
13 cost for the benefit of all owners in this field,
14 including the numerous royalty owners in the state
15 of New Mexico.

16 I am going to just project, just for my
17 opening, one of our exhibits. Exhibit 3, it's a
18 colored --

19 (Discussion off the record.)

20 MR. GRABLE: You should have it in front
21 of you there, Mr. Ezeanyim. It's Exhibit 3. It's a
22 land plat with the pool boundaries, the operators by
23 color, and the existing well spots.

24 I don't want to waste too much time on
25 this.

1 As Ms. Munds-Dry mentioned in her opening,
2 based upon their well count of their consolidated --
3 or their area of interest -- they do have currently
4 94, 95 percent of the wells. I don't know what it
5 is.

6 The yellow areas are areas operated by
7 Burnett. This (indicating) is our Loco Hills area
8 over here, and it also extends to one or two other
9 pools.

10 As you can see, the amount of development
11 on the Burnett acreage is much less dense than the
12 surrounding acreage.

13 Over here (indicating), these four
14 sections are essentially undeveloped except for the
15 single well operated by Hudson. These sections are
16 owned -- the working interest is owned two-thirds by
17 Burnett/Hudson and one-third by Concho.

18 So on an acreage basis, and the potential
19 for future development, the Burnett/Hudson position
20 is much more substantial than they want to make it
21 here. I haven't calculated it within our
22 consolidated area, but on an acreage basis, on
23 currently developed acreage, we have a substantial
24 position in this trend.

25 Now, the reason -- and this will blend

1 into our testimony. The reason our development
2 looks so different, I want to point out that Burnett
3 first acquired its properties, the Loco Hills
4 properties, in 1998. They have been drilling,
5 completing, producing, and studying the responsive
6 wells and the geology in this field for 13 years.

7 Concho bought out -- has now bought out
8 two of their operators. They have been active since
9 sometime in 2006.

10 Apache only very recently acquired an
11 interest, and I believe they have been active in
12 this area for only a few months, maybe six months.

13 Burnett has, in history and study and
14 technical expertise, we believe our evidence will
15 show, that we have learned much more about how to
16 drill efficient, effective, productive wells.

17 We also believe Burnett has drilled far
18 more horizontal wells, and it's going -- I don't
19 know the exact count. We'll put it on in our
20 evidence. But even though we are a much smaller
21 company than Concho, we have drilled more horizontal
22 wells, and our wells are substantially more
23 productive on a per-well basis.

24 So the real -- the dispute here in the end
25 is going to boil down as to which set of proposed

1 rules for these pools are best designed and
2 calculated to allow the operators to efficiently and
3 effectively produce the most oil without waste,
4 while protecting everybody's rights.

5 I will summarize briefly what we think the
6 evidence will show in a minute. But I do want to
7 say just a bit more about our clients, because
8 they're not public companies, they aren't
9 particularly well-known, and I just want you to
10 know -- I want the examiners to understand their
11 background.

12 Burnett Oil Company is owned by a woman
13 named Anne Burnett Windfohr Marion, now. She is the
14 sole heir of a man named Burk Burnett, in Texas, of
15 the Four Sixes Ranch.

16 In the early -- late 19th century, the
17 ranch's -- the Four Sixes logo was from the ranching
18 side of the operation.

19 Ms. Marion began her oil company in around
20 1980 and has steadily grown a very well-respected
21 and successful independent oil operation. But it is
22 a family company, not a public company.

23 The same with Hudson Oil. Hudson Oil
24 takes its roots to Randall Hudson's -- who is
25 sitting over here -- grandfather, who acquired these

1 leases in the early 1930s and developed them through
2 Shell Production.

3 So our operators, while not as large as
4 our opponents', have long family histories in the
5 business, and longer -- much longer histories in
6 operating in this area than our opponent. I just
7 want you to understand that my clients are here for
8 the long haul. They want what's best to produce the
9 most oil for the long haul. They are not come-in-
10 do-it-quick-drill-it-up-like-this operators.

11 And if we thought that was best, they
12 would be doing it, but they do not. And I think the
13 evidence will show why.

14 Now I will just mention, just for
15 information, that although Ms. Marion is a Texan,
16 she also has roots here in Santa Fe. She and her
17 foundation are the principal founders and
18 benefactors of the O'Keefe Museum and its
19 collection. She has a home here, and she has great
20 interest in the state of New Mexico, and she will
21 keep these properties for herself and her
22 descendants. And so our interest in this is deep
23 and long.

24 Now the three remaining contested issues
25 are allowable, GOR, and density. We really think

1 the evidence comes together on these. It's
2 impossible, really, to isolate it. We think it all
3 fits together. And at the end of the hearing, I
4 hope you will understand our position that all of
5 the engineering and geological density supports the
6 proposition that developing these properties on a
7 20-acre density, at least initially, our evidence
8 will show that that gives effective and efficient
9 drainage and should be the basic rule.

10 10-acre development may be indicated in
11 certain incidental or isolated areas at this time,
12 where the wells are unable to drain 20 acres
13 effectively. But our evidence will show in the
14 drainage area calculations, as Mr. Ezeanyim knows
15 from the prehearing conference, is going to be one
16 of the real flashpoints of conflict.

17 But we believe we have done studies that
18 will demonstrate that, in the vast majority of
19 cases, these wells are capable of draining more than
20 15 acres, many of them more than 20 acres. And so
21 initially the rule should be 20 acres, not 10 acres.
22 10 acres should be the exception at this time and
23 not the rule.

24 Secondly, our evidence will show, we
25 believe, that gas/oil ratios and gas production are

1 important topics for prevention of waste. And this
2 ties into the allowable issue, because they want
3 300 barrels a day -- pardon me -- Concho and Apache
4 want 300 barrels a day with no GOR.

5 If you take 300 barrels a day, even with
6 the 2001 statewide rule that Burnett believes is
7 appropriate for these reservoirs, that results in a
8 gas allowable of 600 MCF a day.

9 Now the evidence will show that very few
10 of these wells for only a short period of time
11 actually can produce, these units, 300 barrels a
12 day. We believe that the 187 barrels, with the
13 averaging -- the one-year average rule that again
14 also, I believe, was agreed at the prehearing
15 conference, that the over- and underproduction can
16 be balanced over a 12-month calendar year period --
17 is an adequate but not excessive allowable.

18 300 barrels a day, we will show, is not
19 necessary for oil, and has a particular vice when it
20 comes to gas, because it will allow high ratio,
21 inefficient production at very high gas/oil ratios.

22 Just for example, if you have a unit that
23 can only produce 100 barrels of oil per day, but
24 produces at a ratio of 6,000 to 1, it can produce
25 600 MCF a day under their -- under their -- well, it

1 can produce 600 MCF a day, and that will be its
2 limiting factor.

3 If you have no GOR, it could produce
4 whatever it could produce with 187 barrels of oil a
5 day. That -- that would be double 187, which is 4,
6 7 -- 374, I think. I didn't write it down.

7 But the gas allowable will be markedly
8 less. And we think both on the need for a GOR rule,
9 and for the actual gas limit per unit that results
10 from the oil limit, support that the oil limit
11 should be 187 and there should be a gas/oil ratio of
12 2,000 to 1, because we believe -- and we believe the
13 evidence will demonstrate -- that producing at high
14 gas rates dissipates reservoir energy, will reduce
15 ultimate production and ultimate recovery from the
16 field, and is wasteful.

17 We also believe the evidence will show
18 quite clearly that these areas that are highly
19 drilled on 10 acres have exhibited a much higher GOR
20 than the areas that are less densely drilled, these
21 20 acres over here (indicating).

22 But now Apache, I believe, has gotten a
23 showing that there is a linkage between density and
24 GOR. And so that's why we think eventually all of
25 this comes around to show that GOR is important, 300

1 barrels a day is unnecessary, and the density is
2 related both to gas/oil ratios, effective and
3 efficient drainage, prevention of both physical
4 waste and economic waste.

5 And those will be the main points of our
6 exhibits.

7 And I will say finally, as I go through
8 the notes that I have, that the other thing -- you
9 know when the case is over -- during the case and
10 when the case is over, it is your job, as well, to
11 weigh the credibility of these witnesses. Who came
12 in more prepared? Who has done a more refined study
13 of the reservoir, the geology, the rocks, the
14 engineering factors? Who has been more open about
15 what they have done and how they have done it, and
16 who, at the end of the day, is more believable?

17 And we believe that when you -- when this
18 gavel comes down for the last time, when you go back
19 to ponder these things, we hope those witnesses are
20 our witnesses.

21 And with that I'll close. Thank you very
22 much.

23 TECHNICAL EXAMINER EZEANYIM: Thank you.

24 LEGAL EXAMINER BROOKS: 8:59.

25 TECHNICAL EXAMINER EZEANYIM: Any other

1 opening statements here? Okay.

2 Ms. Munds-Dry?

3 MS. MUNDS-DRY: Yes. Mr. Rankin is going
4 to call our first witness.

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

6 I will call our first witness, Mr. Brandon
7 Gaynor.

8 TECHNICAL EXAMINER EZEANYIM: Please state
9 your name again for the record.

10 THE WITNESS: Brandon Gaynor, G-A-Y-N-O-R.

11 BRANDON GAYNOR,

12 after having been first duly sworn under oath,

13 was questioned and testified as follows:

14 EXAMINATION

15 BY MR. RANKIN:

16 Q. Mr. Gaynor, where do you reside?

17 A. Midland, Texas.

18 Q. By whom are you employed?

19 A. Concho Resources.

20 Q. What is your position with Concho
21 Resources?

22 A. I am a landman.

23 Q. What are your duties?

24 A. Basically, I do everything that pertains
25 to land matters within the firm, clearing title,

1 working on all of this Yeso pool stuff.

2 Q. Have you previously testified before the
3 Oil Conservation Division?

4 A. Yes, I have.

5 Q. Are you familiar with the applications
6 filed in this case?

7 A. Yes, I am.

8 Q. Are you familiar with the status of the
9 lands that are the subject of this application?

10 A. Yes, I am.

11 MR. RANKIN: Mr. Examiner, I would like to
12 tender Mr. Gaynor as an expert witness in petroleum
13 land matters.

14 TECHNICAL EXAMINER EZEANYIM: Mr. Gaynor,
15 are you a certified public landman?

16 THE WITNESS: No, sir, I'm not.

17 TECHNICAL EXAMINER EZEANYIM: Okay. So
18 fine. Go ahead.

19 Q. (By Mr. Rankin) Could you please
20 summarize for the examiner what Concho seeks in its
21 application here?

22 A. Yes. We are asking for the allowables in
23 all of the pools subject to our application to be
24 increased to 300 barrels of oil per day.

25 We're asking for the gas/oil ratio limit

1 to be removed completely.

2 And we're asking for our overproduction to
3 be cancelled.

4 Q. Thank you, Mr. Gaynor.

5 We're going to turn to Exhibit Number 1,
6 Concho's Exhibit Number 1. Could you please
7 identify and review for the examiner the contents of
8 this exhibit?

9 A. Yes. This is basically an overview of the
10 entire area that is subject to our application. All
11 of the black outlines are the outlines of the pools
12 as they are now defined.

13 And I think that there are three important
14 things to point out about this.

15 The first one is that the pool on the far
16 left, the northeast Red Lake Glorieta Yeso pool's
17 allowable has already been increased to 300 barrels
18 of oil per day.

19 The second one is actually no longer
20 relevant, since the Burch Keely and Dodd unit have
21 already been removed from this application.

22 But you'll notice on the far right, the
23 second pool to the right, the West Maljamar Yeso
24 pool's GOR limit has already been removed.

25 Q. Thank you, Mr. Gaynor.

1 I would like to ask you to turn in the
2 exhibit book please to Exhibit Number 35.

3 A. (Witness complies.)

4 Q. Can you please, when you get to that
5 page --

6 A. Yes.

7 Q. -- can you identify the exhibit and
8 explain the contents?

9 A. Yes. This is a copy of the order in the
10 Devon case, which increased allowable in the
11 northeast Red Lake -- Red Lake pool.

12 MR. GRABLE: What exhibit number was that?

13 MR. RANKIN: This is Exhibit Number 35,
14 and this is Order Number 12199.

15 Q. (By Mr. Rankin) Is that correct?

16 A. Yes. Order Number R12199.

17 Q. And this is Oil Conservation Division Case
18 Number 13185. Is that correct?

19 A. Yes, that's right.

20 Q. And what was the allowable again that was
21 entered in this order?

22 A. 300 barrels per day.

23 Q. Thank you.

24 I want to pass around another order from
25 the division. I'd like --

1 MR. RANKIN: Mr. Examiner, I would like to
2 ask you to take administrative notice of this.

3 Q. (By Mr. Rankin) Mr. Gaynor, can you
4 please describe this order, please?

5 A. Yes. This is another order that was
6 actually entered earlier this year. This was a case
7 where Mewbourne Oil Company was asking to increase
8 the allowable in a few pools and consolidate them.
9 This is also a Yeso pool that's about 12 miles
10 southwest of this area, but still along the Yeso
11 formation, as our geologist, Mr. Reyes, will explain
12 later.

13 But they achieved and were granted an
14 order giving them 240 barrels of oil per day.

15 Q. And again, this is Division Order
16 Number 13350. Is that correct?

17 A. Yes, that's right.

18 Q. In Case Number 14554?

19 A. Yes.

20 Q. Thank you.

21 MR. RANKIN: Mr. Examiner, I would like
22 for you to please take administrative notice of this
23 order for the record.

24 TECHNICAL EXAMINER EZEANYIM: Yes. Order
25 Number R13350 will be noted.

1 Do you have any objection to that?

2 MR. GRABLE: Well, I am not that familiar
3 with your practice, for which I apologize. I have
4 no objection to your taking administrative notice of
5 what was done.

6 The factual matters and the factual
7 finding that are records not a part of this record
8 that we have no opportunity to cross-examine I
9 believe should not be part of the evidentiary record
10 of the case, because we have no basis to examine the
11 witnesses who appeared at this hearing.

12 So the fact that you were -- applied for
13 certain rule changes and consolidations and what was
14 granted, I have no objection to. The detailed
15 factual findings, I do object to their being a part
16 of the evidentiary basis for your decision in this
17 case.

18 LEGAL EXAMINER BROOKS: Well, a
19 closely-related issue to what we can take
20 administrative notice of is in litigation presently
21 in the District Court of Santa Fe County. So I
22 think we'll have to say your objection is well
23 taken. And at this point, we would limit our taking
24 administrative notice to what is act- -- to the fact
25 of what the record of the previous commission

1 proceeding that was presented to us actually shows
2 and not of any underlying evidence.

3 MR. GRABLE: Thank you.

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

5 Q. (By Mr. Rankin) I would like to move on
6 to Concho Exhibit Number 2. Mr. Gaynor, can you
7 please identify and explain the contents of this
8 slide?

9 A. Yes. This table just shows a breakdown of
10 the mineral ownership in the areas subject to our
11 application.

12 As you can see, there are 94,400 total
13 acres subject to this application, both within the
14 boundaries and within the one-mile offset of all of
15 these pools. The federal government owns about
16 60 percent of those and the State of New Mexico owns
17 almost 40 percent of those, with fee owners having
18 less than 1 percent of the ownership of the minerals
19 in these pools.

20 Q. Thank you, Mr. Gaynor.

21 Under Exhibit Number 3, can you please do
22 the same, explain the contents and explain the --
23 identify these exhibits, please?

24 A. Yes. The next several slides are maps
25 showing the operatorship of proration units as

1 designated by the NMOCDD within the pools and within
2 the one-mile offset area of the pools not within
3 another pool. So it's color coded.

4 And you know for the sake of time, I think
5 it's best if you look at those as you see fit. But
6 these are just simple breakdowns of who operates in
7 these proration units.

8 Q. Thank you, Mr. Gaynor.

9 As we go through these slides, please
10 explain this next Exhibit Number 4, the contents,
11 and identify them, please.

12 A. Yes. These next several slides are
13 letters of support for our application that we have
14 received from other operators within these pools.
15 And we'd just like to go through them one at a time
16 to establish who we have supporting us in this
17 application to increase the allowable to 300 barrels
18 per day.

19 First we have Apache; Cimarex; Chevron;
20 Clayton Williams; Devon; Lime Rock; Mack Energy,
21 which is a New Mexico independent; Mewbourne; Nadel
22 and Gussman Heyco; Nadel and Gussman Permian;
23 Premier, which is another New Mexico independent;
24 and XTO.

25 And this table is a breakdown of the

1 number of wells in the pools and who operates those
2 wells.

3 Q. This is Exhibit Number 5. Is that
4 correct?

5 A. Yes, that's correct.

6 As you can see, 94.59 percent of the wells
7 in the area subject of this application are operated
8 by parties in support of our application.

9 Q. And this is an updated chart, right?
10 Because --

11 A. Yes. This was updated after the removal
12 of the Dodd and Burch Keely units as part of the
13 larger Grayburg-Jackson pool.

14 Q. Thank you.

15 Can you explain this map here --

16 A. Yes.

17 Q. -- Exhibit Number 6?

18 A. Yes. And this map, again, is showing the
19 pools and the one-mile offset area to the pools.
20 And the squares in red are proration units that are
21 operated by operators in support of our application.

22 Q. Thank you.

23 And I'll ask you to turn quickly to your
24 hard copy of your exhibits --

25 A. Uh-huh.

1 Q. -- at Tab Number 39, Exhibit Number 39.

2 A. Okay.

3 Q. Is that -- I will just ask you to identify
4 the fact that this is an exhibit that contains the
5 affidavit of notice of the application and hearing
6 along with the green cards, and identifies each of
7 the parties that Concho provided notice to. Is that
8 correct?

9 A. Yes, that is correct.

10 Q. Thank you, Mr. Gaynor.

11 MR. RANKIN: Mr. Examiner, I would move to
12 admit the exhibits.

13 TECHNICAL EXAMINER EZEANYIM: Any
14 objections?

15 MR. GRABLE: The exhibits that he
16 mentioned in his testimony?

17 MR. RANKIN: That's correct, I'm sorry.
18 Exhibit 39, Exhibit 35, and then 1 through 6.

19 MR. GRABLE: Subject to my earlier
20 objection and the Examiners' ruling on the
21 administrative notice, I have no objection to the
22 admission of the remainder of the exhibits.

23 TECHNICAL EXAMINER EZEANYIM: So at this
24 point, Exhibits 1 through 6, 34, and 35 will be
25 admitted.

1 MR. RANKIN: I pass the witness.

2 MR. GRABLE: Just a few questions,

3 Mr. Gaynor. Let me ask you --

4 LEGAL EXAMINER BROOKS: 9:12.

5 EXAMINATION

6 BY MR. GRABLE:

7 Q. (By Mr. Grable) I'm Bob Grable, from
8 Kelly Hart and Hallman. I represent Hudson and
9 Burnett in this hearing.

10 We haven't met before today, have we?

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

12 Q. Let me ask you first. On -- at least I
13 wrote down the number. Was your Exhibit 35 the
14 Division's Order in the Devon case?

15 A. Number 35? Yes, that's correct.

16 Q. Isn't it true, as reflected on page 2,
17 that Devon initially asked to increase the gas/oil
18 ratio for the field statewide 2,000 to 1 to 4,000 to
19 1?

20 A. Yes, that is correct.

21 Q. And the disposition of that was that
22 portion was dismissed by the division?

23 A. That's correct.

24 Q. So this pool has a 2,000 to 1 GOR?

25 A. Yes.

1 Q. Now similarly, I don't know what
2 exhibit the -- the Mewbourne -- what's the exhibit
3 number for the other order?

4 MR. RANKIN: That wasn't an exhibit. That
5 was just an administrative notice.

6 MR. GRABLE: So it has no number?

7 MR. RANKIN: That's correct.

8 TECHNICAL EXAMINER EZEANYIM: Well, we
9 talked about that. Do you have a copy of that?

10 MR. GRABLE: I have a copy of that.

11 TECHNICAL EXAMINER EZEANYIM: Okay. That
12 was brought to my attention, like you said.

13 Q. (By Mr. Grable) Isn't it true that
14 Mewbourne did not even apply to increase the GOR in
15 this order?

16 A. Yes.

17 Q. So it also has a 2,000 to 1 GOR?

18 A. Yes.

19 Q. Now, can you turn to your Exhibit
20 Number 2 --

21 A. Okay.

22 Q. -- on acreage ownership?

23 A. Yes.

24 Q. Do you understand that it was between
25 gross acres and net acres?

1 A. Yes, I do.

2 Q. Are these gross acres or net acres?

3 A. These are -- well, these are -- these are
4 gross acres.

5 Q. Have you calculated what Concho's net
6 acreage position is?

7 A. Well, this Slide Number 2 does not show
8 either Concho's gross or net acreage. This is
9 mineral ownership.

10 Q. Okay. Pardon me. I am on the wrong
11 slide. Okay. My apology for that.

12 Would you turn -- I believe it's your
13 Exhibit 10 of this -- the Friend Glorieta Yeso pool
14 operator.

15 A. Are you talking about the map showing who
16 operates the proration units?

17 Q. Yes, that series of individual slides
18 you --

19 A. I think that's Exhibit 3, and it's page --
20 something.

21 Q. Well, look at page -- what shows as COG
22 Yeso 10 in those series of slides, not East Friend;
23 Friend, Glorieta Yeso.

24 A. Yes.

25 Q. Now, isn't it true that these sections

1 here are what Burnett and Hudson referred to as the
2 Maljamar sections? Are you familiar with those?

3 A. I am familiar with that. And yes, those
4 are the sections that Burnett and Hudson refer to as
5 the Maljamar sections.

6 Q. And you, in fact, show this one 40-acre
7 tract up here which is the Hudson existing Yeso
8 well?

9 A. Yes. That's the Knockabout well.

10 Q. But you color all of the rest of this as
11 under Concho's color, even though Concho is not an
12 operator and has no wells and only has one-third of
13 the working interest in these sections?

14 A. Well, actually, that's not true. Concho's
15 color is the much darker almost black-blue.

16 Q. Okay.

17 A. And that lighter blue represents that
18 there are currently no Glorieta Yeso operations.

19 Q. Okay. But that's also true for the east
20 half of those sections?

21 A. Yes. And that is reflected on the West
22 Maljamar Yeso pool.

23 Q. The next one, also?

24 A. Yes.

25 Q. Okay. Let me turn now to your Exhibit 4,

1 with a series of support letters from other
2 operators.

3 A. Yes.

4 Q. Did you send those out? Did you solicit
5 those or did someone else?

6 A. I solicited many of them. As a team, we
7 solicited them.

8 Q. But they all were solicited?

9 A. We sent them our application and asked,
10 "Do you support this application?"

11 Q. And you, in fact, sent them a form order
12 to sign and return -- or a form letter to sign and
13 return?

14 A. We sent a form letter which was open to
15 any negotiations or changes. As you see, Chevron
16 made an edit to theirs.

17 MR. GRABLE: Objection, nonresponsive.

18 Q. (By Mr. Grable) You sent a form letter.
19 And other than the Chevron --

20 MS. MUNDS-DRY: Are you going to rule on
21 that objection?

22 LEGAL EXAMINER BROOKS: In an
23 administrative hearing I don't really think it's
24 necessary for us to rule on that.

25 MR. GRABLE: I just don't want to get into

1 arguing with the witness.

2 Q. (By Mr. Grable) Are they all identical
3 except for the Chevron letter?

4 A. Yes.

5 Q. Now, Chevron did change theirs?

6 A. Yes.

7 Q. Now, are you aware of Chevron having gone
8 nonconsent on some 10-acre wells that Concho or
9 Apache has proposed, in areas where Chevron has a
10 minority working interest?

11 A. I'm not sure exactly what Chevron has done
12 everywhere that we have a contractual arrangement
13 with them.

14 Q. But there are areas where they have a
15 working interest in Concho-operated properties?

16 A. Yes, that's right.

17 Q. Would it surprise you to learn that they
18 have, in fact, gone nonconsent on a number of
19 10-acre development wells proposed by Concho?

20 A. It would not surprise me for Chevron to
21 have gone nonconsent on any wells.

22 Q. Now, let's turn to your Exhibit 5. I
23 believe it's the operators supporting COG.

24 A. Yes.

25 Q. Well, while you're putting it up, let me

1 just ask you this.

2 Just as Chevron owns a working interest in
3 some COG properties, isn't there also some common
4 ownership in properties between Apache and COG?

5 A. Yes, in many properties.

6 Q. And isn't it also true, as a result of
7 COG's acquisition of Mack's property in this area in
8 2006, that Mack acquired a large block of stock in
9 COG?

10 A. Yes, that is correct.

11 Q. And they have a very large stock ownership
12 of COG?

13 A. Yes, that's correct.

14 Q. If you added up COG, Apache, Chevron, and
15 Mack on your list there, that's about 90 percent of
16 what's -- of the wells. And they're all, in some
17 nature, interconnected with their ownership or
18 operations, aren't they?

19 A. The operatorship of much of the shelf is
20 very intertwined between these parties. So yes,
21 that's true.

22 Q. Now, it's also true that Burnett's and
23 Hudson's acreage within the area is much less
24 densely developed than the COG-operator acreage?

25 A. Yes, that's correct.

1 Q. And so if you did a comparison, either on
2 an acreage basis or the potential location basis,
3 Burnett/Hudson's percentage would come up
4 dramatically from what you have displayed here,
5 would it not?

6 A. Well, it would come up some for sure. I
7 think that they operate wells in 60 proration units
8 currently.

9 Q. Yes, sir. But I am not asking you about
10 their current wells. I'm asking you if you were to
11 compare their percentage of the acreage within the
12 area that Burnett has applied to consolidate, their
13 percentage would be considerably higher than
14 4 percent, would it not?

15 A. Well, I'm not sure if that's true.
16 Because if we compared the gross acreage of Concho
17 and Apache to the gross acreage of theirs, I think
18 that our percentage would go up as well. So I mean
19 I'm not -- I'm not sure. I haven't run that. I'm
20 not sure that it would change dramatically.

21 Q. You haven't done that calculation?

22 A. No.

23 Q. You saw the map I had up here in my
24 opening statement, did you not, Mr. Gaynor?

25 A. Yes, I did.

1 Q. And you're saying that you don't think
2 there's a difference between this 3.78 percent by
3 well and the acreage position as shown on that map?
4 You think there's no discernible difference?

5 A. Well, as you will see when our geologist,
6 Mr. Reyes, comes up, his map actually has a big
7 block of our leasehold. I mean the vast majority of
8 the shelf is yellow on that map.

9 I mean I can tell you our acreage, our
10 operated acreage, but that's a different number, as
11 you were making a distinction earlier, from our net
12 acreage.

13 On the shelf total, I think that we have
14 about 240,000-plus acres.

15 MR. GRABLE: Objection, that is
16 nonresponsive. I'm going to move on.

17 Q. (By Mr. Grable) Now turning to your
18 exhibit -- well, I guess it's page 5. Is that --
19 let's go back to your Exhibit 1, and then we'll be
20 finished.

21 MS. MUNDS-DRY: I'm sorry. Which exhibit?

22 MR. GRABLE: Just the Exhibit 1. I
23 believe he testified to that exhibit.

24 Q. (By Mr. Grable) All right. Now going
25 over here on the field to the west, it's true, as

1 you have testified, that this field, although it's
2 at 300 barrels a day, has a 2,000 to 1 limited
3 gas/oil ratio?

4 A. Yes.

5 Q. And like you say, these -- these fields in
6 here that have shallow or production commingled,
7 they are no longer in the case?

8 A. They have been removed.

9 Q. Do you know the date when the orders
10 abolishing a GOR in this East Friend were adopted?

11 A. They were both in 1952. Would you like
12 the exact dates?

13 Q. Well, that's right, it was 1952.

14 So they have not been examined by the
15 division in a hearing context with respect to a GOR
16 rule in this modern Yeso shelf development, have
17 they? That issue has not been examined properly?

18 A. That ruling has not been revisited.

19 MR. GRABLE: Thank you. That's all I
20 have.

21 LEGAL EXAMINER BROOKS: 9:25.

22 TECHNICAL EXAMINER EZEANYIM: Do you have
23 a question?

24 MR. RANKIN: Yes, I just have one
25 redirect, but maybe I would like to see if

1 Mr. Cooney has any questions.

2 MR. COONEY: I have no questions.

3 FURTHER EXAMINATION

4 BY MR. RANKIN:

5 Q. Mr. Gaynor, just one last question. Are
6 you aware of any operators that support the
7 application of Burnett/Hudson?

8 A. No. In fact it is only Burnett and
9 Hudson.

10 TECHNICAL EXAMINER EZEANYIM: What was
11 your question?

12 MR. RANKIN: My question was if Mr. Gaynor
13 was aware of any operators who support the
14 application of Burnett and Hudson.

15 THE WITNESS: They stand alone.

16 MR. RANKIN: Thank you.

17 LEGAL EXAMINER BROOKS: You didn't even
18 take one minute, so we're still at 9:25.

19 TECHNICAL EXAMINER EZEANYIM: Any
20 redirect, based on that question? Mr. Grable, any
21 redirect?

22 MR. GRABLE: No.

23 TECHNICAL EXAMINER EZEANYIM: How many
24 operators do you think are in this -- how many
25 total?

1 THE WITNESS: How many total operators?

2 TECHNICAL EXAMINER EZEANYIM: Yes. I
3 think you showed me, but I wanted to know how many.
4 Just -- you don't have to give me the exact.
5 Estimate how many. Do you think it's 10, 12?

6 THE WITNESS: Well, we have 12 -- 16,
7 maybe.

8 TECHNICAL EXAMINER EZEANYIM: Okay.

9 THE WITNESS: But I can give you the exact
10 number.

11 TECHNICAL EXAMINER EZEANYIM: Okay. Out
12 of those 16, how many of them supported the
13 application?

14 THE WITNESS: 12.

15 TECHNICAL EXAMINER EZEANYIM: 12.

16 Did you send that letter to
17 Burnett/Hudson?

18 THE WITNESS: Yes.

19 TECHNICAL EXAMINER EZEANYIM: And what was
20 the reply?

21 THE WITNESS: They did not reply favorably
22 to that letter. They did not agree with us, and --
23 no.

24 TECHNICAL EXAMINER EZEANYIM: Okay. So
25 that's a form letter that you sent to all operators

1 in the pool?

2 THE WITNESS: Yes.

3 TECHNICAL EXAMINER EZEANYIM: Okay. What
4 changes did Chevron make in their form letter?

5 THE WITNESS: Chevron limited the --
6 limited the letter to apply only to the pools in
7 which they operate wells. So they only talked about
8 the Friend and the East Friend. They limited their
9 letter to those two pools.

10 TECHNICAL EXAMINER EZEANYIM: To those two
11 pools. But in allowable declaration, they agreed?

12 THE WITNESS: Yes.

13 TECHNICAL EXAMINER EZEANYIM: Only in
14 those two pools they operate?

15 THE WITNESS: Yes.

16 TECHNICAL EXAMINER EZEANYIM: Okay. And
17 then you don't have any response from
18 Burnett/Hudson, or they --

19 THE WITNESS: Well, they --

20 TECHNICAL EXAMINER EZEANYIM: -- did they
21 respond at all?

22 THE WITNESS: Yes. Actually, they did.
23 They responded by giving us a formal letter where
24 they requested that we give them operations of the
25 four sections that he was talking about over there

1 called the Maljamar leases.

2 MR. GRABLE: Objection, Your Honor. We
3 are now getting into this settlement letter that we
4 sent.

5 TECHNICAL EXAMINER EZEANYIM: Okay.

6 MR. GRABLE: It was a confidential and
7 privileged settlement communication to try to avoid
8 this fight and the fight over operations at
9 Maljamar. It has nothing to do with our response to
10 their initial letter.

11 LEGAL EXAMINER BROOKS: Well, I agree that
12 settlement negotiations are not relevant.

13 TECHNICAL EXAMINER EZEANYIM: Objection
14 sustained. I'll redirect my question. Maybe I
15 should have not asked that question.

16 Okay.

17 LEGAL EXAMINER BROOKS: 9:28.

18 TECHNICAL EXAMINER EZEANYIM: Call your
19 next witness.

20 MS. MUNDS-DRY: We'd call Mr. Reyes, our
21 geologist, to the stand.

22 THE WITNESS: Good morning.

23 TECHNICAL EXAMINER EZEANYIM: Good
24 morning. State your name, please.

25 THE WITNESS: My name is a Ramon Reyes.

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

4 EXAMINATION

5 BY MS. MUNDS-DRY:

6 Q. Mr. Reyes, where do you reside?

7 A. I reside in Midland, Texas.

8 Q. By whom are you employed?

9 A. I'm employed by Concho.

10 Q. What do you do for Concho?

11 A. I'm the lead geologist for the shelf
12 asset.

13 Q. And the shelf asset, is that included in
14 Southeast New Mexico?

15 A. That is correct.

16 Q. And have you previously testified before
17 the division?

18 A. I have.

19 Q. Were your credentials accepted and made a
20 matter of record at that time?

21 A. Yes, they have been.

22 Q. Are you familiar with the application
23 that's been filed by Concho?

24 A. Yes, I am.

25 Q. Have you conducted a geologic study of the

1 pools that are subject to Concho's application?

2 A. I have.

3 MS. MUNDS-DRY: Mr. Examiner, we tender
4 Mr. Reyes as an expert in petroleum geology.

5 TECHNICAL EXAMINER EZEANYIM: Mr. Reyes,
6 are you a registered geologist?

7 THE WITNESS: No, I'm not. Not -- in
8 Texas, the only time you register -- or in
9 New Mexico, you're not -- there is nothing to be
10 registered on.

11 TECHNICAL EXAMINER EZEANYIM: You reside
12 in Texas?

13 THE WITNESS: I reside in Texas, yes, sir.

14 TECHNICAL EXAMINER EZEANYIM: You are?
15 Okay. So qualified. You are so qualified.

16 THE WITNESS: Thank you.

17 Q. (By Ms. Munds-Dry) Mr. Reyes, if you
18 could turn to what has been marked as Concho Exhibit
19 Number 40, it's the last map in our notebook. And
20 can you please generally describe for the examiner
21 the Yeso formation and the 12 pools that are subject
22 to Concho's application?

23 A. Okay. I would like to start big and then
24 work our way smaller.

25 LEGAL EXAMINER BROOKS: I don't think we

1 have Exhibit 40 in our notebooks.

2 MS. MUNDS-DRY: It should be the big
3 map --

4 LEGAL EXAMINER BROOKS: Oh, that's--

5 TECHNICAL EXAMINER EZEANYIM: This one
6 (indicating)?

7 MS. MUNDS-DRY: Yes.

8 A. This is a regional map of the Yeso plate,
9 for the most part. It's kind of limited a little
10 bit on the east side, because the majority of our
11 acreage position is where it's shown in the map.

12 You will see -- again, just -- just doing
13 a big picture, talking about where -- where things
14 are at and where we hit on this.

15 What you're seeing here, again, the big
16 blocks here are townships, and the little squares
17 are sections. The yellow is our acreage position in
18 the shelf, and there is also some in the basin.
19 That's just a layer that we have internally that --
20 it's hard to break down all the acreage in different
21 layers, but that's what it looks like.

22 The red dots are Yeso-producing producers,
23 and they're from all of the operators. And you can
24 see how it stretches all the way from here, from
25 17/32 all the way down over here to 19/25, which is

1 the cemetery area, which we again -- also, we have a
2 large acreage position in -- in wells that we
3 operate.

4 So we stretch out for six, seven, eight
5 townships, going all the way across. So I just want
6 to show you the overview of the extent of our
7 drilling program and how large we are, as far as
8 the -- as far as our activity in New Mexico.

9 The area we're going to be talking about
10 mostly is going to be over here (indicating) in
11 these -- in these three townships over here. So
12 we'll go ahead and zoom into that -- that part.

13 Q. (By Ms. Munds-Dry) Okay. Mr. Reyes,
14 let's turn to what has been marked as Concho Exhibit
15 Number 7. If you could identify that, please.

16 A. Oh, let me -- we kind of -- let me go back
17 to the other one real quick.

18 We're just going to show again, this is
19 how many wells are out there, and then I am going to
20 break down what our inventory is and what we have as
21 far as the Yeso.

22 Q. Okay. So before we go to 7, you have a
23 few other -- just identifications for description
24 purposes?

25 A. That is correct.

1 Q. Okay. Let's go there, then.

2 A. In our -- in this area, we have --

3 MR. CAMPBELL: Could we have an exhibit
4 number on this?

5 MS. MUNDS-DRY: This is not an exhibit
6 number. This is a display only. This is not meant
7 to be put in the record. This is simply a display.

8 Q. (By Ms. Munds-Dry) Go ahead, Mr. Reyes.

9 A. This is just an outline of our data, what
10 we've collected over the years and how many -- you
11 know, what our inventory for our Yeso, our Yeso raw
12 data library.

13 We have 1,600 operated vertical Yeso
14 wells.

15 We have 16 Concho-operated horizontal
16 wells.

17 We have 317 wells that we have run FMI
18 logs on.

19 69 of those wells we have collected
20 sidewall cores on.

21 9 of those wells we have conventional
22 cores or hole cores. So we have almost 3,000 -- or
23 right at 2,800 feet of conventional core.

24 We also -- in our inventory, the last
25 thing is, we have over 220-plus mud logs that we

1 have run for our wells.

2 So we have a pretty extensive dataset that
3 we -- that we rely on that we either -- that we
4 collected and -- and interpreted, so quite a
5 large -- large dataset that we have that we work
6 from.

7 Again, this is from a large -- you know,
8 overall from 19/27 all the way to 17/32.

9 Q. Thank you, Mr. Reyes.

10 If we can now turn to Concho Exhibit
11 Number 7. Identify and review that for the
12 examiners, please.

13 MR. CAMPBELL: Excuse me, Counsel. May we
14 have a hard copy of that display that was up here?

15 MS. MUNDS-DRY: We can get that for you
16 during a break or maybe over lunch, when we can get
17 a chance to get to a printer, sure.

18 A. Again, we're zooming in to the townships
19 that we're discussing today. This is just a quick
20 review of the unit, the pool outlines, and the
21 identification of each pool.

22 Again, this is just to reference you that
23 we're zooming in to a smaller -- a smaller area.

24 What I have done is I have constructed a
25 cross-section identifying -- talking about just the

1 Yeso. So hopefully, after I finish talking, we are
2 all experts in the Yeso.

3 MR. CAMPBELL: Excuse me. Is this an
4 exhibit that he is --

5 MS. MUNDS-DRY: This is Exhibit Number 7.

6 MR. CAMPBELL: Thank you.

7 A. What we've done is, you see the little red
8 dots going across. Those are wells that we've
9 picked, a log from each pool, to have a
10 representation and a comparison to what -- what
11 formation we're talking about and -- and the
12 differences and comparisons for each well.

13 Q. (By Ms. Munds-Dry) Let's turn to Concho
14 Exhibit Number 8. Please identify and review it for
15 the examiners.

16 A. This is a little hard to see. But again
17 for our presentation, it's for the audience to see.
18 This is a cross-section that I just described. That
19 cross-section is in your packet, so you should be
20 able to see in a little bit more detail what we're
21 going to be talking about.

22 Q. And for the record, if you would identify
23 each of the -- each of the logs, the cross-section
24 that you have in here, as you go across.

25 A. Well, each of the logs -- like I said

1 before, each well is -- is for each pool that is
2 represented going from west to east. Again, they're
3 identified on top. It's kind of hard to see from
4 here. I'm an old guy, so I can't see that far away.
5 So hopefully you guys can see it better than I can.
6 But again, it's just a description of each well,
7 each log, and each -- from each pool.

8 If we're going to continue, let's go ahead
9 and get to the Yeso formation. The Yeso formation
10 is found right below the San Andres, and it's
11 divided by a little silt sandstone that's called
12 Glorieta, which is identified with these two lines
13 right in here (indicating).

14 The Glorieta is roughly -- it can get
15 anywhere from 50 to 100 feet thick. And again,
16 that's what divides the San Andres carbonate from
17 the Yeso carbonate as we go farther south. So
18 again, that being a silt from the Glorieta.

19 Right below the second line is the top of
20 the Yeso. And the Yeso, roughly, runs about
21 1,200 feet thick. And it's identified at the base
22 by the Tubb. The Tubb is another silt that has been
23 pretty well-identified on logs. And again, that's
24 where you find the base of the limits of the Yeso
25 section.

1 Within that Yeso section it's divided up
2 into two parts because it is so thick. It's just
3 like anything else, like driving down Main Street.
4 That's why you have, you know, streets in between,
5 so you know if you're on the north side of town or
6 the south side of town.

7 For us it's what we call the upper part,
8 and I think most judges will agree the upper part we
9 call the Paddock, and then the bottom part we call
10 the Blinebry.

11 Now the Paddock, we'll zoom a little bit
12 easier -- a little bit more closer, and we'll be
13 able to identify what I'm going to be describing a
14 little bit on this itself.

15 But for the most part, the Yeso has been
16 produced and developed for many years. It's a --
17 it's more identifiable on logs because of the
18 porosity. Well, the porosity is developed a lot
19 better.

20 But even though the whole -- the whole
21 section is -- it's all heterogeneous. It's low
22 perm, low porosity. The only difference in the --
23 in the Paddock, the porosity sticks out a little bit
24 better, so that was kind of an obvious thing to kind
25 of test, and it's been tested and produced for many

1 years.

2 Until just recently the Blinebry has
3 been -- has been added, and we have been producing
4 from the -- from the bottom part. So for Concho's
5 purposes, for economic reasons, we're producing the
6 whole -- the whole interval itself.

7 Q. Now, you have been describing the vertical
8 extent of the -- of the Yeso. Has -- do you believe
9 that Concho and the other operators in these pools
10 have defined -- fully defined the horizontal extent
11 of this shelf?

12 A. Have we defined the horizontal extent?
13 No. We're still -- We're still -- we are still
14 trying to find the extent of the plate itself, so
15 there is still a lot of room to run. So this plate
16 is -- it's being pushed northern, to the northern
17 limits, as to the western and to the eastern limits.
18 So there's still -- there's still stuff for us to
19 identify and to best develop it, whether it be
20 horizontal or vertically.

21 Q. And as you step out, for example, to the
22 northern boundary, do you still run logs and conduct
23 other types of analysis when you're stepping out?

24 A. Yes, we do. The majority of the wells
25 that we drill through here, we start out drilling,

1 logging, doing the open-hole logs, doing -- running
2 mud logs, doing our normal typical logging runs to
3 identify the pay.

4 I have been working on this particular
5 formation for the last four years, so we've come a
6 long way. We have learned a lot.

7 Part of our evaluation, as we step -- step
8 out in the boundaries going north and east and west,
9 we do run open-hole logs. We do have mud loggers.
10 We do also cut cores because, again, the economic
11 parameters are real sensitive, once you start to get
12 into the economic boundaries of those plates.

13 If you recall back to the first -- the
14 regional map, you know, the fairway of that play is
15 roughly two to three miles long. The good stuff,
16 anyway, that we -- that we have discovered, goes --
17 you know, and it follows that northwest shelf.

18 But that's identified -- the southern part
19 of this play is identified by the northwest shelf.
20 It drops down, and those -- and the bottom part of
21 the Yeso becomes real silty.

22 If you will look at this well here, Number
23 5, you can see that little yellow stuff in there.
24 Those are silts that we have identified. We have --
25 we have tested a bunch of those wells. They have a

1 lot of silts in those wells. And yes, they do
2 produce some oil.

3 But the problem with those silts is that
4 they produce a lot of water. And you know, we don't
5 get any money for water. You know, we have to pay
6 to get rid of the water. So obviously, we want to
7 stay away from those silts. And so that's why our
8 boundary is pretty well defined for us.

9 And we will continue to test the southern
10 limits until we feel comfortable and can draw a line
11 in the sand, so to speak, and say, "We're done on
12 the southern end."

13 As we move to the northern edge, you will
14 see and note that the overall interpretation of the
15 logs, as we go farther north, tend to get -- tend to
16 get more and more tight. The porosity is not as
17 well developed. Things are not looking as good as
18 they should be, but that's not still stopping us
19 from moving forward and continuing to push the
20 northern boundaries.

21 The only way we're going to find out,
22 because -- as I'll demonstrate in a little bit, logs
23 don't always tell the whole story. So sometimes we
24 have to do it by setting pipe and then producing it
25 to really know what the boundaries of that -- of the

1 economic -- the economics of that well.

2 Q. Now on that note, Mr. Reyes, when you're
3 talking about -- particularly when you are at what
4 you call the fairway of the Yeso, do you also run a
5 full suite of logs when you're in the fairway, or
6 what do you? What does Concho do to determine its
7 well locations and its perforations of its wells?

8 A. Well, that's a good question. When we
9 initially started drilling on this property we ran
10 quite a few open-hole logs, and we ran the mud logs.

11 As we -- as we continued our -- our
12 development of these wells, we -- we started
13 drilling 10-acre locations. Well, this becomes a
14 statistical play, and so we don't necessarily need
15 all of the data to figure out what a 10-acre
16 location is going to do for us. It's going to be
17 there. That 1,200-foot of section is going to be
18 there.

19 And I'll demonstrate here in the next few
20 slides that the logs, even on a well -- a well next
21 to each other, that the -- the dynamics of the logs,
22 it varies quite a bit. But at the end of the day it
23 really doesn't make a whole lot of difference.

24 So again as we started, we probably drill
25 more than 50 percent open-hole logs and then

1 case-hole logs.

2 And then as of this year, we are probably
3 logging open-hole logs on maybe 30 percent of the
4 wells, and then 60, 70 percent of case-hole log
5 wells.

6 Again, because this is -- we're on a
7 development stage, and there is no need for us to
8 do -- spend the kind of money, because it does cost
9 more money to run an open-hole log. It does cost
10 money to have the mud logger and so on and so on.
11 And so as you are developing and trying the in-field
12 drilling you don't -- you don't have those
13 expenditures. Again the bottom line for economics,
14 it just makes common sense.

15 Q. Let's go to Concho Exhibit Number 9.

16 A. Okay.

17 Talking about logs and what we do and how
18 we interpret them and stuff, this is -- this -- what
19 you're seeing here -- and this is in Loco Hills, in
20 the Loco Hill fields in 70/30.

21 The yellow just demonstrates where our
22 acreage position is at. Burnett has the majority of
23 this -- this is part of their field and their
24 development. I just wanted to compare apples to
25 apples, and kind of show you some of their logs and

1 kind of compare them to some of our logs. So
2 there's no -- you know we're talking the same type
3 of deal.

4 If you'd go to the next slide, this is two
5 wells here that I've picked. These are 40-acre
6 sections. So this is -- I guess you would call it a
7 40-acre development, even though they're not
8 centered on the 40. But roughly, they're 40-acre
9 locations.

10 So we will go on to the next slide. They
11 are a little hard to see here. But again, you have
12 them in your books. What I'm -- what I'm trying to
13 show here again, the same type of deal. You have
14 got -- the San Andres is above here (indicating),
15 which we are not talking about that today.

16 The Glorieta is, again, that little silt
17 right above the Yeso.

18 Again, the Paddock is up here (indicating)
19 in the upper third of the section, and then the
20 Blinbry down at the bottom here (indicating).

21 Again, these are 40 -- these are about 40
22 acres apart. So you know, kind of a typical kind of
23 development if you were just drilling on 40s.

24 But what I want to pay attention to is
25 the -- to the log characters. Even though on 40

1 acres you'll see that the well to the left, the
2 green part right there (indicating), the porosity is
3 pretty well developed. I mean that -- that would be
4 a no-brainer for us to set pipe and go drill and
5 produce from that well.

6 And the bottom two-thirds, you will see
7 where the porosity down there tends to be pretty
8 tight, pretty low perm. Well, the whole -- the
9 whole section is pretty low perm. The porosity is a
10 little bit better at the top, but low perm
11 throughout.

12 And for many, many years everybody has
13 bypassed this bottom two-thirds until -- until
14 recently, with better frac designs and being able to
15 produce from really tight rock, we have been able to
16 go in here and add the bottom two-thirds of the
17 Yeso. So when you add the production from the
18 bottom two-thirds and the production from here
19 (indicating), your economics turn out to be pretty
20 good.

21 Again, just -- this is a log showing
22 within 40 acres, you know, it does change. So
23 that's really not a really surprising exhibit I am
24 showing here.

25 One of the things I will point out to you

1 is, unfortunately for Burnett, in my opinion, if I
2 were working for them I would take at least a couple
3 hundred feet thick -- lower, just so we can see on
4 logs where the -- where the top of the Tubb is. So
5 that way you can identify the -- you cut and
6 identify the whole -- the whole Yeso section.

7 Sometimes we will -- we will put a perf as
8 close as we can to the bottom so that we can
9 maximize the whole section of the Yeso. It's just
10 something that we do, as far as part of our
11 evaluation in producing this well.

12 Q. And I think in the next slide we go
13 actually to Exhibit 9, the third page of Exhibit 9.
14 What is this slide?

15 A. Again just pointing out -- going back.
16 Here is our two wells that we just talked about.
17 And again, they were on 40s, and there was some --
18 nothing surprising about the differences in the log
19 character.

20 We're going to move over here into our --
21 our lease, and we're going to take on -- I tried to
22 get as close as I could to -- here again, the wells
23 are here (indicating), and we're right here
24 (indicating).

25 Now what I want to demonstrate here is,

1 these are three wells, and they are kind of --
2 they're not going across or up and down. They're
3 kind of -- I tried to do them in an L-shape to kind
4 of give you an idea what we're talking about.

5 Now, we're talking about 10-acre spacing.
6 We're going to be showing you what the logs look
7 like as we get closer and closer together to each
8 one. So now we're looking at a 10-acre spacing.

9 Q. Okay. Let's go to Concho Exhibit
10 Number 11.

11 A. These are electrowells, and I can't -- 47,
12 45. I can't remember -- I can't -- again, I can't
13 read -- see from that far. But it's very well
14 identified. Here at the top you saw where they're
15 at. They're 10 acres apart.

16 This -- this exhibit, all we're trying
17 to -- all we're trying to show, again, as we get
18 closer and closer, you would think the logs and the
19 characterization of the logs would look pretty darn
20 similar.

21 Again we're talking about a carbonate.
22 It's heterogeneous. It's really hard to go in there
23 and start picking, you know, porosity spikes and
24 say, you know, here's this porosity, this porosity,
25 this porosity, and here's where the pay zone is.

1 They are the same thing over here.

2 So we don't really -- we don't
3 discriminate, as far as where our porosity is going
4 to be at because again, we're talking about having a
5 vertical, a thick vertical section with really tight
6 rock that's very tight, very low perm. So that
7 makes up for the differences of how you're able
8 to -- to produce the kind of volumes of oil that
9 we're getting.

10 So again -- again, we take our wells all
11 the way down to the bottom, to the Tubb, to identify
12 the whole section to know what we're getting at.

13 Okay. Now, if we go back and you look at
14 this well here in the Paddock -- again, this is one
15 of the better -- the better part of the zone. And
16 you're looking at the -- at the log interpretation.
17 This one in the middle looks pretty good. You can
18 see all the green, you can see all the porosity. It
19 looks pretty darn good.

20 You look at the well over here, the
21 porosity is at the bottom. The top doesn't look so
22 hot.

23 The well on the right, again, it looks
24 probably worse than all three, then you've got a
25 little porosity down there.

1 That would not discourage us to set pipe
2 and then try to make a producer out of that. As a
3 matter of fact, of all the wells that we have been
4 drilling, we have yet not to set pipe on any well
5 that we've drilled. And they -- they're all
6 producing oil.

7 The point I'm trying to make here, again,
8 this is 10 acres, so a statistical plate, low perm,
9 low porosity. You can't determine what's going to
10 happen with -- you know, within the next 10 acres if
11 you're going to -- doing log interpretation here.
12 That's where the case-hole logs is kind of -- kind
13 of jumps in for us.

14 So what we're going to do is, we're going
15 to perforate the majority of this bottom part of the
16 two-thirds. And of course we're going to -- and
17 then add the Paddock at some point, or we're going
18 to -- as a combination of both. That's determined
19 by our production engineers.

20 I want to go ahead and conclude here.
21 Finally, you would -- if you had to put your
22 money -- and I approach you guys as, "Hey -- hey,
23 Richard, give me a -- give me a million dollars.
24 I'm going to -- and I'll let you pick any of these
25 three wells, and you've got a working interest,

1 which ones are you going to want?"

2 More than likely, being the smart engineer
3 that you are, you're going to say, "Wow, I like this
4 one in the middle. That looks like a home run."

5 But the fact of the matter is, the well to
6 your right is your best well that we're going to --
7 that's going to produce.

8 The well here in the middle we have
9 calculated is going to EUR about 73,000 barrels,
10 and -- I can't read that far -- and maybe
11 200 million cubic feet of gas.

12 The well over here (indicating) that looks
13 a little -- even looks a little better than this
14 one, that one is going to make a little bit -- that
15 one is going to calculate about 70,000 barrels and
16 200 million cubic feet of gas.

17 If we look at the wells over here
18 (indicating), you are looking at about 100 -- about
19 100 million -- 100,000 barrels of oil, and -- in
20 associated gas.

21 So here's your winner right here
22 (indicating). Again, if you go -- strictly went by
23 logs, you're going to pick probably the wrong one.
24 And again, we're talking about 10-acre locations.

25 Q. Thank you.

1 Mr. Reyes, based on the data that you have
2 reviewed for us today, what are your geologic
3 conclusions?

4 A. My geologic conclusions are:

5 This is the statistical plate. We drill a
6 lot of wells. We feel we have a good handle on --
7 as far as the fairway, what we can expect from
8 wells.

9 We know that you can't determine what the
10 well is going to produce from just the log
11 interpretation, until it's actually going into
12 the -- into the tanks.

13 This is low perm, low porosity,
14 heterogeneous. And so drilling on 10 acres is
15 probably the best thing for us to do, and all the
16 managers defend, as far as the 10 acres, it's the
17 best thing do to.

18 Also, if you drill 10-acre locations it
19 really sets up for secondary coverage. So that's
20 something that we're -- that we're currently working
21 on, and hopefully we are successful in doing that.
22 So at the end of the day we -- we have captured
23 all -- what we can for the whole section of the Yeso
24 data on 10-acre locations, and then we have the
25 secondary recovery to finish it all up.

1 Q. In your opinion, will the granting of
2 Concho's application be in the best interest of
3 conservation, the prevention of waste, and the
4 protection of correlative rights?

5 A. Yes.

6 MS. MUNDS-DRY: With that, Mr. Examiner, I
7 move the admission of Exhibits 40, and 7 through 11
8 into evidence.

9 MR. CAMPBELL: Which ones?

10 MS. MUNDS-DRY: Exhibit Number 40, and
11 then Exhibit Number 7 through 11.

12 MR. GRABLE: Those are the ones he
13 testified to?

14 MS. MUNDS-DRY: Yes, sir.

15 MR. GRABLE: No objection.

16 TECHNICAL EXAMINER EZEANYIM: Any
17 objection?

18 MR. COONEY: No objection.

19 MS. MUNDS-DRY: Pass the witness.

20 TECHNICAL EXAMINER EZEANYIM: At this
21 time, Exhibit 40, and then 7 through 11 will be
22 admitted. Okay.

23 LEGAL EXAMINER BROOKS: Okay. The witness
24 was passed at 9:51.

25 TECHNICAL EXAMINER EZEANYIM: Okay. Now

1 at this point I will beg you we take a 10-minute
2 break, so we'll come back.

3 (A recess was taken from 9:53 a.m. to
4 10:05 a.m.)

5 TECHNICAL EXAMINER EZEANYIM: All right.
6 Let's go back on the record.

7 At this point Counsel will pass the
8 witness, right?

9 MS. MUNDS-DRY: Yes, sir.

10 TECHNICAL EXAMINER EZEANYIM: Okay.
11 Mr. Grable?

12 LEGAL EXAMINER BROOKS: Okay. We're
13 starting at 10:04.

14 EXAMINATION

15 BY MR. GRABLE:

16 Q. How long have you worked for Concho?

17 A. Eight years.

18 Q. On your first big area plat, do you have
19 any knowledge to shed on what is Concho's net acre
20 position on these yellow shaded areas?

21 A. Net acres?

22 Q. Yes. Are these gross acres?

23 A. That is correct, gross acres, yes, sir.
24 Whether we have 100 percent or 1 percent, it's --
25 that's what it is.

1 Q. And it extends far beyond the southern
2 limit of the Yeso play, does it not, down in the
3 basin?

4 A. Our acreage position?

5 Q. Yes.

6 A. Yes, sir. That -- that shows what's
7 within that window of data. We have more acreage
8 that is all the way down to the Texas border. So...

9 Q. And beyond, probably?

10 A. And -- probably, yes, sir.

11 Q. But as a geologist, you are not telling
12 the division that any of this acreage down here
13 south of where the heavy development is has any
14 productivity in the Yeso?

15 A. You are correct. That is not quantified
16 as Yeso potential. All it is, it's a layer within
17 our database, and we just picked up, you know, our
18 acreage position and threw it on there.

19 Q. But you've fallen off the shelf --

20 A. Absolutely.

21 Q. -- going thousands of feet?

22 A. Yes, sir.

23 Q. All right. Now your counsel didn't make
24 it an exhibit, but I wrote down some of the
25 statistics that you testified to.

1 And what I had written down is that Concho
2 has -- operates about 1,600 vertical wells in the
3 Yeso.

4 A. That is -- to my knowledge, yes.

5 Q. How many of those has Concho drilled
6 versus ones that it purchased from Mack or Marbob?

7 A. I -- I don't know.

8 Q. Do you have any ballpark estimate of how
9 many wells you've drilled?

10 A. Boy, you know, I don't know. We have
11 drilled -- we have a very aggressive drilling
12 program, we have for the last four years. So
13 keeping up with numbers like that it's pretty hard
14 to do.

15 Q. Quite a few of those wells are wells that
16 Concho did not drill?

17 A. Quite a few? I don't know what -- more
18 than 50 percent? I -- I can't answer that.

19 Q. Okay. Well, you can't tell us, then, how
20 many of the 1,600 are Concho-drilled wells versus
21 Marbob or Mack-drilled drills?

22 A. That is correct. But I also stated
23 they're operated wells, not drilled wells by Concho.

24 Q. So of the -- let's see. You said you had
25 69 wells with sidewall cores and 9 wells with

1 conventional cores?

2 A. That's correct.

3 Q. Did Concho take those core samples or were
4 there cores done by Mack or Marbob?

5 A. It's a combination of both.

6 Q. Do you know where those -- where that core
7 data is located across the aerial extent of your
8 Concho development?

9 A. Yes, I do.

10 Q. But you haven't presented anything today?

11 A. Well, you know we're talking a large area
12 that we are talking about for -- we have cores from,
13 I mean, all across our play. So I did not bring
14 you -- I can furnish you that, but I -- I don't -- I
15 didn't -- I don't know how --

16 Q. Well, Concho has applied to change the
17 rules in 12 pools. Do you know how many of those
18 cores came from wells within the 12 pools that's the
19 subject of the Concho application?

20 A. I cannot tell you at this moment -- at
21 this moment, no, sir.

22 Q. Do you know whether any of those cores
23 were utilized in the drainage area calculations that
24 Concho has included in its exhibits?

25 A. Can you repeat the question?

1 Q. Did you participate at all in the work
2 that wound up as, I believe -- my exhibits aren't
3 numbered, but I believe it's Exhibit 38. It's the
4 last one in my book that is captioned "Yeso Shelf
5 Area Drainage Calculations."

6 A. Okay.

7 Q. Did you participate in any of that work?

8 A. I did not personally participate in that.

9 Q. Did you furnish any core data for that
10 work?

11 A. Core data is furnished for that -- for
12 that purpose, yes, sir.

13 Q. So -- okay. You know that core data was
14 used for that Exhibit 38?

15 A. That's correct.

16 MR. GRABLE: Ms. Munds-Dry, may I ask --
17 or maybe I'll ask the legal examiner.

18 We have not been furnished any of that
19 data. Could we get the core data information that
20 they used in Exhibit 38?

21 LEGAL EXAMINER BROOKS: Well, we've had
22 lots of issues of what is discoverable and what's
23 proprietary. So perhaps I would like to get a
24 response from Concho's attorney.

25 MS. MUNDS-DRY: I would assume -- and I

1 haven't -- I would have to talk with -- confer with
2 my client. But I would assume we consider that very
3 much proprietary. That is not traditionally handed
4 over.

5 MR. GRABLE: Can they confer over the
6 lunch hour and let us know if they'll let us know
7 what it is or not?

8 LEGAL EXAMINER BROOKS: Okay. If you will
9 give me a response as to what your position is on
10 this issue at the beginning of the afternoon
11 session, then maybe we can address it.

12 MS. MUNDS-DRY: We will do so.

13 Q. (By Mr. Grable) Okay. Well, let's talk
14 about open-hole logs.

15 I don't believe you mentioned open-hole
16 logs in your recitation of your statistical
17 information, but I want to ask you only about wells
18 drilled by Concho, not Marbob or Mack wells.

19 Do you know what percentage of wells
20 Concho drills on which it runs an open-hole log
21 suite?

22 A. Yeah. I did -- I did mention that, for
23 the record, that we do run open-hole logs and how we
24 have converted to drilling more and more, or logging
25 more case-hole wells, as we do more and more

1 in-field 10-acre locations because you know -- you
2 know, cost-wise and whatnot.

3 Q. Was it your testimony that Concho runs
4 open-hole logs in about 30 percent of its wells it
5 drills? I heard a 30 percent number somewhere in
6 your testimony.

7 A. So you are recalling part of what I said.
8 Yes, sir, that is correct.

9 As of this year, and we are in -- we are
10 in May, we probably drilled around 100, 150 wells --
11 125, 150 wells. It's kind of hard to keep track of
12 that stuff. But I would say about 30 percent are
13 open-hole logs, and then the other 70 are case-hole
14 logs.

15 Now when we started this program in 2007,
16 more than 50 percent of our wells that we logged
17 were open-hole logs. So we do have a large
18 inventory of open-hole logs that Concho logs.

19 Q. That's your -- your current practice is to
20 log about three of ten, as far as open-hole logs?

21 A. You know, sir, that -- that changes and it
22 varies on our priorities as we drill.

23 Without giving you a whole lot of details,
24 as our future drilling commitments and properties
25 that we're planning currently to, you know, extend

1 and expand our play, for me to tell you that's what
2 we're going to continue doing, it would be -- you
3 know, that would be guessing.

4 Like I testified, you know, as we drill,
5 as we step out to the north and we step out in
6 either direction east or west, we do run open-hole
7 logs, because we do -- you know, that -- that is
8 part of our keeping in practice -- you know we want
9 to have that data so that we can -- we can have --
10 we can interpret them for our model.

11 Q. Okay. Now, I believe the PowerPoint slide
12 that your counsel put up showed that COG has 220 mud
13 logs. Do you recall that number?

14 A. Yes, sir, I do.

15 Q. How many of those did Concho run versus
16 that you inherited in the acquisitions from Mack and
17 Marbob?

18 A. I don't have that breakdown, sir.

19 Q. What is your company's current practice
20 with respect to running a mud log on a new well that
21 you drill?

22 A. We -- it is determined by the geologist,
23 is how we determine whether we're going to run mud
24 logs or not.

25 Q. 22 -- 220 out of 1,600 is somewhere around

1 12 or 13 percent. It's a lot less than 30 percent.

2 Is it true that you run fewer mud logs
3 than you do open-hole logs?

4 A. If you go by those statistics, probably.

5 Q. I'm trying to see what your evidence was.
6 I mean that was the number I wrote down. I don't
7 have the slides.

8 A. And that's what I testified to. So I
9 don't know, is it 1 percent or 3 percent, but
10 that's -- that's what it is.

11 MR. GRABLE: Can we put up what --
12 Ms. Munds-Dry -- that large cross-section he
13 testified to? I believe it's Exhibit 8, but your
14 slides don't have numbers on them.

15 Q. (By Mr. Grable) Did you do the
16 correlations on this cross-section?

17 A. I don't know if I -- if I picked all of
18 them. And the reason I say that is that I -- there
19 are two other geologists under my supervision, along
20 with geo techs. And we subdivide our areas to
21 different -- to different geologists.

22 So it's at their discretion to pick -- to
23 pick the tops, for obvious reasons. And so that's
24 taken -- that is put into our large database, and so
25 that's -- is the output that we have. So...

1 Q. I'm sorry, I don't know if there was an
2 answer in there.

3 Can you tell me, yes or no, that you
4 picked all of the Blinebry tops on this
5 cross-section?

6 A. Probably not.

7 Q. Do you think that depiction of the
8 stratigraphy there is accurate?

9 A. For the most part.

10 Q. What part is inaccurate?

11 A. Well, the inaccurate part would be --
12 would be probably like this wall right here
13 (indicating). You know, there's not enough section
14 to say that, really, that point is there.

15 I had mentioned that the way we picked the
16 Blinebry internally, you know, we could have easily
17 taken out this line in here (indicating), and just
18 called the whole thing as a Yeso.

19 But this is an internal pick that Concho
20 uses as a pick. It's a little silt that's about 10
21 feet thick. It's pretty regional throughout. And
22 there's places where it's pretty hard to detect and
23 pick out where that little silt is. So sometimes
24 the royal dump for us is roughly 300 feet below the
25 top of the Paddock.

1 So you know as you go along and you kind
2 of pick out where you can, you'll know -- again,
3 this one is kind of short. But you know, that one
4 maybe could have gone -- you know, that's probably
5 fairly close, I guess.

6 Over here (indicating), as you get closer
7 to the shelf edge, as I talked about the silt coming
8 in, you start -- you know, we are trying to pick
9 where the top of the carbonate is, not -- not so
10 much -- I mean sometimes when you get close to the
11 bottom, the Blinebry pick can be done in here
12 (indicating) because of all of these silts.

13 So overall, yeah, the picks are -- I'm
14 pretty satisfied with our picks.

15 Q. Do you think this irregular stratigraphic
16 picture there is accurate in this area?

17 A. It's fairly accurate for us. I mean it
18 doesn't really determine for us any stratigraphic
19 change, although there is a big carbonate unit. So
20 you know, it's just -- again, it's kind of a -- it's
21 just a point for us to know where we're at in this
22 section.

23 Q. All right. What rocks are -- produces a
24 matter of -- what rocks are productive in these
25 reservoirs? Are they carbonates?

1 A. Yeah. This is the carbonate section.
2 You're looking for the dolomites. The dolomites is
3 where -- is your source rocks, what you're trying to
4 see. The majority of that section, it's a lime
5 matrix.

6 Q. So it's your opinion that most of the pay
7 in these wells is from dolomite sections?

8 A. That would be your source rock, yes.

9 Q. But you do not attempt to correlate your
10 perforations and fracture stimulations to those pay
11 zones. You do them on just an indiscriminate
12 200-foot section basis. Is that it?

13 A. Yes, sir.

14 Q. Okay. You've mentioned in your testimony
15 the potential for secondary recovery.

16 Does your company now have a pilot
17 secondary flood in this area?

18 A. We do.

19 Q. Where is that located?

20 A. It's in the Jenkins lease. It's in --

21 Q. Which pool?

22 A. It's in the Loco Hills pool. It's the
23 Yeso.

24 Q. What have the results been of that, in
25 your opinion?

1 A. I'm not an expert, and I have not kept up
2 with it very much. I would defer that question to
3 Mr. Prentice. He -- he's very knowledgeable about
4 that.

5 Q. Mr. Prentice? Okay.

6 But if you were, as a geologist picking
7 candidates for water floods, if somebody, just a
8 friend, called you and said I've got this low
9 permeability, low porosity, stratigraphic
10 lenticular-type reservoir, that wouldn't sound like
11 a good candidate for water flood, would it?

12 A. Again, I'll defer that to Mr. Prentice,
13 because he's the one that's spearheading that --
14 that water flood.

15 Q. Can we look at your -- I believe it's
16 Exhibit 9, page 3. It's the two-Burnett-well
17 section.

18 Page 2. Do you know how many of Burnett's
19 wells they have taken all the way down into the
20 Tubb?

21 A. No, sir.

22 Q. Did you pick any of the green -- or the
23 curve I'm pointing to now (indicating) is a porosity
24 curve?

25 A. That's correct.

1 Q. How were these sections colored green
2 picked? Did you do that?

3 A. As far as the color?

4 Q. Yeah. Is that supposed to designate net
5 pay or porosity above a certain level, or what's
6 the --

7 A. No. That is just -- that's just porosity.
8 The green is porosity. And if you look real
9 closely, there is a tan color that is movable oil.
10 And then if you look even closer, and there's blue,
11 that's water saturations.

12 Q. Do you know what the unit scale is on this
13 porosity curve, how far out this is going?

14 A. I believe that's a 3 percent cutoff.

15 Q. You believe this (indicating) line is
16 3 percent?

17 A. I think what -- anything that's showing in
18 green should be porosity over 3 percent.

19 Q. Do you know what porosity curves were used
20 to derive these porosities shown in excess of
21 3 percent? Is it neutron or --

22 A. No, those are open -- open-hole logs.

23 Q. Do you know what curve that is?

24 A. It's probably a density neutron and a
25 resistivity log. It would depend on the vendor.

1 Q. Do you know what this green coloring is
2 supposed to represent?

3 A. Those little green markings in the well
4 bore are pay flags that we use to identify where the
5 parameters for our -- they are pay zones.

6 Q. So these would be COG's picks of net pay
7 for these two well bores of Burnett?

8 A. Yes.

9 Q. Did you participate in the work done to
10 come to the conclusion that those intervals and
11 those logs were net pay under Concho's criteria?

12 A. Yes.

13 Q. All right. Can we turn to your
14 Exhibit 11, please, the three-well cross-section?

15 A. (Witness complies.)

16 Q. Do you know, are these logs that were run
17 by COG or logs that you inherited from an
18 acquisition of Marbob or Mack?

19 A. No, I believe these wells are
20 Concho-drilled wells.

21 Q. Do they show the vintage of the wells on
22 top?

23 A. Repeat, please?

24 Q. Do you know when these logs were run?

25 A. Were drilled?

1 Q. Yes.

2 A. I don't, sir.

3 Q. Do you know if these logs were normalized,
4 so they each basically came back to the same
5 starting point for the data shown on them?

6 A. No. Those are -- those are cased-hole
7 logs.

8 Q. These are all cased-hole logs?

9 A. That is correct.

10 Q. Now, did you participate in picking the
11 porosity over 3 percent shown and the net pay shown
12 on these three logs?

13 A. When you say "participate," when we --
14 when we get logs, when we drill wells and get logs,
15 we have a petrophysicist, that all he does is gather
16 the data and -- and make the interpretation and --
17 and put it in our dataset. So I don't physically do
18 it myself.

19 Q. Do you review them to see if you agree
20 with them?

21 A. Yes, sir.

22 Q. And you agreed with these?

23 A. Yes, sir.

24 Q. Do you calibrate your cased-hole logs to
25 nearby open-hole logs?

1 A. I -- I don't know that we do that. Again,
2 I have a petrophysicist that does that, so it would
3 be a question that he would have to answer.

4 Q. It would be good practice to do so,
5 wouldn't it?

6 A. I would believe so.

7 Q. Did I hear you correctly saying that the
8 economic parameters in this plate are iffy?

9 A. I said they could get iffy as we -- as we
10 push the northern boundaries, you know, either
11 direction.

12 Q. And I believe you also testified that the
13 bottom line of all of this is economics, making
14 economic wells?

15 A. What I'm saying is -- what I'm trying
16 to -- well, that's part of my goal, yes, to make
17 it --

18 Q. You don't want to drill uneconomic wells?

19 A. Absolutely.

20 Q. You said that your logging program had
21 been reduced as your company drilled down to
22 10 acres because it became a statistical play.

23 Can you tell me what you mean by "a
24 statistical play"?

25 A. For me, it's -- a statistical play is that

1 you're drilling in-field wells. There's not a whole
2 lot of surprises to know that the -- that the zone
3 of business that you are looking for is not going to
4 be there. There's no -- there's not a pinchout or a
5 fault or any other geological snafu, for a better
6 word, that will limit you or make you not know that
7 that -- that that horizon or that -- or that
8 interval will not be there.

9 TECHNICAL EXAMINER EZEANYIM: Could you
10 repeat that? Repeat that answer. Can you repeat
11 that answer?

12 THE WITNESS: You want me to repeat the
13 answer?

14 TECHNICAL EXAMINER EZEANYIM: Yeah.

15 THE WITNESS: When I say -- the
16 statistical play for me is that if you -- as you're
17 drilling internally, in-field drilling, you have
18 enough well control and know that the -- the
19 formation of the -- or the target area that you're
20 doing does not -- doesn't pinch out or have a fault
21 or any geological snafu that kind of changes things
22 up or that then -- and then for me, there's no big
23 surprises for us to drill a well and not know that
24 that zone is going to be there, or that -- or that
25 section is going to be there.

1 Q. (By Mr. Grable) Well, there aren't any
2 structural features like that of importance in this
3 play, or these faults, pinchouts. Maybe as you go
4 east it gets a little wetter and you go west it's a
5 little more oily, but there aren't any geological
6 structural markers or boundaries in this play, are
7 there, other than falling off the shelf?

8 A. No, sir. You -- you described it well.

9 Q. Now, would it be fair to say that Concho's
10 view of a statistical play is that it's more cost
11 efficient merely to drill these wells on 10 acres,
12 log only occasionally, and perforate in large
13 200-foot zones without regard to your log analysis?

14 A. Well, first of all, we don't just log
15 occasionally. We log every single well.

16 Q. Pardon me. Open-hole logs occasionally.
17 I'm sorry. Pardon me.

18 A. Okay.

19 Q. Thank you for that correction.

20 A. Okay.

21 Q. Do you use -- do you -- when I say "you,"
22 does your company use that log information in
23 determining where you perforate and frac?

24 A. We do.

25 Q. And how do you do that?

1 A. Especially in the Paddock.

2 Q. Isn't it your practice to perforate in
3 three or four 200-foot sections down the hole?

4 A. That is correct.

5 Q. Okay. If that's true, then how do you use
6 logs and log analysis to determine the perforations
7 and fracture zones?

8 A. Well, we've got to have a log to know and
9 see where we're going to put the frac.

10 As I told you before, in some places we do
11 run into silts. In other places, you know, we --
12 and often, we use it to perforate. And we do
13 individual perfs in the Paddock, so -- because it is
14 at higher porosity intervals.

15 So yes, there -- we -- there is a need in
16 our practice to use the case-hole logs.

17 Q. Do you intend for any of the exhibits you
18 presented to be used with respect to determinations
19 of net pay in this reservoir?

20 A. Well, repeat that one more time.

21 Q. Is your testimony and the exhibits you
22 presented this morning intended to be a part of the
23 data useful to determine net pay in these
24 reservoirs?

25 A. Only if they're open-hole logs, yes, sir.

1 That's the only -- you have to use the open-hole
2 logs to determine net pay. You can't use case-hole
3 logs to do that.

4 Q. I don't believe you've testified to -- in
5 some of my questions you said 3 percent porosity was
6 the cutoff. But you haven't presented any evidence
7 this morning of net pay to these logs, have you?

8 A. I nev- -- well, that's what you're seeing
9 on the logs.

10 Q. You mean those green flags?

11 A. Yes.

12 Q. But you didn't testify about those in your
13 direct testimony, did you?

14 A. I don't recall.

15 Q. Okay. And I thought you testified on this
16 section that your statistical perforations in this
17 large -- does this show your perforations on there?

18 A. No, sir.

19 Q. Okay. But in fact, you -- I thought you
20 said you'd get fooled if you'd use this log for
21 analysis of what's net pay and where to perf,
22 because it turned out so much better than your view
23 of what the log looked like.

24 A. That is correct.

25 Q. So is that part of the statistical play,

1 that -- so then irrespective of the reservoir
2 quality as depicted on the log, you just perforated
3 in several 200-foot sections down the well bore?

4 A. Well, again, the logs aren't the only
5 determining factor for the outcome of the well, as
6 you can -- as you can see by that well. That's a
7 100,000-barrel well. So most people would probably
8 walk away from that and never even attempt it, to
9 perforate and produce.

10 Q. What I'm trying to come around to, when I
11 hear "statistical play," what I think of is you do
12 essentially the same thing in every log irrespective
13 of the data shown on that log, because statistically
14 if you do that consistently throughout the
15 reservoir, you're going to pick up zones that you
16 miss on log analysis. Is that a fair summary?

17 A. Sure.

18 Q. And that is your company's practice, is it
19 not?

20 A. In most cases, when we're in-field
21 drilling, yes.

22 Q. And in fact, on this log over here
23 (indicating) that looks kind of sorry on the log, it
24 turned out to be good?

25 A. Yes, sir.

1 Q. Okay. Now these reserve figures at the
2 bottom, are those your estimates or did someone else
3 come up with those estimates?

4 A. No, sir. They are our reserve engineer's.

5 Q. So you can't tell me how you got to these
6 reserve numbers?

7 A. No, sir, I cannot.

8 Q. All you know is that those are your
9 company's figures for those wells?

10 A. That is not my -- that is not my
11 responsibility. That's my -- a reserve engineer's
12 responsibility.

13 Q. Now, I believe you said you did have a map
14 or could provide a map to show where your core data
15 is located.

16 Could you get that and give it to your
17 counsel so my people can look at it?

18 A. I will defer to my attorney to see --

19 Q. Do you have it with you here in Santa Fe?

20 A. I do not have a map that shows where our
21 cores are at.

22 Q. Do you know where they're at?

23 A. It would be back in Midland, in my office.

24 Q. Do you, from your knowledge as working in
25 this area for eight years, know generally where your

1 core data is located?

2 A. Specifically section/township, no.

3 Q. All right. Do you know if any of it is
4 located in the -- you are aware that Burnett and
5 Hudson have asked to consolidate six fields, kind of
6 in the eastern portion of the 12-field area that
7 Concho is in. Do you know if any core data is
8 available in those areas?

9 A. I would have to check.

10 Q. Can you -- is there someone you could call
11 back at the office and find out if you have any core
12 data available in those areas?

13 A. I can.

14 Q. Would you do that and tell your counsel,
15 and then we'll take it up with her after lunch?

16 A. Okay.

17 MR. GRABLE: Thank you very much.

18 THE WITNESS: Thank you, sir.

19 MR. GRABLE: Pass the witness.

20 LEGAL EXAMINER BROOKS: You passed the
21 witness at 10:35.

22 MR. COONEY: I have nothing.

23 TECHNICAL EXAMINER EZEANYIM: Any
24 redirect, Ms. Munds-Dry?

25 MS. MUNDS-DRY: Just a minute, please,

1 Mr. Ezeanyim. I don't think so, but let me just
2 make sure.

3 No redirect.

4 LEGAL EXAMINER BROOKS: Just one.

5 The Tubb and the Drinkard that underlie
6 the Blinebry are also considered part of the Yaso,
7 are they not?

8 THE WITNESS: Yes, sir.

9 LEGAL EXAMINER BROOKS: But they're not
10 considered prospective in this area?

11 THE WITNESS: They're not. They're
12 normally wet.

13 LEGAL EXAMINER BROOKS: Okay. That's all
14 I have.

15 TECHNICAL EXAMINER EZEANYIM: Okay. Maybe
16 I will ask a few questions.

17 What made you drill on 10-acre units? You
18 say you are drilling on 10-acre units. Why? Is
19 that because of the secondary recovery or just
20 because of economics? Why did you drill on 10-acre
21 units?

22 THE WITNESS: Oh, that's a good question.
23 I can't remember exactly how we started drilling on
24 10-acre locations. You know part of this -- part of
25 this field was drilled for the Paddock, you know,

1 the obvious, the better -- better part of the zone.
2 I can't recall why -- why we started drilling on
3 10s.

4 Maybe there was two wells that was pretty
5 close together and ran some -- ran some numbers and
6 said, you know, maybe that's not draining as much as
7 it is. And just like anything else, you try
8 something to see if it works. And if it works then
9 it's a home run, you keep going. Otherwise, it's --
10 you know, you're always -- you're always pushing the
11 limits of either -- you know, 40? How did we get
12 from 40 to 20? And now we're 20 to 10?

13 TECHNICAL EXAMINER EZEANYIM: Yeah.

14 THE WITNESS: So it -- a lot of it -- you
15 know, a lot of stuff is done by accident, and -- and
16 so you move on.

17 TECHNICAL EXAMINER EZEANYIM: Yeah, I
18 think you answered that question already.

19 THE WITNESS: Yes.

20 TECHNICAL EXAMINER EZEANYIM: Okay.
21 That's good. I mean there's nothing wrong with you
22 doing 10 acres, and I wanted to ask you whether you
23 did it because of secondary recovery, or because of
24 economics you drill those wells. Maybe Mr. Midkiff
25 or Mr. Prentice will answer that question.

1 MS. MUNDS-DRY: I think both Mr. Midkiff
2 and Mr. Prentice can answer that for you.

3 TECHNICAL EXAMINER EZEANYIM: Yes, I know
4 they can answer that, because there must be a reason
5 why.

6 THE WITNESS: I'm more concerned with
7 primary than secondary, so that's where they --
8 that's where you guys come in.

9 TECHNICAL EXAMINER EZEANYIM: Yeah.
10 Maybe -- maybe he will also answer the question.

11 You said that there's water flood per the
12 authority in one of the pools there.

13 THE WITNESS: Yes, sir.

14 TECHNICAL EXAMINER EZEANYIM: I know we
15 approved you could do -- I know there is another
16 number that approved those water flood projects.

17 THE WITNESS: Yeah. It's a pilot water
18 flood, and Mr. Prentice will testify to that.

19 TECHNICAL EXAMINER EZEANYIM: Okay. Yeah,
20 I think that -- okay.

21 And this lease water flood is not
22 incorporated. It's a lease water flood?

23 THE WITNESS: It is a lease water flood.
24 That is correct.

25 TECHNICAL EXAMINER EZEANYIM: Okay.

1 That's all I have.

2 MR. GRABLE: Mr. Ezeanyim, I'm sorry, I
3 forgot to ask him one question that I meant to ask
4 him. May I have permission take him back on cross?
5 I will be very brief.

6 FURTHER EXAMINATION

7 BY MR. GRABLE:

8 Q. Would you look again at Exhibit 38, the
9 drainage calculations? Are you familiar with this
10 exhibit?

11 A. Yes, sir.

12 Q. Did you, as a geologist, from your core
13 data, pick a grain density to use in these
14 calculations?

15 A. I'm sure we did.

16 Q. Do you know what it is?

17 A. I didn't specifically. Again, this is
18 a -- this is a model that was done by others that we
19 incorporated through our system.

20 Q. Do you know what grain density was
21 utilized in those calculations?

22 A. I do not right at this moment, no.

23 MR. GRABLE: Well, that's another bit of
24 information that we don't have, and I would ask
25 again if he could find that out and let his counsel

1 know, we'd appreciate it.

2 LEGAL EXAMINER BROOKS: Okay. You said
3 grain density?

4 MR. GRABLE: Grain density, yes.

5 LEGAL EXAMINER BROOKS: Okay. You took
6 one minute with that.

7 TECHNICAL EXAMINER EZEANYIM: Okay. Using
8 grain density, I forgot to ask you this question.

9 What is a typical porosity in the -- in
10 the Paddock and Blinbry?

11 THE WITNESS: The typical porosity?

12 TECHNICAL EXAMINER EZEANYIM: Yeah.

13 THE WITNESS: Boy, it's pretty poor. The
14 majority of the Yeso we use a 3 percent cutoff to --
15 for us to flag what we consider pay.

16 TECHNICAL EXAMINER EZEANYIM: So you --

17 THE WITNESS: But it can be much lower
18 than that. I mean the -- when you're down to
19 3 percent, just -- you know, we have seen production
20 out of rock that's 2 percent. So, you know,
21 3 percent is kind of a -- it's the average that we
22 use and the standard.

23 TECHNICAL EXAMINER EZEANYIM: Okay. And
24 the -- what's the permeability?

25 THE WITNESS: Not much.

1 TECHNICAL EXAMINER EZEANYIM: But you said
2 it's tight?

3 THE WITNESS: Yes, sir.

4 TECHNICAL EXAMINER EZEANYIM: The dolomite
5 is very tight?

6 THE WITNESS: Yes, sir.

7 TECHNICAL EXAMINER EZEANYIM: Okay.
8 That's all I have.

9 THE WITNESS: Thank you.

10 MS. MUNDS-DRY: Shall we call our next
11 witness?

12 TECHNICAL EXAMINER EZEANYIM: Yes, go
13 ahead.

14 LEGAL EXAMINER BROOKS: The time is 10:40.

15 MS. MUNDS-DRY: I call Mr. Midkiff,
16 please.

17 TECHNICAL EXAMINER EZEANYIM: State your
18 name for the record, please.

19 THE WITNESS: TJ Midkiff.

20 TJ MIDKIFF,
21 after having been first duly sworn under oath,
22 was questioned and testified as follows:

23 EXAMINATION

24 BY MS. MUNDS-DRY:

25 Q. Mr. Midkiff, where do you reside?

1 A. Midland, Texas.

2 Q. And by whom are you employed?

3 A. Concho Resources.

4 Q. What do you do for Concho?

5 A. I am a reservoir engineer for the shelf
6 area in the Yeso.

7 Q. And does that include properties in the
8 Southeast New Mexico shelf area?

9 A. Yes, Southeast New Mexico.

10 Q. And have you previously testified before
11 the division?

12 A. Yes, I have.

13 Q. Were your credentials accepted and made a
14 matter of record at that time?

15 A. Yes, they were.

16 Q. Are you familiar with the application
17 that's been filed by Concho?

18 A. Yes, I am.

19 Q. And have you made an engineering study of
20 the reservoirs and the subject pools that are part
21 of Concho's application?

22 A. Yes, ma'am, I have.

23 MS. MUNDS-DRY: We would tender
24 Mr. Midkiff as an expert in petroleum engineering.

25 TECHNICAL EXAMINER EZEANYIM: He is so

1 qualified.

2 MS. MUNDS-DRY: Thank you.

3 Q. (By Ms. Munds-Dry) We are going to first
4 turn, Mr. Midkiff, to Concho's Exhibit Number 12.
5 If you could, please identify and review it for the
6 examiners.

7 A. What I wanted to start off with is to kind
8 of help you -- kind of paint a picture of how we
9 think about the reservoir and kind of lead into why
10 we do what we do.

11 We start off with -- as Mr. Reyes
12 testified a minute ago, the reservoir is --
13 stratigraphic, it's very low permeability, very low
14 porosity all the way across. It's
15 compartmentalized. We see incremental reserves as
16 we frac and connect, you know, these -- these
17 productive lenses together. And you know, we -- we
18 consider it a lenticular reservoir.

19 We -- and what I'm trying to show there on
20 this picture is -- you know if you think about two
21 wells and you drill through the section and what you
22 see on the logs, well, all you see on the log is
23 what the well bore is encountering. So you know, if
24 you look at Well A on the -- on the left there
25 (indicating), you would see, you know, a small

1 section of net pay.

2 And you look over on the Well B, and you
3 would see a larger section of what somebody might
4 consider to be net pay.

5 And if you -- if you will go to the next
6 slide, you'll see that if you just went by what you
7 see on the logs, you would be disregarding other
8 compartments or lenses within the reservoir.

9 Q. Mr. Midkiff, I believe this is -- I'm
10 sorry to interrupt you -- Concho Exhibit Number 13
11 in the notebook.

12 A. Okay.

13 And so what our approach is, is we look at
14 the section because we know there's -- there's
15 production out there that we're not seeing that's on
16 the log. So we -- we perforate across the section
17 and -- and frac it to connect all of those -- those
18 lenses together.

19 And you know, one of the biggest points I
20 want to make about this reservoir is how statistical
21 it is in nature. That, you know, just -- just
22 looking at, say, drainage calculations for these two
23 wells right here (indicating), if you looked at
24 the -- you know, these wells will probably have
25 similar recoveries based on the -- you know, kind of

1 the picture that I have painted there. But Well A
2 will probably have a much larger calculated drainage
3 area versus Well B.

4 So you know in reality, the drainage areas
5 are probably similar, but they are going to
6 calculate very differently.

7 And so, you know, if you switch back to
8 that last cross-section, to kind of show you exactly
9 what I'm talking about -- go again. One more.
10 Yeah, right there.

11 You can see exactly what we're talking
12 about. It goes right in with what Mr. Reyes was
13 saying.

14 All that you see at the well bore is, you
15 know, however far out the logs read, you know,
16 approximately 6 inches or something. That does not
17 define the reservoir.

18 If you -- if you targeted pay strictly off
19 of what you saw at the reservoir, with the nature of
20 this reservoir, you run the risk of abandoning a
21 significant amount of reserves. So you must
22 complete the entire section and connect it all
23 together.

24 And if you will, go ahead and go forward.

25 And again, like I say, we -- you have to

1 take a statistical look at the reservoir. You have
2 to look at all the data. I could go out there and
3 find a single well case to prove any point I wanted,
4 but that's not how you can look at this. You have
5 to look at the whole picture. You have to look at
6 all data through all the -- you know, all the wells,
7 all the data points that you have.

8 Q. So let's go to Concho Exhibit Number 14.
9 And what does this slide show us?

10 A. This is -- it really goes, again, with the
11 cross-section and the two that I put forward.

12 And what I did is I plotted PHI-H based
13 off of log interpretation -- or I guess our log
14 model -- versus the initial 12-month cumulative oil
15 production.

16 So this is a plot of basically
17 productivity -- oil productivity versus PHI-H
18 saying, is there a correlation between how much oil
19 you make and the type of net pay that you see at the
20 well bore?

21 And this is textbook distribution for
22 being no correlation. You see a horizontal
23 distribution like that, it's -- it's -- that's
24 clearly no correlation.

25 And in fact, if you really want to pick

1 it, you see some of your lowest oil production and
2 some of your higher PHI-H wells, and you see
3 probably the highest distribution of -- of
4 productivity in your lower net pay wells.

5 So again, there is no correlation
6 whatsoever between PHI-H and productivity.

7 Q. All right. And, Mr. Midkiff, if you
8 could, for the record, give us the parameters you
9 used for your data points.

10 A. Well, it's -- one of the difficulties in
11 the Yeso, with the way that it's developed, is
12 finding wells that have both the Blinebry and the
13 Paddock open from day one. So I selected the
14 largest number of wells that I could find that had
15 both the Blinebry and the Paddock open within the
16 first three months of the completion. And also,
17 they had to have at least 12 months of production to
18 make it a valid plot.

19 Q. Thank you. Let's turn to --

20 TECHNICAL EXAMINER EZEANYIM: What -- what
21 exhibit is this?

22 MS. MUNDS-DRY: That is Exhibit Number 14,
23 Mr. Ezeanyim.

24 Q. (By Ms. Munds-Dry) Let's turn to Concho
25 Exhibit Number 15.

1 Please review that for the examiners.

2 A. Okay. Again, I'm trying to give you a
3 bird's-eye view of how we look at the reservoir.
4 And as you can see, you've got two what would be
5 considered 20-acre wells there. And you can see how
6 they're -- their, you know, fracs extend and the
7 type of lenses that, you know, they are
8 encountering.

9 And if you just drill two wells, you can
10 see the significant amount of waste that would be
11 incurred if you did not have another two wells, the
12 10-acre wells.

13 If you'd go to the next slide.

14 Q. This is Exhibit Number 16?

15 A. Yes.

16 Q. And so you know with -- under the current
17 field rules, the current density, we connect more of
18 those productive lenses together.

19 We -- and we've got -- I will run into it
20 here in a second, a couple of examples on where we
21 are seeing incremental recoveries. You know, we
22 have -- all of this data is audited every year by a
23 third-party engineering service and, you know,
24 there's -- we've got over a thousand wells that, you
25 know, testify to this type of development.

1 Q. Okay. Let's turn to -- I think we're
2 going to skip ahead, if I'm right, to Exhibit
3 Number 23, which should be the next slide.

4 A. Yes.

5 MS. MUNDS-DRY: This, Mr. Ezeanyim and
6 Counsel, this is Exhibit 23 in your notebook.

7 Q. (By Ms. Munds-Dry) Please review this for
8 the examiner.

9 A. These are -- this is a plot of total --

10 MR. GRABLE: I'm sorry. It's 23?

11 MS. MUNDS-DRY: 23.

12 MR. GRABLE: Is this the one you
13 substituted?

14 MS. MUNDS-DRY: No.

15 MR. GRABLE: Okay. I'm with you now.
16 Thank you.

17 THE WITNESS: This is a total oil curve
18 for four 10-acre offsets within the Caddo Federal
19 lease. They're in 17/30, Section 17.

20 And you can see from the well count, which
21 is -- the well count on the axis to the right, the
22 vertical axis to the right, where the first two
23 wells come on. And both of -- all four of these
24 wells are full Yeso wells. They have both Blinbry
25 and Paddock completions in them.

1 And if you look at those first two wells
2 and you put a reasonable forecast on those, you can
3 see that those wells approximately -- have ultimate
4 recoveries of approximately 223 MBO.

5 You drill the next two wells, and we
6 forecast those four wells with a reasonable forecast
7 and you get an ultimate recovery for those four
8 wells of approximately 469 MBO.

9 Therefore, showing an incremental recovery
10 of 247 MBO just in one 40-acre proration unit of
11 incremental reserves right there.

12 TECHNICAL EXAMINER EZEANYIM: Are those
13 numbers on there?

14 THE WITNESS: Yes. They're all on there,
15 yes, sir.

16 TECHNICAL EXAMINER EZEANYIM: Okay. When
17 you drill two? Do you have two?

18 THE WITNESS: Yes, sir.

19 TECHNICAL EXAMINER EZEANYIM: And when you
20 drill four, how many do you have?

21 THE WITNESS: 479 MBOs we estimate there.

22 TECHNICAL EXAMINER EZEANYIM: Okay.

23 Q. (By Ms. Munds-Dry) Okay. And what is the
24 ratio, then, you show when you --

25 A. That's approximately one to one. You

1 see -- in fact, this -- in this case it's a little
2 bit over one to one. And that -- you know, we're
3 really trying to imply there, again, the statistical
4 nature of the reservoir. It's very heterogeneous.
5 Wells offsetting, you can have much different
6 behaviors. And but in this case they're very
7 similar. It's almost one to one.

8 Q. Mr. Midkiff, let's go to Concho Exhibit
9 Number 24.

10 A. The same type of curve. Right here
11 (indicating), you will see I'm trying to represent
12 the same -- the same thing. You drill two wells on
13 20-acre spacing, a reasonable forecast on those
14 wells, and you come up with an ultimate recovery of
15 approximately 211 MBO.

16 You add the third and the fourth well and
17 forecast the total oil curve for those four wells,
18 and you have an ultimate recovery of approximately
19 453 MBO. Therefore, showing an incremental recovery
20 by the 10-acre spacing -- or, rather, the 10-acre
21 drilling -- of 232 MBO.

22 And again, that's 232 MBO just out of two
23 wells within one 40-acre proration unit.

24 Well, actually, these wells are not within
25 the same proration unit. They are -- but they are

1 all four 10-acre offsets. I'm sorry.

2 Q. Thank you. Let's go back --

3 TECHNICAL EXAMINER EZEANYIM: Yeah, before
4 you move --

5 MS. MUNDS-DRY: Yes.

6 TECHNICAL EXAMINER EZEANYIM: So the --
7 you added 221 to 292?

8 THE WITNESS: Yes, sir.

9 TECHNICAL EXAMINER EZEANYIM: To get the
10 4- --

11 THE WITNESS: 453, yes, sir.

12 TECHNICAL EXAMINER EZEANYIM: Okay. Can
13 you pull up the slide -- yeah, pull up the last
14 slide, please.

15 Very good. That's good. Go ahead.

16 THE WITNESS: Okay. Now I could have, you
17 know, shown you many, many examples just like this.
18 And you know again, because this type of work that
19 we do, we have it audited every year by a
20 third-party engineer, and they fully support what we
21 do.

22 So what I thought I would do next is kind
23 of show you some of the things that we see that are
24 kind of new and -- well, not so much new, but
25 different, you know, that's maybe a little bit

1 different than traditional 10-acre spacing, and kind
2 of show you the type of behavior that you are seeing
3 within those wells.

4 Q. (By Ms. Munds-Dry) Okay. Let's go to --
5 let's go back, then, to Concho Exhibit Number 17,
6 please, and review it for the examiners.

7 A. This is a plot of three wells within a --
8 within Section 13 right there (indicating). These
9 wells were all immediately offsetting, all completed
10 within the Paddock.

11 You can see the cross-section line there
12 in Section 13. It's a vertical well going right to
13 a horizontal well going right to a vertical well.

14 It's difficult to see up there on the
15 projector, but there are -- there's small Xs on
16 the -- plotted along the well bore of that
17 horizontal which represent the perforations within
18 that horizontal.

19 And if you look at these wells -- so
20 traditionally on 10-acre spacing you're
21 approximately, you know, 600, 660 feet apart. These
22 wells right here (indicating), these completions,
23 are probably about 3- to 400 feet apart, if you look
24 at where the perforations are on that horizontal
25 well bore. So this is much closer than 10-acre

1 spacing.

2 And if you would, go to the next slide.

3 Q. And just before we leave that,
4 Mr. Midkiff, for the record, these are all Burnett
5 wells?

6 A. Yes, they are.

7 Q. And these are what -- what are these wells
8 called?

9 A. This is, I believe the Stevens A lease.
10 I'm not exactly sure of the well numbers.

11 Q. Okay. Thank you.

12 Let's go to the next slide, then. It's
13 Concho Exhibit Number 18, I believe.

14 A. Yes.

15 Q. Please review this for the examiners.

16 A. So you look at the oil curves for these
17 wells -- this is the oil curves for each one of
18 those. You'll see the vertical well is the first
19 well that came on, then the horizontal well, and
20 then the -- the following vertical well.

21 And you look at -- these are completions,
22 again, that are much closer than your typical
23 10-acre spacing. And you see no well interference
24 right there between those oil curves.

25 Q. Let's go to the next exhibit, Concho

1 Exhibit Number 19, please.

2 A. This is another exhibit -- I mean another
3 example of -- of completions that are much closer
4 than 10-acre spacing. They're in Section 14.
5 There's three wells. And you can see the
6 cross-section line on there. It's -- I believe
7 that's Well Number 32, Well Number 26, and Well
8 Number 21.

9 Q. And these are also Burnett wells?

10 A. Yes, they are.

11 And you can see from the cross-section
12 they are all completed within the Paddock. And the
13 same type of deal. If you will look at the
14 perforations along the well bore, the completions
15 are much closer than typical 10-acre spacing.

16 Q. Let's go to Concho Exhibit Number 20,
17 please.

18 What does this slide show?

19 A. This is a plot of the oil curves from
20 those wells within that lease. And you can see
21 again the vertical well, the horizontal well, and
22 then the vertical well coming on. They all have the
23 same type of decline curve. It looks like they
24 decline for a couple of years and then, you know,
25 eventually break over. You see no well interference

1 there whatsoever.

2 So again, that's tighter than typical
3 10-acre spacing, and you're seeing no well
4 interference.

5 TECHNICAL EXAMINER EZEANYIM: Are these
6 Burnett wells?

7 THE WITNESS: Yes, sir.

8 Q. (By Ms. Munds-Dry) Let's go to Concho
9 Exhibit Number 21.

10 A. This is probably the tightest spacing that
11 I have seen within this reservoir. These are --
12 these completions are approximately -- I would
13 estimate about 140 feet apart, very, very close
14 completions.

15 And again you can see from the
16 cross-section they're both completed within the
17 Paddock. They -- yeah. Again, there are
18 perforations immediately offsetting this vertical
19 location on that horizontal.

20 So again, the actual completions, the
21 section of the well bore that is being completed,
22 they're within about 140 feet of each other.

23 Q. And again, these are Burnett wells?

24 A. Yes, they are.

25 Q. Okay. Let's go to Concho Exhibit

1 Number 22, please.

2 A. The same type of thing. You look at the
3 oil curves, you can see the vertical well producing.
4 You see the horizontal come in.

5 And you know, I know Burnett runs much
6 bigger stimulations on their wells than we do. And
7 you see that even with that they are still not --
8 you're not seeing any interference well to well.
9 You're showing incremental recovery.

10 Each one of those exhibits right there
11 showed that you are intersecting a new reservoir,
12 you're adding reserves, and avoiding waste.

13 Q. Let's shift gears then, and let's go now
14 to what has been marked as Concho Exhibit Number 25.

15 If you would please identify and discuss
16 this slide, please.

17 A. What I did here was I looked at -- you
18 know, because there are differing philosophies with
19 how to complete these wells within this reservoir.
20 They're in 17/30, Section 8.

21 This is probably the best example where
22 you have immediately offsetting production on two
23 sides to compare 10-acre development versus 20-acre
24 development. And it was pointed out me that one of
25 the wells there, I believe it was Well Number 58,

1 just recently had the Paddock added.

2 So here in a second I will get to it. And
3 the next three slides all go together. But -- so
4 this is -- this is all -- this is going to be Yeso
5 completions on 20-acre versus Yeso completions on
6 10-acre.

7 Q. Okay. Then let's -- then since these
8 three slides go together, let's go then, next, to
9 Concho Exhibit Number 26.

10 A. Okay. This is -- I took a normalized plot
11 of the 10-acre wells versus a normalized plot of the
12 20-acre wells. Now keep in mind that the 20-acre
13 wells typically have much bigger stimulations pumped
14 into them.

15 So -- so what you're seeing is you get a
16 little bit higher IPs out of that, but eventually
17 that curve is going to get back down to where your
18 10-acre wells are draining.

19 And I guess -- I guess go ahead and go to
20 the next slide. I'm sorry.

21 Q. And this is Concho Exhibit Number 27, the
22 slide we're now looking at?

23 A. Yes. And if you take a look at -- you
24 know kind of the question is now, do you want to
25 drill two 20-acre wells or do you want to drill four

1 10-acre wells?

2 And you look at the ultimate recovery
3 there. This is cumulative oil production versus
4 time plot showing the ultimate recovery of four
5 10-acre wells versus two 20-acre wells.

6 And like I said, it was pointed out to me
7 that one of the wells that I used in the 20-acre
8 analysis only had the Blinebry in it. So if you
9 kind of want to take a comparison in what it would
10 take to make up that difference there, even if you
11 were getting, say, average 300,000 barrels, that's
12 absolute best case out of those other two wells,
13 you -- you're still leaving over 100,000 barrels of
14 oil in the ground.

15 TECHNICAL EXAMINER EZEANYIM: What's the
16 exhibit?

17 MS. MUNDS-DRY: This is Exhibit Number 27,
18 Mr. Examiner.

19 TECHNICAL EXAMINER EZEANYIM: 27, yes.

20 Q. (By Ms. Munds-Dry) What do you conclude,
21 then, as you ask the question of whether you -- of
22 whether you get bigger ultimate recovery from
23 20-acre or 10-acre spacing? What do you conclude
24 from these three slides?

25 A. Well, typically, and this is -- this is

1 why we drill on 10 acres -- is because you're seeing
2 almost a one to one incremental, I mean sometimes
3 more, sometimes less. It depends on the
4 heterogeneity of the rock where you're drilling. I
5 mean it varies greatly throughout here.

6 So in our understanding, and like I say,
7 this is -- this is an understanding, that in tight
8 curves built off of a thousand wells, you're seeing
9 almost two to one incremental oil over the 20-acre
10 development total.

11 TECHNICAL EXAMINER EZEANYIM: How many
12 wells do you use in this average?

13 THE WITNESS: Well, it was on that
14 previous slide, if you will go back.

15 TECHNICAL EXAMINER EZEANYIM: How many?

16 THE WITNESS: That -- I used -- go back
17 one more.

18 These are the wells. I used a model for
19 the late time decline analysis from over 300 wells.

20 These -- but just for the early time
21 production I modeled just off of the wells right
22 here (indicating). Because this is -- like I say, I
23 wanted to compare apples to apples, 20-acre
24 development versus 10-acre development immediately
25 offsetting.

1 TECHNICAL EXAMINER EZEANYIM: Okay.

2 Q. (By Ms. Munds-Dry) Let's turn to Concho
3 Exhibit Number 28.

4 A. (Witness complies.)

5 Q. What is this slide?

6 A. This is a plot and -- you know, this is
7 kind of where I start trying to point out that you
8 really have to take a statistical look.

9 This is a -- an initial six-month GOR for
10 every well that's in the Yeso pool. So if the --
11 you know, this being a solution gas drive reservoir,
12 if you were effectively draining those 10-acre
13 locations and seeing the GORs increase, you would --
14 you would expect to see a breakout in the GORs on
15 this plot as those wells are being, you know,
16 drilled into drained locations, and you don't see
17 that. You see very low GORs consistently, you know,
18 from about 1,000 to 2,500; so, therefore, indicating
19 that reservoir energy has not been negatively
20 affected by the 20-acre -- or by the 10-acre wells,
21 even.

22 Q. So if you were seeing acceleration, what
23 would you expect to see in the GOR rate?

24 A. Again, you would expect to see the GORs
25 begin to break out, and you just don't see that

1 there. Initial GOR, that's a great indication of
2 initial reservoir energy, and you're not seeing
3 depletion there. You're seeing initial GORs
4 consistent, indicating that you're drilling into new
5 reserves and adding incremental oil.

6 Q. What does this tell you about how -- what
7 the effect on the reservoir energy is?

8 A. The reservoir energy is not being
9 negatively affected by the -- by the wells, by the
10 drilling. I mean this is -- again, this is a plot
11 of every well within the play right there
12 (indicating), every well within our subject area.

13 Q. All right. So this is a data point for
14 every well that is in a Yeso pool that's subject to
15 Concho's application?

16 A. Yes, it is.

17 TECHNICAL EXAMINER EZEANYIM: Each data
18 point presents a well's GOR?

19 THE WITNESS: Yes, initial six-month GOR.
20 I took initial -- the six-month data and took an
21 average -- or an average GOR over that time frame
22 and plotted it.

23 TECHNICAL EXAMINER EZEANYIM: Six months?

24 THE WITNESS: Yes, sir.

25 Q. (By Ms. Munds-Dry) Okay. Let's go to

1 Concho Exhibit Number 29. Please review that for
2 the examiners.

3 A. This is a plot of peak rate versus time.
4 And it really goes along with that -- that first
5 slide. Each point on there represents an individual
6 well.

7 And what I have broken this well down
8 to -- or this plot down to is its peak rate versus
9 time. I don't know if I mentioned that. And I
10 broke it down to be the first well in the proration
11 unit, their peak rate, versus the peak rate of the
12 fourth well within the proration unit.

13 So again, if you were -- if you were
14 seeing reservoir energy being drained by the earlier
15 drilling, you would expect to see the reservoir
16 energy depleting, and you wouldn't see the high --
17 as high of IPs.

18 And this right here (indicating) -- again,
19 this is a picture of every well across the shelf.
20 And you can see that the cluster of the black wells
21 is -- is, you know, right up there, some of the
22 highest wells that you see within the tract.

23 TECHNICAL EXAMINER EZEANYIM: If you have
24 peak wells at the IP, or where do you get that?

25 THE WITNESS: It's the peak monthly rate.

1 TECHNICAL EXAMINER EZEANYIM: How do you
2 have rate? You do the rate at the Y axis?

3 THE WITNESS: Yes, sir. The rate is on
4 the Y access, and it's -- it's a plot of time versus
5 peak rate.

6 TECHNICAL EXAMINER EZEANYIM: Okay.

7 THE WITNESS: And -- and broken down by
8 first well in the proration unit versus the fourth
9 well with the proration unit.

10 TECHNICAL EXAMINER EZEANYIM: And this is
11 all of the wells?

12 THE WITNESS: Yes, sir. All of the wells
13 within our application.

14 TECHNICAL EXAMINER EZEANYIM: How does --
15 this peak rate, how long does it last?

16 THE WITNESS: Well, typically, your wells
17 are going to begin declining. I mean that's -- you
18 would love it if they hit their peak rate and just
19 stayed flat there, but that doesn't happen, so they
20 typically decline after that, yes, sir.

21 Q. (By Ms. Munds-Dry) Let's skip over then,
22 if we could, Mr. Midkiff, to Concho Exhibit
23 Number 31. What is this slide?

24 A. This is a -- you know, kind of getting
25 into the question now of why do we need -- why are

1 we asking for the allowable that we're asking for.

2 And if you look back, I'm not aware of any
3 time that -- you know, up to this application,
4 production was never restricted.

5 So you've got a lot of evidence in the
6 history to look at well performance and see if
7 there -- unrestricted production -- to see if there
8 was any damage. And you -- frankly, you haven't
9 seen that.

10 So the next question is: Well, what does
11 the allowable need to do to be able to allow you to
12 produce unrestricted?

13 And if you look on this plot here, there's
14 an oil curve right there (indicating), and you see
15 that it reaches up to approximately 300 barrels a
16 day. And you see the typical solution gas drive
17 GOR, it's steadily increasing over time. That's
18 natural depletion of a solution gas drive reservoir.

19 And in fact, you know, even down there at
20 the end where you're looking at a GOR of, you know,
21 a little over 10,000 to 1, you probably -- you know
22 you've got four wells making approximately
23 10 barrels a day. So you expect that, at the end of
24 the life of the well, that the GOR is going to be
25 increasing.

1 Q. And I believe this slide indicates these
2 are Paddock-only wells?

3 A. Yes. They are four Paddock-only wells
4 that produce approximately 324 barrels of oil per
5 day.

6 TECHNICAL EXAMINER EZEANYIM: What did you
7 say?

8 THE WITNESS: Four Paddock-only wells that
9 produced 324 barrels a day. So I guess indicating
10 that if we added -- had added the Blinebry, that
11 initial rate could even be -- be even higher.

12 Q. (By Ms. Munds-Dry) And I believe you
13 said -- I would just ask you to expand on the GOR
14 increasing. That's something you anticipate in this
15 kind of reservoir?

16 A. That is -- that is typical textbook
17 solution gas drive reservoir behavior.

18 Q. And given that increase in GOR, do you --
19 in your opinion, does that damage the reservoir?

20 A. Not at all. If you would -- that's
21 natural. Again, in a low permeability reservoir
22 like this, depletion drive, you have to have very
23 high permeabilities to be able to cause damage
24 within a reservoir. And as low as these
25 permeabilities are you don't -- you don't see that

1 damage.

2 And like I say, we've had I don't know how
3 many years now of unrestricted production. I'm not
4 aware of anybody that has restricted their
5 production previously to this. And so you've got a
6 great dataset of what the reservoir can do without
7 causing damage.

8 Q. And what does this slide tell you about
9 the need for limiting GOR?

10 A. There is -- again, you know, a GOR
11 limitation, in my understanding, would be something
12 that would -- to protect the reservoir. But since
13 everybody has produced without restriction --
14 restricting production, you know that the GOR
15 limitation is not necessary.

16 Q. Let's go to Concho Exhibit Number 32.

17 A. (Witness complies.)

18 Q. What does this slide show you?

19 A. This is the same type of plot. You see
20 four Paddock-only wells. And these wells produced
21 at a peak rate of approximately 230 barrels of oil
22 per day. And again, that's Paddock-only.

23 And if you look, even whenever you see the
24 new wells come on, you typically see a decrease in
25 the GOR. You see new reserves being added there.

1 It kind of goes along with that GOR scatter plot
2 that I showed a minute ago. You are intersecting a
3 new reservoir. So therefore, the total oil curve,
4 or the GOR curve for that 40-acre proration unit, is
5 going to come down because you are adding new
6 reserves.

7 Q. Okay. You moved over into a new area to
8 show us different data?

9 A. Yes. This -- I've got four of these going
10 from 17/29 to 17/30, and the next two will be over
11 in 17/31 to 17/32. Basically, I wanted to show you
12 that production has never been restricted. You've
13 seen no damage, and we need an allowable in place
14 that would allow us to produce at capacity.

15 Q. Let's go to our next slide, which is
16 Concho Exhibit Number 33.

17 A. (Witness complies.)

18 Q. Please identify these for the examiners.

19 A. These are three Yeso wells that produced
20 245 barrels a day. And take note that that's only
21 three wells that produced 245 barrels a day. You
22 see even -- even the same type of GOR reduction as
23 that second well comes on, and I guess indicating
24 again that only three wells produced 245 barrels a
25 day.

1 Q. What does this show you about whether
2 you're accelerating production or tapping your
3 reserves?

4 A. Well, you see that -- that GOR even dip
5 and kind of remain flat a little bit, as you are
6 adding wells to the proration unit, must be an
7 indication that you are intersecting new lenses
8 within the reservoir and adding incremental oil.

9 Q. Okay. Let's go to your final slide in
10 this series, Concho Exhibit Number 34.

11 A. This is a plot of four Yeso wells down in
12 17/32. Those wells produced approximately
13 350 barrels a day, you know. And again you see new
14 wells coming on. You see a drop in the GOR, typical
15 solution gas drive reservoir behavior. GOR is going
16 to increase over time. And therefore, again, this
17 is an example of wells that were not restricted
18 productionwise, and you see no damage to the
19 reservoir. You see typical depletion drive
20 characteristics.

21 MS. MUNDS-DRY: We're going to refer,
22 actually, to our copy of Exhibit 4.

23 Could I ask that you turn on the lights
24 for a minute?

25 Q. (By Ms. Munds-Dry) Could you turn to

1 Concho Exhibit Number 35?

2 A. (Witness complies.)

3 Q. This exhibit has already been admitted,
4 Mr. Midkiff, but I wanted you to go through this
5 order and point out a few of the findings.

6 If you could, turn to page 3 of the order.

7 A. Okay.

8 Q. And if you could, summarize for us the
9 findings in Number 11.

10 MR. GRABLE: I'm sorry. What findings are
11 these?

12 MS. MUNDS-DRY: On page 3, Finding
13 Number 11.

14 MR. GRABLE: In what order?

15 MS. MUNDS-DRY: In Order Number 12199,
16 which is Concho's Exhibit Number 35.

17 MR. GRABLE: Concho 35 is the --

18 MS. MUNDS-DRY: The Devon order.

19 MR. GRABLE: -- the Devon order?

20 Okay. Well, I'm going to object to this
21 witness summarizing the findings in a different
22 matter for which we've not heard the evidence, and
23 the evidence is not a part of the record of this
24 hearing.

25 MS. MUNDS-DRY: This has already been

1 admitted into evidence, Exhibit Number 35.

2 MR. GRABLE: Well, the finding --

3 MS. MUNDS-DRY: You can give weight to the
4 finding as you see fit, so there's no reason why he
5 can't read them.

6 MR. GRABLE: I thought it was admitted,
7 Mr. Brooks, for the purpose of showing the -- what
8 was requested in the application and what relief was
9 granted by the order.

10 But I specifically object to just
11 wholesale incorporation of the fact findings
12 entering here into this record. And asking this
13 witness to summarize them now would just go against
14 the ruling that I thought that you made earlier.

15 LEGAL EXAMINER BROOKS: Well, was your
16 objection, when that was taken up -- I recall the
17 objection and the ruling, but that related to -- did
18 that relate to this order or did that relate to the
19 other order that was before us, that was not
20 admitted into evidence? I thought it was the
21 latter.

22 MR. GRABLE: I thought it was both, but...

23 LEGAL EXAMINER BROOKS: Well, I --

24 MS. MUNDS-DRY: No, I think it --

25 LEGAL EXAMINER BROOKS: It only occurred

1 one time. I do recall that.

2 MR. GRABLE: Well, then, the other one --
3 this will clarify it. The other one was not offered
4 into evidence. It's not in evidence, period, so it
5 must have been on Exhibit 35.

6 But I mean I do -- I do object to
7 polluting the evidence in this case with evidence
8 from another case.

9 LEGAL EXAMINER BROOKS: Well, the findings
10 on Number 11 are recitations of the evidence that
11 Devon presented. Now that evidence is not before
12 us, so I -- I will sustain the objection to that
13 extent. But the witness may recite them for the
14 purpose of commenting on them, if he has opinions to
15 offer that are relevant.

16 MS. MUNDS-DRY: Maybe it will help if we
17 clarify. We're offering them not for the evidence,
18 but to opine as to whether they were -- you know,
19 whether he has any opinions on whether they relate
20 to this case.

21 LEGAL EXAMINER BROOKS: Okay. For that
22 purpose I will overrule the objection.

23 Q. (By Ms. Munds-Dry) Let's go to, then,
24 Mr. Midkiff, Finding 11A and B. And if you could,
25 summarize those for us.

1 A. And just -- just so it's noted, I have
2 read through the entire testimony and seen the data
3 that have been presented on this case, as well as
4 the Mewbourne case. And I do agree with how they
5 presented the material and everything that they said
6 in those cases.

7 Q. And what are the findings in 11A and B?

8 A. (Reading) Devon presented additional
9 testimony from an expert witness at the hearing as
10 follows:

11 Productive lenses within the Yeso
12 formation are laterally discontinuous and difficult
13 to trace from one well to another. The Glorieta
14 formation is rarely produced within this.

15 The amount of net pay or the structural
16 position within the Yeso formation in these wells is
17 not necessarily indicative of the productivity of
18 the well or the reserves within the well.

19 In addition, water saturation calculations
20 from logs are not reliable. The FMI logs have shown
21 some fracturing, but fracturing cannot otherwise be
22 seen or referred from the open-hole logs.

23 Q. And let's go to Finding 16 -- sorry, I
24 skipped a page. Finding -- it's 11E on page 4.

25 A. (Reading) Within the northeast Red Lake

1 Glorieta Yeso pool, as additional wells are added,
2 the initial GOR and initial production from the new
3 wells remain similar; and, therefore, show that
4 reservoir energy has not been significantly affected
5 by previous production.

6 Q. Then let's go to page 5, Finding 16. If
7 you could please read that.

8 A. (Reading) Increasing the depth bracket
9 allowable for the northeast Red Lake Glorieta Yeso
10 pool will enable the operators in the pool to
11 efficiently produce the hydrocarbons within this
12 reservoir, will not result in excessive waste
13 reservoir energy, should not reduce the ultimate
14 recovery of oil from this reservoir, and will not
15 violate correlative rights.

16 Q. And what is your opinion, Mr. Midkiff, as
17 to the similarity or differences between the
18 geologic and engineering findings in this order to
19 what you've testified to this morning?

20 A. Well, I believe everybody agrees that the
21 rock is similar all the way across the shelf;
22 therefore, you know, you look at -- all across the
23 shelf everybody will testify to the heterogeneity,
24 the low permeability environment.

25 And again, you know, probably our best

1 dataset is looking at past production and seeing
2 that we have not damaged the reservoir. We have
3 produced unrestricted and not damaged the reservoir.

4 And therefore, going forward, I believe
5 that an allowable that does not restrict production
6 is -- is -- will allow for full development of the
7 reservoir and is necessary for the prevention of
8 waste.

9 Q. And in your expert opinion, Mr. Midkiff,
10 what do you believe that allowable rate should be?

11 A. I believe it needs to be at least
12 300 barrels of oil per day and an unlimited GOR.

13 Q. And why do you say that?

14 A. Again, you know, the nature of the
15 reservoir, when you talk about a depletion drive
16 reservoir, the only way you can cause damage is if
17 you have a significantly high permeability. This
18 rock is very tight, it's very heterogeneous, you
19 can't see gas break out like that.

20 And I'll point to all the production
21 history that we have where you show typical
22 depletion drive characteristics throughout the
23 entire history of this play.

24 Q. In your opinion, Mr. Midkiff, will the
25 granting of this application be in the best interest

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

3 A. Yes, ma'am.

4 MS. MUNDS-DRY: Thank you, Mr. Midkiff.

5 With that, Mr. Examiner, we ask that
6 Exhibits 12 through 35, except for Exhibit 30 --
7 that's the best way I can say it, without giving all
8 the numbers -- all the series between 12 and 35
9 except for 30, which we did not offer or discuss, be
10 admitted into evidence.

11 I can count them out if that helps.

12 TECHNICAL EXAMINER EZEANYIM: Any
13 objections?

14 MR. GRABLE: I am just looking now at the
15 one that is 30. 30 is this --

16 MS. MUNDS-DRY: We did not offer that at
17 this point.

18 MR. GRABLE: All right. No objection.

19 MS. MUNDS-DRY: Pass the witness.

20 TECHNICAL EXAMINER EZEANYIM: Exhibits 12
21 through 35 except Exhibit 30 will be admitted.

22 LEGAL EXAMINER BROOKS: Okay. The witness
23 was passed at 11:13.

24 TECHNICAL EXAMINER EZEANYIM: Your
25 witness, Mr. Grable.

1 MR. GRABLE: Thank you. Give me one
2 moment to get my book.

3 EXAMINATION

4 BY MR. GRABLE:

5 Q. All right. Let's go back to Exhibit 11, I
6 believe. Was that the three-well cross-section that
7 Mr. Reyes presented?

8 A. It appears so.

9 Q. You remember the exhibit, don't you?

10 A. Yes, sir. I've got it right here.

11 Q. And as I recall your testimony on this
12 exhibit, you said that something like drainage areas
13 calculated from this exhibit would not be accurate
14 because of -- because the actual drainage is larger
15 than what is shown?

16 A. Well, the thing is that you -- you know my
17 point is, is that you have to take a statistical
18 look. If you -- if you focus on an individual well,
19 what your -- your PHI-H calculation, which is, you
20 know, a major part of that calculation, is
21 representative. That PHI-H number is representative
22 of about 6 inches around the well bore.

23 And as heterogeneous as this rock is,
24 that's a terrible assumption, to assume that that is
25 what defines the reservoir, is that small bit of pay

1 that shows up on an 8-inch diameter hole.

2 Q. Did you do PHI-H calculations or net pay
3 calculations or drainage areas from these three
4 logs?

5 A. I did not.

6 Q. Okay. Did you hear Mr. Reyes testify that
7 these are cased-hole logs?

8 A. Yes, sir, I guess so.

9 Q. You can't do those sorts of calculations
10 from cased-hole logs, can you?

11 A. I --

12 Q. Not accurately?

13 A. I am going to have to pass that question
14 on to Mr. Prentice.

15 Q. Mr. who?

16 A. Prentice.

17 Q. Okay.

18 A. But again, you know the point is that
19 it -- it's still -- you know whichever log you look
20 at it on, it is still going to be representative of
21 a thickness. And that thickness at the well bore is
22 not representative of the oil.

23 If you go, actually, to the next slide,
24 you will see exactly what I'm talking about.

25 Q. That's what I want to -- I have already

1 turned there. So let's go to 12. Let's talk about
2 Exhibits 12 and 13.

3 What do you want to prove? These are
4 talking -- what do you want to call these? What do
5 you want to call these little pictures?

6 A. I call them -- it's a compartmentalized
7 lens reservoir. And typically, we describe a
8 reservoir like this of being of a lenticular
9 reservoir.

10 Q. Okay. Now, do Wells A and B represent any
11 real wells within the reservoir?

12 A. No, sir. This is -- that's typically what
13 you see on a log, though, is behavior like that.

14 Q. Is this horizontal line representative of
15 anything in the reservoir?

16 A. It -- it was more or less to just indicate
17 maybe a formation top, and that's it.

18 Q. Well, that's what I say. Is that supposed
19 to be the top of the Yeso, or what -- what's it
20 doing there?

21 A. Well, it's -- it could be the top of the
22 Yeso. Again, you know, the Yeso -- whether it be
23 the Paddock or the Blinebry -- typically behaves the
24 same. And this was just a representation of the
25 Yeso, however you -- whether you want to call it the

1 Paddock or the Blinebry.

2 Q. That's what I'm trying to pin down, what
3 this is supposed to represent. So am I to assume
4 that this -- the upper horizontal line is the top of
5 the Yeso and the bottom of the horizontal line is
6 the base of the Yeso?

7 A. Yes, sir.

8 Q. Okay. And so the part in between, in
9 which you've colored in these little lenses or pods,
10 represents the areas of porosity developing
11 stratigraphically within that overall area?

12 A. Yes, sir.

13 Q. Now, are these wells supposed to be
14 representative -- are you presenting this to be
15 representative of the actual reservoir?

16 A. Yes. That's how -- that's how we believe
17 that the reservoir behaves, yes, sir.

18 Q. Have you seen any log, and have you
19 presented any log, where it only shows up one
20 discrete section of porosity on the entire log?

21 A. Yes, sir. I believe there's actually --
22 you see behavior similar to that on -- on the
23 previous exhibit that we were looking at.

24 If you will look on -- I guess it's Well
25 Number 47, you --

1 Q. Let me go back to 11.

2 47 is the leftmost log?

3 A. Yes, sir.

4 Q. Okay. Aren't all of these porosity
5 indications?

6 A. Again, yeah. This could be -- you know,
7 you see the -- look at the change from Well
8 Number 47 to Well Number 21.

9 There could be, you know, smaller or
10 several other compartments within the reservoir that
11 have intersected this well bore, yes, sir.

12 Q. Which well bore?

13 A. Well Number 47.

14 Q. I was talking about Well A on your
15 Exhibit 12, which shows a well intersecting only one
16 very thin edge piece of a single pod.

17 I mean I'm telling you I don't see any
18 logs that are in anybody's evidence in this record
19 that look like that on a log. Isn't that true?

20 A. Well, you know if you will look at, I
21 guess Well Number 48, and -- you know, you look down
22 through the Blinbry, and you really just have kind
23 of that one thick section there in the Paddock,
24 that's part of -- you know as far as what has been
25 presented, that may be the best representation of a

1 single, you know, lens within the reservoir
2 intersecting. It will be intersected by this well.

3 Q. But again, these are cased-hole logs not
4 typically used for picking porosity, are they?

5 And this shows more than one, even up in
6 the Paddock. And then some of these things down in
7 the Blinebry haven't even been colored in this log.
8 Isn't that true?

9 A. Yes, sir. It's very heterogeneous rock.
10 You don't know what you're drilling until you put a
11 hole --

12 Q. There are porosity curve traces greater
13 than 3 percent that are not colored green?

14 A. Okay. Yes, sir.

15 Q. Let's go back to Exhibit 12, then.

16 Isn't -- instead of -- how -- what's the
17 distance between Wells A and B?

18 A. Again this was, you know, purely a diagram
19 to illustrate how we look at the reservoir. You
20 could consider those wells to be 10-acre offsets.

21 Q. But isn't this reservoir, just generally
22 speaking, as you have said, extremely lenticular,
23 stratigraphic, and there are multiple stringers
24 along each of these log traces, not just one or two?

25 A. That could be true, yes, sir.

1 Q. Just -- this water flood inference that
2 was coming kind of out of left field, but if this
3 was truly representative, if you converted this Well
4 A to an injector, you'd only water flood this lens,
5 wouldn't you?

6 A. Well, no, sir. If you go to the next
7 slide --

8 Q. Okay.

9 A. -- you could see what happens with our
10 fracture stimulations.

11 Q. All right.

12 A. And I think what you're alluding to is,
13 again, why we perforate across the entire interval,
14 because we want to reach out and we want to touch
15 all that, you know, with our floods. We want to
16 make sure that we're flooding each of those lenses.

17 Q. Let's see. You had flooded through your
18 artificial fractures?

19 A. Yes, sir. This -- this reservoir --
20 typically, this play was not, you know, as
21 statistically viable until they began fracking the
22 wells and connecting all of those multiple
23 productive lenses together.

24 Q. Do you know anything about this pilot
25 flood that your company has done in the Loco Hills?

1 A. No, sir. That -- Mr. Prentice has
2 spearheaded that project.

3 Q. Now, are these indicated perforations
4 typical of what your company does just as a -- kind
5 of a predetermined set of perforations down through
6 the well bore, irrespective of log analysis?

7 A. Yes, sir. Again, you know, the following
8 slide indicates that there's no correlation between
9 the productivity of oil and what you see at the well
10 bore. So therefore, it's important to us to make
11 sure that we complete the entire section and avoid
12 wasting reserve that didn't show up on our logs,
13 lenses that might have been outside of our well bore
14 that we didn't intersect.

15 Q. Now this statement in here, "The
16 assumption cannot be made that what is seen at the
17 well bore defines a reservoir," I want to ask you
18 about that.

19 Now what you see at the well bore through
20 a log or for analysis or other means of gathering
21 data, if it is done, is accurate, is it not, if it's
22 done properly?

23 A. If -- maybe I should have said the
24 assumption cannot be made that -- what is seen in a
25 single well bore. Obviously, we take all of our

1 logs, and actually any log that penetrates a zone
2 where we're looking, and those go into defining the
3 reservoir.

4 But if you are looking at an individual
5 well, and assuming that that defines the reservoir,
6 would be an inappropriate assumption.

7 Q. But aren't each of the logs representative
8 of the reservoir at the point at which they're
9 drilled?

10 A. Yes. They are representative of that
11 8-inch diameter hole, or however big the hole is.

12 Q. And really, the only data you have is the
13 data you get from logging for analysis and
14 production. The only data you have is the data that
15 comes from individual wells?

16 A. Yes, sir. And that's why you must look at
17 it together, and not just a single well. You have
18 to look at all data, you know.

19 And like I said before, you could take --
20 as statistical and heterogeneous as this reservoir
21 is, you could take a single well, a single example,
22 and try to, you know, draw any conclusion from it
23 that you wanted to. It is important to look at all
24 data, all the wells.

25 Q. Well, I think everybody would agree with

1 you on that. But it is your company's practice,
2 also, not to take cased-hole logs -- or I mean
3 open-hole logs -- on approximately three out of four
4 wells in a proration unit?

5 A. Well, typically, that's only done in areas
6 that we have a significant amount of wells that have
7 drilled through, and so we have a very good
8 understanding of the reservoir at that point.

9 So at that point, yeah, it becomes
10 unnecessary to -- to drill another -- I mean to run
11 those logs.

12 Q. Do you -- I asked Mr. Reyes, and he didn't
13 know. But do you know how many wells in your area
14 of interest Concho has drilled and how many of them
15 you have run open-hole logs on?

16 A. No, sir, I do not.

17 Q. And this slide also says Wells A and B
18 have similar reserves. One of the reserve
19 numbers -- and again, is this just kind of a cartoon
20 assumption that they're going to have similar
21 reserves?

22 A. Exactly. You know, basically, you look at
23 the volume of what -- those lenses that I have
24 illustrated on there, and assume that those volumes
25 are going to be about the same. And so you have

1 similar reserves whenever you try to apply a
2 drainage area to that, based on the net pay
3 encountered for that well bore.

4 You're going to calculate a much bigger
5 drainage area for the well that has a much lower
6 PHI-H versus a well that has a much higher PHI-H.
7 And that's why you can't look at it individually.
8 You take the average of those wells, and that's
9 probably a better indication of -- of your average
10 drainage area.

11 Q. Okay. And these are the averages that
12 come off of your Exhibit 38?

13 A. Yes, sir.

14 Q. Now, do you know what the ranges are
15 within those averages?

16 A. I --

17 Q. What's the high and low that come out to
18 an average of 9.2?

19 A. You know, I looked at the data. I've got
20 the ranges, and I don't know if I have this with me.
21 But I looked at the ranges from probably about 17/29
22 over to 17/32. And typically on a lease basis, the
23 average that you see is anywhere from like 11 acres
24 in the Paddock to, you know, 6 acres in the Paddock.

25 Or in the Blinebry the range is typically

1 from, you know, even down to 1 to 2 acres up to
2 maybe 6 acres. It's very -- again, it's very
3 complex rock.

4 Q. Can you get that information showing the
5 ranges within these averages and furnish it to us?

6 A. Of the -- of the drainage areas?

7 Q. Yes.

8 A. Yes, sir. I -- I might have that with me.
9 I might be able to get that for you at lunch.

10 Q. Now you make a statement in here, just as
11 kind of a general representation, that these wells
12 had similar reserves.

13 Haven't you actually seen a fairly wide
14 range in reserves in the wells you've drilled?

15 A. It depends on where you're talking about.
16 I mean it's -- again, it's statistical. And the
17 point of the illustration was to show why the -- the
18 drainage areas.

19 Q. No, I understand that. But I just want to
20 test your statement that -- I take it from the
21 exhibit that you are putting out is a -- is a
22 statement that is applicable across the reservoir,
23 that you're going to have similar reserves. And I
24 think the data really shows otherwise, doesn't it?

25 A. Well, it varies, you know, from where

1 you're at in the play, yes, sir. It depends.

2 Q. It's better to the west and worse to the
3 east, in general?

4 A. Yes, sir. And again, we're representing
5 wells that are on -- you know, again, approximately
6 10-acre spacing here, is what the illustration is.
7 So there's going to be wells that are possibly in
8 the same area.

9 Q. But in a true statistical play you would
10 drill all of those because you don't know where the
11 good ones are going to be, so you've got to drill
12 enough holes to get a broad enough spread across the
13 area that you're going to get the good ones with the
14 bad ones?

15 A. Yes, sir. And in fact, if you look at
16 the -- the map that I have got, kind of representing
17 17 South, 30 East, Section 8, all of those 10-acre
18 wells have had similar production curves, and they
19 were -- all appear to be economic wells. So you
20 know, that shows that in a specific area you can
21 have similar production characteristics.

22 Q. What does Concho consider an economic well
23 in this reservoir, as far as reserves?

24 A. Oh, you know, it depends on where you're
25 at. Because, you know, it gets -- it gets shallower

1 in some areas. So you know, that has a big effect
2 on your economics. It really, there's a -- there's
3 a range from one end to the other depending on where
4 you're drilling.

5 Q. The deeper to the east?

6 A. Deeper to the east, yes, sir.

7 Q. And higher water stats to the east?

8 A. I have not studied that.

9 Q. But on average, you would need -- you're
10 looking for 50,000 barrels in oil, or what are
11 you --

12 A. At least 50,000 barrels, yes, sir.

13 Q. You wouldn't drill a well for
14 20,000 barrels, would you?

15 A. Not intentionally.

16 Q. Okay. What sort of payout time does COG
17 typically look for under these oil prices?

18 A. Oh, our payout times are usually less than
19 a couple of years. I don't -- I can't give you an
20 exact number on that. I don't have a set of our
21 economics in front of me.

22 Q. So you would have a fair number of wells
23 that don't pay out in one year?

24 A. That, I -- I don't feel comfortable
25 answering that, because I don't know off the top of

1 my head.

2 Q. Well, I am coming back to this again.

3 If you think these wells typically have
4 similar reserves, and you can't tell from the logs
5 what they're going to connect to after you frac
6 them, why do you see such differences in the
7 reserves well to well?

8 A. The heterogeneous nature of the reservoir.
9 You don't know what you're intersecting. You know,
10 I really think -- you know, this is just an
11 illustration.

12 But if you look at the next slide, the
13 plot of PHI-H versus productivity, that's real-world
14 data right there showing, again, textbook
15 distribution for no correlation. It -- it's very
16 obvious.

17 Q. Well, let's look at that next one. Now,
18 this -- this is one you corrected from your first
19 plot, right?

20 A. Yes, sir.

21 Q. What wells did you take out, going from
22 the original 14 to this 14?

23 A. I wanted to narrow it down to just wells
24 that were completed within the first three months.

25 Q. In both zones?

1 A. Yes, sir. I'm sorry. Yes, both zones.

2 Q. For the first three months?

3 A. Yes, sir. That way it was -- you know, it
4 was the most representation of the actual capacity
5 that that well had.

6 Q. Now the initial production rate would bear
7 maybe not a direct lineal relationship, but
8 certainly a substantial relationship to the ultimate
9 reserves for the well, would it not?

10 A. Sometimes, yes, sir.

11 Q. Do they decline similarly?

12 A. We typically --

13 Q. The type --

14 A. I'm sorry?

15 Q. The type curve of decline?

16 A. It depends on where you're at. But
17 typically, yes, sir, we -- we model wells similarly
18 there in the same area.

19 Q. All right. But what you're trying to
20 demonstrate from this, that you do not see a
21 correlation between 12-month cumulative oil and
22 PHI-H from the log data?

23 A. Yes, sir. And kind of what you were
24 saying how, you know, IPs can be representative of
25 the ultimate recovery, well, I wanted to take that a

1 step further. That way, it wasn't just IPs versus
2 PHI-H. That way, you've got an actual indication of
3 12 months of production, so you have a good
4 indication of what type of behavior that well was
5 going to have versus PHI-H.

6 Q. But these are 12 months, not one-month
7 IPs, right? Not instantaneous IP?

8 A. It's a 12-month cumulative oil production.

9 Q. But you're not trying to show from this
10 graph that these initial production 12-month rates
11 do not bear a relationship to ultimate reserves?

12 A. I'm saying that the initial 12-month
13 productivity does not bear a correlation to
14 reserves?

15 Q. Yes. That's not your testimony?

16 A. That is not my testimony, but you would
17 typically expect that to be true.

18 Q. It would be true that it does bear a
19 relationship?

20 A. Yes, sir. And again, not all the time.

21 Q. Right. So then I'm getting back again to
22 if -- if your Exhibit 13 is accurate, that wells
23 have, quote, similar reserves and you're going to
24 frac into about the same number of lenses, you
25 really don't see that in the engineering data. You

1 see significant differences between the wells. Is
2 that true?

3 A. Restate that. I'm sorry.

4 Q. Isn't it true that you see a significant
5 difference among the ultimate production well to
6 well across your wells in this field?

7 A. You know, from -- from -- within an area
8 we typically see the same type of -- of well
9 performance. But you know, we're talking about --
10 you know, I don't know how many townships here or
11 ranges here. It's a large area, so it's hard to say
12 that about that big of an area.

13 But within a certain area you do expect
14 similar well performance.

15 Q. Do you know, on Exhibit 14, what area or
16 areas these wells are located? How many of them
17 would be in, quote, similar areas?

18 A. This is a -- I believe it's -- well, I
19 know it is. It's a plot of every well that we had
20 within the application area that we had PHI-H
21 numbers for, that had Blinebry and the Paddock both
22 added within the first 12 months.

23 So it's -- it's an area -- again, that's
24 one of the main things I want to stress, is you have
25 to look at the whole picture. You can't look at an

1 individual well. You have to look at the whole
2 picture, because you could make any individual case
3 represent whatever you wanted it to. As
4 heterogeneous as the reservoir is, it's very
5 complex. You are going to see much different
6 behavior in certain places.

7 Q. Let's go to your Exhibits 15 and 16, the
8 aerial view of the lenses. Are those kind of wing
9 tape things, your opinion of how the fractures
10 spread out on stimulation in this reservoir?

11 A. Typically, yes, sir.

12 Q. With the fracs that Concho employs?

13 A. Yes, sir.

14 Q. Is Concho now doing slickwater fracs?

15 A. Not -- no, sir, I don't believe so.

16 Q. You use gel for fluid?

17 A. Yes, sir.

18 Q. And do you know whether -- isn't it true
19 that gel usually extends a shorter distance out into
20 the reservoir than slickwater?

21 A. I'm not a -- I'm not a completions
22 engineer. So, you know, I -- I would assume that to
23 be true based on my understanding. But again, I'm
24 not a completions engineer.

25 Q. All right. Are you aware of the

1 differences in fluid volumes between the slickwater
2 frac employed by Burnett now and the gel frac
3 Concho uses?

4 A. Yes, sir, I do understand some of the
5 differences. There's much larger volumes typically
6 pumped by Burnett.

7 Q. In the range of five to ten times the
8 volume?

9 A. Yes, sir.

10 Q. How about sand or other propense?

11 A. I haven't studied that.

12 Q. Are you expressing any opinion, then, as
13 to whether or not you -- these Exhibits 15 and 16
14 would be representative of how many lenses or
15 stratigraphic intervals a 20-acre well drilled by
16 Burnett would contact?

17 A. I believe if you -- if you -- if you took
18 a well, like you're suggesting that has longer frac
19 links on it, well, if you took those planes and just
20 extended them out for just two wells, you'll see all
21 the wells -- the reserves within the middle of the
22 proration unit, all of those lenses, those
23 compartments that are oil bearing and productive
24 that would not be contacted or -- with that type of
25 completion. You need a density to be able to

1 intersect all of those lenses.

2 Q. Well, but simply put, if the fracture
3 pattern goes out farther, it's going to connect more
4 lenses?

5 A. Yes, sir, it will. It -- possibly. I
6 mean I haven't ever been down the hole. So...

7 Q. Are you aware that Burnett's wells, on
8 average, have significantly larger reserves than
9 Concho's wells?

10 A. I have not seen that.

11 But again, you would expect it because,
12 you know like I represented on that one plot, you're
13 probably going to get a little bit higher initial
14 production. But typically, the forecast for
15 those -- those examples right there (indicating),
16 they had both Blinbry and Paddock completions in
17 them. They -- it -- eventually well performance
18 is -- late time, is going to be similar. So all
19 the -- really, the incremental is what you see there
20 at the beginning, and it's not exactly -- you're
21 recovering much more oil with increased density.

22 Q. Let's go to your Exhibit 17. It's the
23 first cross-section. There we go.

24 Now the three wells depicted on the
25 cross-section are these three wells where I'm

1 pointing (indicating) in Section 13, correct?

2 A. Yes, sir.

3 Q. And if I have done my counting right, this
4 would be the 40-acre that would be 13K, and this
5 southern one would be 13N?

6 A. That's my understanding, yes, sir.

7 Q. Now 13N, Nancy, has two vertical wells?

8 A. Yes, sir.

9 Q. And 13K has a single vertical well?

10 A. Yes, sir.

11 Q. The single vertical well being this well
12 here (indicating)?

13 A. Yes, sir. As far as -- you know my
14 understanding, we filtered these wells down to wells
15 that were just, you know, within the Yeso formation.
16 So...

17 Q. Yes. I think that's all that Burnett has
18 out here. But anyway, this is the toe, where I'm
19 pointing now (indicating), for the horizontal well
20 at the north end in K. Isn't that the toe, or the
21 end of the horizontal trace of the well bore?

22 A. That's my understanding, yes, sir.

23 Q. So then the vertical portion is somewhere
24 over here (indicating)?

25 A. Yes, sir.

1 Q. Do you know at what point it enters the
2 Yeso and begins to have perforations?

3 A. We tried to illustrate all the
4 perforations on the cross-section there. And again
5 you see the Xs along that are plotted along the well
6 bore. If you actually -- it's hard to see on the
7 computer screen. But if you actually look on the
8 map you can see where they are.

9 Q. Well, do you have a pointer? About where
10 would it begin?

11 A. Let me see.

12 Q. Right about here (indicating)?

13 A. About right there (indicating), like very
14 close to those other -- I'd point out about 2 inches
15 from the laser point here. I can't -- right there
16 (indicating), very close. It's almost between the
17 14 --

18 Q. Are we talking about a vertical projection
19 at this point, if this perforation is -- we're
20 talking about bringing this up to the surface, being
21 the point of which, in that trace of the horizontal
22 well bore, it's actually perforated in the Paddock?

23 A. Yes, sir. That would appear to be.

24 Q. And you say it is -- I don't know what the
25 scale of -- is there a scale across here?

1 A. I don't know if there is -- well,
2 actually, I believe that there is up there at the
3 very top. It's between the -- let's see here.

4 Q. I think that's 600- --

5 A. It's 327 for the -- between the Well
6 Number 14 and Well Number 13.

7 Q. Right. It's --

8 A. And approximately 700 feet between Well
9 Number 13 and Well Number 12.

10 Q. Okay. From their surface locations?

11 A. Yes, sir.

12 Q. But you haven't plotted where a vertical
13 projection of that -- this initial portion of the
14 perforations is, but it would fall somewhere --

15 A. It's plotted along the well bore there.

16 Q. -- somewhere along there (indicating)?

17 A. Yes, sir. Like I said, you can see it on
18 the map.

19 Q. Now to understand this, in fact in
20 three-dimension, this horizontal well bore is not
21 pointing right at the other well, is it? It would
22 actually be pointing out, essentially, 90 degrees
23 back out of the paper this direction (indicating),
24 would it not?

25 A. Yes, sir.

1 Q. But that's just the necessity of
2 representing 3D on a 2D piece of paper?

3 A. Yes, sir.

4 Q. Now -- okay. So what we have in these two
5 40-acre subdivisions, prorations, are a total of
6 three vertical wells in a single horizontal well,
7 correct?

8 A. Well, we have illustrated two vertical
9 wells and one horizontal. But there is, yes,
10 another vertical well there.

11 Q. There's one vertical well --

12 A. Yes, sir.

13 Q. On your section you've got the two
14 verticals in 13N, Nancy, but there's another
15 vertical in 13K?

16 A. Yes, sir.

17 Q. So I'm just looking at the density of
18 development here. We have -- we have three vertical
19 wells, right?

20 A. Three vertical wells, yes.

21 Q. In 80 acres?

22 A. Yes, sir.

23 Q. And then we have a single horizontal well?

24 A. Yes, sir.

25 Q. So if we count that as two wells, you've

1 got five wells in 80?

2 A. The horizontal?

3 Q. Yes.

4 A. Yes.

5 Q. And then the horizontal has perforations
6 in -- some perforations in N and more perforations
7 in K?

8 A. Well, you -- one way you need to look at
9 it, though, is as many different perforations as you
10 see along that well bore, you can almost consider
11 those mini-completions along that well bore. So
12 it's really not a good representation because, you
13 know, it shows that -- I think -- I believe their
14 average spacing between their completions is about
15 200 feet, which indicates that they are wanting to
16 intersect as much of the reservoir as they can,
17 based off how they perforate and how they complete.

18 Q. Let's back up again. Are you -- isn't the
19 division now considering rules for treatment of
20 horizontal wells? I mean given an allowable, if
21 you've got a horizontal well intersecting two 40s,
22 don't we get an 80-acre allowable?

23 A. Yes, sir. That's my understanding.

24 Q. Isn't it kind of the industry
25 understanding that if you've got a horizontal well

1 across these two proration units, spacing units,
2 whatever you want to call them, they should count as
3 a well in each one?

4 A. Yes, sir.

5 Q. So again going back to my example, what
6 you have here, even counting the horizontal well as
7 two wells, you've got five wells in 80 acres?

8 A. It is. But again, that's just a -- that's
9 just a number. What you have to look at is how the
10 reservoir is being completed, and you have many
11 more -- like it's actually -- there's obviously an
12 attempt there to intersect as much of the reservoir
13 as possible. You can't just call it one well,
14 because there's an attempt to complete as much of
15 that reservoir as possible that's connected to that
16 well.

17 Q. Do you know the total amount of
18 perforations in this?

19 A. They should all be indicated on that map
20 there.

21 Q. Well, I'm sorry. I've had good eyes for
22 years but they're starting to fail me. I don't see
23 them.

24 But just looking at your -- I mean if the
25 scale is all the same, the amount of perforations in

1 the vertical wells look about the same as in the
2 horizontal well, don't they --

3 A. Well --

4 Q. -- total number of feet?

5 A. -- again, what -- if we had projected, and
6 that's a -- that all the way out, it would have just
7 made an unnecessarily long cross-section. We had
8 our -- we had our -- when this was made we had it
9 represent and show that the horizontal was landed in
10 the same formation. But we didn't necessarily...

11 Q. All right. Well, the assumption -- I'm
12 asking you to make the assumption; it's not your
13 assumption. But counting the horizontal well as two
14 wells, you've got only slightly more dense
15 development in this 80 acres than you would on 20.
16 You've got five wells in 80 acres?

17 A. Well, it's my understanding that anything
18 more than two wells within a 40-acre proration is
19 considered less than 20-acre spacing.

20 Q. Right. But it's not drilled into
21 10 acres, though, is it?

22 A. It's not. But if you look at what is
23 considered to be 10-acre spacing, it's 660 feet
24 apart. And you can, you know, kind of eyeball and
25 see them, that you have completions within 3- to

1 400 feet of each other. So this is -- this is
2 representative of much closer spacing than 10-acre
3 spacing.

4 Q. Maybe in this isolated area, but not
5 across the whole 80 acres?

6 A. Well, if you look at the three horizontals
7 there in Section 14 and section -- stretching over
8 into Section 13, you can see that's three -- three
9 horizontals that are all completed within 10 acres.
10 It would be considered 10-acre offsets to each
11 other.

12 And those wells -- you know if you put
13 four vertical wells within a single proration unit,
14 one horizontal well is going to intersect two
15 locations and another horizontal is going to
16 intersect two locations. Therefore, it would be
17 considered, you know, at least four completions
18 within a proration unit. And -- and you have
19 actually got more than that, because you have
20 increased your number of perforations across that
21 proration unit.

22 I guess my final point is you can't just
23 look at the number of well bores. You have to look
24 at how the reservoir was developed.

25 Q. All right. Well, let's look at your next

1 one, Number 19.

2 MS. MUNDS-DRY: I'm sorry to interrupt.
3 I'm wondering if you're going to be much longer.
4 We're getting close to the lunch hour.

5 MR. GRABLE: I've probably got about 15
6 minutes or so, maybe more. Let's go ahead and take
7 our lunch break now. We've got reservations.

8 TECHNICAL EXAMINER EZEANYIM: Okay. Yeah.
9 At this point, I think we're going to go ahead and
10 take our lunch break. We'll be back by 1:00. Is
11 that okay with everybody?

12 LEGAL EXAMINER BROOKS: Yes. It's 11:40
13 now.

14 (A lunch recess was taken from 11:52 a.m.
15 to 1:02 p.m.)

16 TECHNICAL EXAMINER EZEANYIM: Good
17 afternoon. We're going to go back onto the record.
18 It's now approximately 1:00, so thank you for coming
19 back on time.

20 Mr. Grable, you are in the process of
21 cross-examination. So you can complete -- but
22 before we do, let's try to give you an idea of how
23 much time you have.

24 LEGAL EXAMINER BROOKS: What my chart
25 shows is that Burnett/Hudson has 5 hours and 27

1 minutes remaining, and the other parties have 9
2 hours and 48 minutes remaining.

3 My arithmetic probably needs to be
4 checked.

5 TECHNICAL EXAMINER EZEANYIM: Yeah, that's
6 approximately. We'll check that, but I just wanted
7 to give you an idea of what we are dealing with.

8 Go ahead, Mr. Grable.

9 MR. GRABLE: Thank you very much,
10 Mr. Ezeanyim.

11 Q. (By Mr. Grable) Mr. Midkiff, I want to
12 talk about your Exhibits 18, 20, and 22.

13 MR. GRABLE: Mr. Rankin, if you could put
14 that up on the screen.

15 MR. RANKIN: Which one?

16 MR. GRABLE: The graphical presentation of
17 the monthly oil production that follows that. Maybe
18 I misnumbered them.

19 Q. (By Mr. Grable) 20 and 22 are the ones
20 that follow the other cross-sections, just to kind
21 of get you to get in mind of what we're going to be
22 talking about, all three of these.

23 And as I understand your conclusion from
24 these, after looking at the Burnett wells that you
25 picked out in the preceding cross-sections that we

1 were discussing prior to the lunch break, I
2 understand your conclusion to be that you see no
3 interference among or between the Burnett wells that
4 were drilled on -- closer than the 20 acres,
5 basically.

6 A. Yes, sir.

7 Q. Now, you also recognized in your testimony
8 a couple of times that Burnett uses a larger
9 fracture stimulation than Concho.

10 A. Yes, sir.

11 Q. Now in looking at all the data which you
12 say is important, wouldn't it be important to know
13 how the wells that you have selected for these
14 examples were completed and stimulated?

15 A. Yes, sir.

16 Q. Do you -- are you aware that in each -- in
17 each case the wells on 18 and the wells on 20 and
18 the wells on 22, which are the wells that are on the
19 cross-sections, respectively 17, 19, and 21, are
20 wells that were drilled early last decade in 2002,
21 -3, -4, -5 before Burnett started using slickwater
22 fracs?

23 A. Those wells right there?

24 Q. Yes, sir.

25 A. Looking at that curve, it appears that

1 well was drilled in 2006. That was their earliest
2 well on that.

3 Q. Okay. But the other one -- let's look
4 at -- look at the next one. Let's look at 20.

5 A. Okay.

6 Q. The first -- the one well that -- the
7 oldest well was completed in early 2004, the next
8 well right about January of '06, and the next well
9 January of '08.

10 A. Okay.

11 Q. If Burnett did not begin using slickwater
12 fracs until sometime in 2007, then some of these
13 comparisons are not accurate, are they? They're not
14 similar?

15 A. Well, I believe what you -- what you see
16 is that you have three different completions in --
17 on less than 10-acre spacing. They are all draining
18 incremental reserves. That's the conclusion. Based
19 on no matter what the completion is, you are showing
20 incremental recovery.

21 Q. Well, if -- you're aware that completion
22 techniques in this reservoir and other type
23 resource -- kind of reservoirs have changed
24 significantly over the last 10 years?

25 A. Yes, sir.

1 Q. And that would occur when you're working
2 with XTO and Haynesville, or all of these other kind
3 of tight rock reservoirs, completion techniques have
4 evolved, correct?

5 A. Yes, sir.

6 Q. Now if all of these wells were completed
7 with only just a hot acid job, no sand and really
8 not fracked, would that cause you to rethink your
9 conclusion?

10 A. Well, I do have the completion reports
11 that we can look at on these wells. But I still
12 think that the fact remains that if you look at the
13 lowest performing well on that, let's say the lowest
14 IP, that well that -- the one that came on in
15 January of '04, that well appears to have come on at
16 approximately 100 barrels a day. That's -- that
17 indicates that well probably had a decent
18 stimulation put on it.

19 Q. But you don't know what stimulations were
20 put on?

21 A. No, I do not. But like I said, I do have
22 those reports if you would like to look at them.

23 Q. I will conclude that if none of these
24 wells on any of Exhibits 18, 20, and 22 were
25 completed with the number of stages and size of

1 fracs and through what Burnett now employs, would
2 that affect your conclusion that you've reached from
3 these graphs?

4 A. No, sir. Like I say, if you look at the
5 volumes over the small area these completions were
6 over, you have to indicate that there is
7 significant, I guess completion, within the
8 reservoir.

9 MR. GRABLE: All right. Let's go to 23
10 now if we can, Mr. Rankin.

11 Q. (By Mr. Grable) And as I understand your
12 testimony on this exhibit, on the case of 23, you
13 reached a conclusion that incremental drilling from
14 two wells to four wells -- I mean the additional
15 wells three and four result in an incremental
16 production of 247,000 barrels?

17 A. Yes, sir.

18 Q. How much time do you need to have in order
19 to have a reliable basis to assert a decline curve?

20 A. Well, you know, we have got models, like I
21 say, that -- you know, completed from wells that
22 have been, you know, in this reservoir since the
23 beginning of it. And we use all of those models
24 to -- to build our tight curves. And so you know,
25 this isn't -- I didn't -- you know, this isn't just

1 a random forecast, this is based off of models, you
2 know, having been built over a thousand wells.

3 Q. Okay. We'll come to that in a minute. I
4 don't believe that was the question I asked you.

5 But let me ask you this. In looking at --
6 you take off -- a period of time for two wells is
7 how long on this -- this particular example?

8 A. It appears to have been from January of
9 '07 through I guess the middle of '09.

10 Q. Pardon me. Two wells, wouldn't that be?

11 A. Oh, from the middle of '07 through the
12 middle --

13 Q. Wouldn't that be maybe about April 1st of
14 '08?

15 A. Oh, I'm sorry. I was going from the
16 beginning of the first well, as well. I'm sorry.

17 Q. I'm asking -- when you are doing a
18 comparison there between two-well development and
19 four-well development.

20 A. Yes, sir.

21 Q. So I'm trying to focus on, okay, how much
22 time, how much production history did you have with
23 two wells? And it looks like maybe 14 months.

24 A. Yes, sir.

25 Q. Is that a sufficient time from which to

1 derive a curve?

2 A. Based on our experience in the reservoir
3 and, like I say, the high number of wells that we
4 have completed, we do -- and the incremental
5 recovery where we drilled in wells that have been
6 completed for a period of years, we -- we -- it's a
7 safe assumption for us to assume that that well will
8 behave similarly to those other wells.

9 Q. Is that a yes?

10 A. What was your question? I'm sorry.

11 Q. All right. Let's look at the production
12 during this 14 months or so. It goes from about
13 where I'm pointing here (indicating). It goes up,
14 comes down, comes up dramatically, comes down
15 dramatically, and then comes up again. I mean --

16 A. What --

17 Q. -- and then you begin your decline from
18 this point (indicating).

19 A. What was happening there is -- is you can
20 kind of see the different bumps. And you see a
21 Blinebry completion and then a Paddock completion on
22 a well and then a Blinebry completion and a Paddock
23 completion for another well.

24 So you know, there's downtime associated
25 with -- with those completions. So that's why you

1 see the curve bouncing around. Those last months
2 that we forecasted from, that's where all the wells
3 were on line with all the zones producing. So it
4 was a safe assumption -- you had about three or four
5 months there showing consistent production -- that
6 that was a reasonable place to forecast from.

7 Q. So now we're down to three or four months.
8 and that's a sufficient place to start from here?

9 A. Well, that's approximately 120 days of
10 production to again, like I say, establish a rate
11 from which to forecast from, yes, sir.

12 Q. Okay. Now, the curve. Did you -- did you
13 pick that curve?

14 A. Yes, sir, I did.

15 Q. Did you do it by hand or was it done by
16 some sort of computerized calculation?

17 A. I did these forecasts in Aries.

18 Q. Okay. And does an Aries forecast print
19 out the input and output in the program to show how
20 you have reached -- how you came up with this?

21 A. Yes.

22 Q. Do you know if those were produced in
23 discovery?

24 A. No, sir, they were not. I don't believe
25 that they were.

1 Q. They weren't. So do those reside in
2 Houston -- I mean pardon me -- Midland?

3 A. Yes, sir.

4 Q. Can they be printed off a computer?

5 A. Yes, sir. I'm sure we can get that. The
6 problem with that is it's on a -- it's on a drive
7 that I can access while I'm in Midland, but I've got
8 my computer here. I don't know if I can get anybody
9 else to be able to get on my drive, so we might have
10 to wait until I get back.

11 Q. The same answer on this curve. It was
12 derived the same way from an Aries forecast?

13 A. Yes, sir. Well, I used Aries to create
14 the -- the data, yes, sir.

15 Q. The Aries was a computer -- it's a
16 software package --

17 A. Yes, sir.

18 Q. -- to do this.

19 But you've got to input certain data for
20 it then to forecast --

21 A. Yes, sir.

22 Q. -- the decline. And we don't know what
23 data was input?

24 A. I can produce that.

25 Q. You can?

1 A. Yes, sir.

2 Q. Today?

3 A. No, not today.

4 Q. Okay. All right. Well, let's look at the
5 next period of time. Now we've got, what, about
6 seven or eight months here with three wells. And
7 then we've got maybe almost a year, 10 or 12 months,
8 with four wells?

9 A. Yes, sir.

10 Q. Okay. Now on the four-well decline, you
11 picked it in the middle of this upward spike. Why
12 did you pick that rather than the bottom or the top
13 or some other point?

14 A. Well, I was -- I was afraid you were going
15 to get me if I showed 400 MBO of incremental
16 reserves there, so I made it as reasonable as
17 possible.

18 MR. GRABLE: Let's flip to the next one,
19 if I can, Mr. Rankin.

20 Q. (By Mr. Grable) There is a similar
21 picture here showing predicted 232,000.

22 Now here, we have even less time. We've
23 got, as I read that, maybe seven or eight months
24 with two wells. And there on that two-well decline
25 it goes up, it goes down, it goes up, it goes down,

1 and then you pick about halfway up there to begin.

2 A. Yes, sir.

3 Q. And again, that was -- the decline from
4 there was computerized through an Aries program with
5 whatever input you used?

6 A. Yes, sir.

7 Q. And on the four wells again, you've got
8 eight or nine months?

9 A. Yes, sir.

10 Q. Do these -- are -- are these predicted
11 decline rates hyperbolic?

12 A. Yes, sir. Well, the final decline is
13 exponential, but it's hyperbolic.

14 Q. Do you know at what time or what monthly
15 production rate it converted from hyperbolic to
16 exponential?

17 A. No, sir, I do not.

18 Q. What is the decline percentage on the
19 exponential component of the curve?

20 A. You're referring to the B factor?

21 Q. The percentage there, when you say the
22 wells decline at 5 percent. I mean that's the way
23 --

24 A. Well, there's typically three different
25 inputs for a hyperbolic decline -- or even more than

1 that, actually. So...

2 Q. We're assuming the exponential part of the
3 curve.

4 A. The final decline?

5 Q. Right.

6 A. You know, typically, we range from about 7
7 to 10 percent. In fact, I think one of these -- I
8 can't remember which one was which -- was 7, and the
9 other one was 10 percent. It depends on the area.

10 Q. Okay.

11 MR. GRABLE: All right. Mr. Rankin, can
12 we go to 25?

13 TECHNICAL EXAMINER EZEANYIM: Mr. Grable?

14 MR. GRABLE: Yes.

15 TECHNICAL EXAMINER EZEANYIM: His name is
16 Midkiff, so I don't --

17 Your name is Midkiff, right?

18 THE WITNESS: Yes, sir, Midkiff.

19 TECHNICAL EXAMINER EZEANYIM: You
20 mentioned Rankin.

21 MR. GRABLE: Yeah, I'm --

22 MS. MUNDS-DRY: He's using Mr. Rankin to
23 change the slides.

24 TECHNICAL EXAMINER EZEANYIM: I thought
25 you were calling him Mr. Rankin. I was just

1 confused. I'm sorry.

2 MR. GRABLE: May we go, please, to the
3 next slide?

4 That's 25 on my list.

5 Q. (By Mr. Grable) Okay. Now, this is an
6 area -- we don't have the big map up here. But
7 this -- you're aware that Section 8 is a -- kind of
8 a single isolated section operated by Burnett off to
9 the west-northwest of its main Loco Hills area?

10 A. I know that it's operated by Burnett, yes,
11 sir.

12 Q. And Concho operates the southern and
13 eastern offsetting?

14 A. I'm not exactly sure if we operate
15 everything on the eastern. But I knew -- I mean,
16 obviously, those are 10-acre wells, so that's why I
17 used them for the analogy.

18 Q. But you operate the section to the south?

19 A. I believe we do operate those wells, yes,
20 sir.

21 Q. Okay. Now, have you -- there's 13 10-acre
22 wells there on the perimeter. Have you included all
23 of those production declines in those wells in what
24 appears as the subsequent exhibits derived from this
25 data?

1 A. Yes, sir. I used all of those -- those
2 wells, the 10-acre wells.

3 Q. And you used these three wells -- only
4 three wells you selected from Burnett?

5 A. Yes, sir. The reason I did that was there
6 wasn't a high number of wells there that had both
7 Blinebry and Paddock. And if I did the type of
8 curve of all the wells that Burnett operated within
9 that section, the type of curve became significantly
10 down. And so I just focused on the wells that had
11 Blinebry and Paddock completed in them to make it as
12 optimistic a case as possible for the 20-acre
13 development.

14 Q. Well, just for the record, according to
15 production maps, you do -- Concho does operate the
16 southern section and the southwest quarter of the
17 eastern section, and then all of the -- it would be
18 the east half of the east half of the west section.
19 So you've pretty much got them surrounded.

20 Now, why did you -- you selected those
21 three wells and only those three wells because they
22 both have Blinebry and Paddock?

23 A. Yes, sir. If I had selected all the wells
24 that Burnett operated in Section 8, again, the type
25 of curve would have come significantly down because

1 of the Paddock-only completions. And so that's why
2 I focused on just those wells, to make sure it was
3 as optimistic a case as possible for the comparison,
4 for the 20-acre comparison.

5 Q. Are you aware that Well 58 -- are you now
6 aware, after seeing the rebuttal and responsive
7 exhibits we prepared, that Well 58 wasn't completed
8 in the Paddock until a couple of months ago?

9 A. I mentioned that in my May testimony, yes,
10 sir, and the effect that that might have on that
11 ultimate recovery.

12 Q. And that well actually increased by 150
13 barrels a day or so after that completion?

14 A. Okay. I have not seen that. As you just
15 pointed out, it was a new completion, which probably
16 the data isn't public yet.

17 Q. All right.

18 MR. GRABLE: Turn to your next slide,
19 Mr. Rankin.

20 Q. (By Mr. Grable) So if you had that
21 additional production from the -- from the Burnett
22 58 well, and if indeed it did bump it up 150 barrels
23 on this logarithmic scale, that would bump it up
24 somewhere in this (indicating) neighborhood where
25 I'm pointing?

1 A. Initially, yes, sir.

2 Q. So you would see a different picture,
3 then, between normalized 10-acre and 20-acre than
4 you are depicting there?

5 A. Well, it would have made it difficult to
6 make that assumption because of the length between
7 those completions, the time period between those
8 completions, yes, sir.

9 Q. But the graph would have looked different
10 if you brought that data forth?

11 A. Well, yes, sir, actually.

12 Q. All right.

13 MR. GRABLE: And then the following graph,
14 if we can.

15 Q. (By Mr. Grable) Again, as I understand
16 this graph, it brings forward all of the -- the same
17 universal wells that you had in the preceding three?

18 A. Yes, sir, it does.

19 Q. There's 13 10-acre wells and 3 Burnett
20 20-acre wells?

21 A. Yes, sir.

22 Q. And again, if you had that new data on the
23 Burnett well, this -- this graph would move upward
24 some- -- somewhere up --

25 A. Well --

1 Q. -- it would be above where it is?

2 A. Well, for three wells to average -- or you
3 know, for that to average 400,000 barrels you would
4 have to see a 6- -- I guess it's a 600,000-barrel
5 increment off of one well to cause that entire
6 average to move up to where the four 10-acre wells
7 are.

8 Q. I didn't say it would move up that far.
9 It would move up from here (indicating). I don't
10 know how far, but it would move up somewhere in the
11 territory in between?

12 A. Potentially, yes, sir.

13 Q. Does Concho have internally-generated
14 estimated ultimate recoveries, EURs? If I say
15 "EURs" will you understand that to be an estimated
16 ultimate recovery?

17 A. Yes, sir.

18 Q. Do you have those figures for these 13
19 wells that are included in your 10-acre --

20 A. I do not have those with me, no, sir.

21 Q. But they do exist?

22 A. Well, it depends. They might not be
23 forecasted individually, I don't know. This isn't
24 my area, so I don't know exactly what -- how
25 they're -- if they're done in a summary or if

1 they're done individually.

2 Q. Are you aware of company-wide, or
3 area-wide, what your average EUR is?

4 A. I have a range, yes, sir. I mean...

5 Q. What is the range?

6 A. It's typically -- you know, it can go
7 anywhere from, you know, on average maybe -- well,
8 you know, I don't even know if that's -- if that's
9 information that I'm supposed to divulge.

10 Q. Well, you're presenting here that these
11 13 -- as I take it -- average 100,000 a well.

12 A. Well, the range is typically 100 to 140.
13 I mean that's -- that's the type of range that we
14 typically see in our wells.

15 Q. And you think that's supported by the
16 decline analysis of your -- of your wells?

17 A. Yes, sir. Like I say, we have probably a
18 thousand wells that we have used to build those
19 models.

20 Q. But you haven't included any data in your
21 presentation to the division in this hearing to
22 support that range of EURs, have you, other than
23 this one draft, is all I have seen.

24 A. No. We did not provide our database of
25 all of our forecasts, no, sir.

1 Q. All right.

2 MR. GRABLE: Now can we go to the next
3 exhibit, please, Number 28?

4 Q. (By Mr. Grable) As I took it from this
5 graph, I thought the point you were saying it
6 demonstrated was that GORs have not changed
7 significantly over time.

8 A. Yes, sir, the initial six-month GORs.

9 Q. Now, why did you pick initial six months?

10 A. Well, originally I was just going to look
11 at initial month GOR, but I got to thinking about
12 it. And with all the work that's happening to a
13 well within that first month, I prefer to take a
14 longer time range. And so I just -- I chose six
15 months get an average of GOR.

16 Q. Now, you say in the little textual box up
17 there that initial GORs have not gone up
18 significantly -- or not changed significantly over
19 time.

20 How much does it have to be to be
21 significant?

22 A. Well, I actually -- I put a trend line
23 through that data.

24 Q. Yes?

25 A. And it -- the -- it went from about an

1 average of about 1.5 to 1.6 down at the other end.
2 So there was a change, but .1 on a GOR for a
3 solution gas drive reservoir, that's a pretty
4 insignificant change. That could be statistical.

5 Q. The 1.6 should be about in there
6 (indicating)?

7 A. Yes, sir.

8 Q. Have you sorted this data for time?

9 A. Yes, sir.

10 Q. And specifically -- well, is there a
11 difference in the presentation if you sort it for
12 wells in the last two years versus the first two
13 years?

14 A. Are you talking about -- would you see a
15 different slope on that line if you just focused on
16 the last two years?

17 Q. Yes.

18 A. No, sir, you would not. I mean I have not
19 looked at that, is what I meant to say. But I mean,
20 yeah, I guess you can look at it and infer from the
21 plot right there, if you just focus on that area.
22 And you see the same type of trend --

23 Q. But this looks like -- as you get into
24 these latter years, it looks like the range is
25 moving up here. Now you say it goes from 1.5 here

1 to 1.6 there, but...

2 A. Well, you have to look at -- there's a lot
3 more data points down there at the other end. There
4 has been much more drilling activity over these last
5 few years, so the cluster is much more dense. And
6 so, therefore, you are going to see some of those
7 outliers. You're going to see more of those as
8 well.

9 Q. Have you sorted this by which wells were
10 the first or second well on a 40 versus wells that
11 were the third or the fourth well?

12 A. No, I have not. I just took initial --
13 initial GOR. Again, if you were draining the
14 reservoir, you would expect to see a trend of
15 breakout there, and that is initial GORs, and you
16 just -- again, you don't see that. Because -- you
17 know we are not just drilling out in a new
18 reservoir. We drill -- we in-field drill. So if we
19 were seeing depletion, we -- you know, you would see
20 it from a -- from a good portion of our drilling.

21 Q. But you do not -- you can't tell the
22 division whether these higher numbers up in here of
23 these latter years are from 10-acre in-field
24 drilling or not?

25 A. No, sir. I'm sure I could break that out,

1 but I don't have that data with me.

2 MR. GRABLE: Can you go to 29, please?

3 Q. (By Mr. Grable) All right. Now this is a
4 peak rate, being initial full month? Is that what
5 your peak rate is?

6 A. Yes, sir. It is a peak monthly rate.

7 Q. But is that the first full month or is it
8 the highest month ever?

9 A. It's the highest month average.

10 Q. Do you know about when operators began --
11 or at least Burnett -- but do you know when Burnett
12 started doing slickwater multistage fracs?

13 A. I believe you mentioned that was around
14 2007.

15 Q. And it just looks like post-2007 is when
16 you start getting a bigger bunch of the higher
17 rates.

18 A. Well, I believe Burnett only has 80 wells
19 total, so I'm not sure how many they drilled from
20 2007 on. So there's -- there's -- maybe a small
21 percentage of those points are from Burnett. But
22 you know there's -- that's -- there's probably more
23 points there than I believe Burnett operates.

24 Q. But to make a meaningful comparison,
25 wouldn't you need to compare wells that are

1 completed similarly?

2 A. That would be one comparison, yes, sir.

3 Q. Have you -- so the only -- I'm trying to
4 understand this chart. You have only first wells on
5 a 40, and fourth wells on a 40?

6 A. Originally, I had the second and third on
7 there, and it was just -- it was a lot of data, so I
8 wanted to make it, you know, speak as well as it
9 could. And it was hard to make -- see correlations
10 with so many different data points on there, so I
11 limited it to the first well and the fourth well,
12 just to show, you know, both ends of the spectrum,
13 the type of energy that you were seeing within the
14 proration unit.

15 Q. Do you know how many of these wells was
16 completed initially in both Blinebry and the Paddock
17 versus only the Blinebry or only the Paddock?

18 A. No, sir. That -- and that's why I took
19 every single well, was to just make sure it
20 encompassed everything. I mean it -- you really
21 don't even see a distribution across that range.
22 You really see the main cluster there above 100
23 barrels a day.

24 So, you know, that's a significant, you
25 know, I guess marker there, that the majority of

1 your -- of those points are all above 100 barrels a
2 day.

3 Q. 100 barrels a day would be this line
4 (indicating)?

5 A. Yes, sir. And I think that kind of ties
6 back to allowable right now. One single well --

7 MR. GRABLE: Nonresponsive. I don't want
8 a speech.

9 MS. MUNDS-DRY: Mr. Brooks, I object to
10 argumentative.

11 LEGAL EXAMINER BROOKS: Well, I think both
12 objections are well taken.

13 Q. (By Mr. Grable) Would it be meaningful to
14 know which first well in a 40 goes with the fourth
15 well in the 40?

16 A. That would -- I mean that would be a way
17 to look at it, yes, sir.

18 Q. I mean if you're trying to see if there is
19 any effect on the fourth well from the first three
20 wells, wouldn't you want to look on the same 40?

21 A. Yes, that would be a way to look at it.
22 But again, that's why I took every data point, so
23 that everything was included in the plot and you
24 could see the trend. So if you started culling out
25 data you probably could still see your cluster above

1 100 barrels a day.

2 Q. Now behind each one of those points, if
3 you -- if you wanted to, you could look in and say,
4 "Okay. This black dot, fourth well right there, is
5 the Concho Rankin Lease Well Number 4"?

6 A. Yes, sir. I'm sure I could find that.

7 Q. But -- but you haven't disclosed any of
8 the individual data for this enormous amount of
9 wells, at this point?

10 A. That was included in the subpoena, yes,
11 sir.

12 Q. Oh, we got that?

13 A. Yes, sir.

14 Q. Okay. 30 is not your exhibit. We'll
15 include 31, 32, and 33, and try to wrap this up.

16 And I believe your point on these next
17 three graphs were that -- that GOR increases, but
18 you expect that in a solution gas driven reservoir,
19 and nothing in this spread of data shows you that
20 there's any harm to the reservoir from additional
21 drilling.

22 A. Yes, sir.

23 Q. And on this graph the GORs up in this
24 range, you're getting up to about 15,000 to 1?

25 A. Yes, sir. When you get down to about

1 10 barrels a day on four wells, your GOR is up to
2 10,000 to 1. That's -- that's typical. I mean
3 you're -- at that point you have to assume that the
4 majority of that energy out of that proration unit
5 has been -- been --

6 Q. Been spent?

7 A. -- been spent, yes, sir.

8 Q. Now, I thought you said your conclusion --
9 and I think you worded it pretty carefully -- that
10 you would only worry about GORs in a high perm
11 reservoir.

12 A. Yes, sir.

13 Q. And how high a permeability do you need
14 before, in your mind, it's high enough to be of
15 concern?

16 A. You know, that's -- that's hard to give a
17 range there. I mean you've got Darcy perm. I don't
18 know. I'd say --

19 Q. A full Darcy?

20 A. I haven't done that study to show at what
21 point it becomes necessary.

22 Q. Have you -- I don't -- I'm not going to
23 ask you to put them back up, but your little lens or
24 cloud or pod exhibits.

25 It's true, isn't it, that the permeability

1 and porosity within those various stratigraphic
2 lenses throughout this vast area vary quite a bit
3 from one to another?

4 A. Absolutely.

5 Q. And in the Paddock especially, the perms
6 and the porosities are higher, generally, than they
7 are in the Blinbry?

8 A. Well, they're higher. But you know, you
9 have to look at it relatively. I mean still, we're
10 talking 3 percent porosity cutoffs in the Paddock.
11 That's -- that's very low. This rock was bypassed
12 for a long time because of that.

13 Q. Right. But I mean it went up. Have you
14 looked at any -- well, has your company done any
15 core analysis to calculate reliable perms in the
16 Paddock?

17 A. I'm sure they have. We have a full-time
18 petrophysical expert. That's all he does is look at
19 this stuff, and I'm sure he's looked at that.

20 I have not -- I have not visited with him
21 about that.

22 Q. But there's nothing in the exhibits you
23 presented to the division in this hearing that
24 speaks to that aspect?

25 A. No, sir. We did not provide a portion of

1 this.

2 Q. Let's look at 32, briefly.

3 And here we have GORs back in the 30,000
4 range here, right?

5 A. That would be 3,000.

6 Q. Oh, pardon me. 3,000. It's on a
7 different scale than the last one, then.

8 Well, why are these -- these GORs are a
9 lot lower than the ones over in Section 29?

10 A. I think that speaks to what you mentioned
11 a minute ago about the permeability stratifications
12 or the permeability differences within the
13 reservoir. You're not going to see each lens
14 behave, you know, the same. There's variations
15 depending on, like you said, permeability. And
16 that's going to, you know, depend on the rate at
17 which they give --

18 Q. So these would tend to be tighter, on
19 average?

20 A. I don't know. But you know, looking at
21 that plot and speaking from a permeability
22 standpoint, that could possibly be the answer, but I
23 am not sure.

24 Q. You see lower GORs and I believe a lot
25 more rapid decline. I mean, see here is your

1 two-well, your three-well, your four-well decline.
2 That looks more rapid, and the GOR is lower.
3 Doesn't that look like a lower perm to you?

4 A. Well, that looks -- you know just trying
5 to eyeball it there, it looks about a -- maybe a
6 60 percent decline coming off that last curve.

7 Right now I'm just -- I'm eyeballing off
8 the -- off the scale here. It's really not that
9 high for an initial decline of a well.

10 Q. All right. Let's look at 33 real quickly.
11 Is this enough data to reach any
12 conclusions?

13 A. The purpose of that slide was to show the
14 type of rates that we achieve. And that was to show
15 that three wells can produce 245 barrels a day. And
16 as you saw from the -- that scatter plot a minute
17 ago, you know we have many -- much -- many of our
18 wells come on above 100 barrels a day. So if you
19 were to add a fourth well you could -- you could
20 easily reach up over 300 barrels a day there.

21 Q. So this doesn't have anything to do with
22 your conclusions on GORs like the first two?

23 A. Well, you -- one -- one thing that you can
24 see there is if you look at where that second well
25 came on, you're producing at about a 2,500 GOR. You

1 bring that second well on, and it dips all the way
2 down to 1,000. So obviously that second well, which
3 we all agree, you know, at least 20-acre spacing is
4 necessary, is intersecting the reservoir.

5 And if you look at how flat it's remained
6 over those -- as that third well has come on, you
7 see again a new reservoir being intersected, new
8 reserves being added.

9 Q. But you only have a month or two of
10 production history with three wells?

11 A. Well, inferring everything I could from
12 that plot, again, the main point of that plot there
13 was to show the -- the range.

14 Q. Well, let's talk about that a minute.
15 Your company is supporting a 300-barrel-a-day
16 allowance, correct?

17 A. Yes, sir.

18 Q. And you're aware, aren't you, that -- I
19 believe the companies have agreed upon the balance
20 of -- the annual balance and proposal of Burnett and
21 Hudson -- sponsored a balancing over a year?

22 A. Yes, sir.

23 Q. Do any of your 40-acre units average
24 300 barrels a day for a year?

25 A. That's probably a -- they probably don't.

1 But again, the -- you know my understanding of the
2 purpose of an allowable is to protect the reservoir.
3 And we produced this reservoir unrestricted for a
4 long time and have seen no damage. So therefore, I
5 don't know why you would have an allowable in place
6 that would restrict production.

7 Q. So doesn't that mean, then, you're really
8 for no allowable?

9 A. We -- we don't see any damage under our
10 current operations, no, sir.

11 Q. So in your opinion it doesn't need to --
12 whatever the number is, it's got to be big enough
13 that you can produce without restriction?

14 A. Yes, sir. I think the evidence has shown
15 that, yes, sir.

16 Q. And that is how Concho has produced its
17 wells since you started?

18 A. I'm not aware of anybody that has
19 restricted production on their wells.

20 Q. I apologize for going backwards. But do
21 you remember Exhibit 28 was the
22 first-well/fourth-well spread of data?

23 A. Exhibit 28 turned out to be the GOR.

24 Q. 29, peak rate versus time, first well and
25 fourth well?

1 A. Yes, sir.

2 Q. And do you know which production documents
3 it was, in your response to our subpoenas, that
4 included this data? You told me it was produced.

5 A. I'm sure I could get you pointed to it,
6 yes, sir. You know, I have been working on this
7 project a while now. So being able to tell you
8 exactly which file it is, that's -- I can't do it
9 off the top of my head.

10 Q. Could you do that and tell your counsel at
11 a break and let us know?

12 MS. MUNDS-DRY: Mr. Ezeanyim, the Bates
13 number is on the exhibit.

14 TECHNICAL EXAMINER EZEANYIM: The Bates
15 number for --

16 MS. MUNDS-DRY: The Bates number is COG
17 Yeso 191. I am sure it's around that document. We
18 can -- we'll have to -- I don't -- we don't have the
19 Bates numbers with us, so we'll have to look and
20 see.

21 MR. GRABLE: Where is that on -- it's not
22 on my exhibit, at least to the best of my knowledge.

23 MS. MUNDS-DRY: I -- you -- you have the
24 slide as opposed to the hard copy we gave you,
25 Mr. Grable. The hard copy has the exhibit numbers.

1 MR. GRABLE: I don't have that, no, ma'am.

2 TECHNICAL EXAMINER EZEANYIM: Will you
3 give it to him?

4 MS. MUNDS-DRY: At some point. I'm not
5 going to promise it today, but we'll get it to him.

6 MR. GRABLE: Okay. Well, we'll check, and
7 if we can't find a hard copy, then we will advise
8 Counsel.

9 Q. (By Mr. Grable) Again going back to -- I
10 think it was Exhibit 28 -- no, it's 29. And I hope
11 I've got the right number, the peak rate versus
12 time, first well/fourth well?

13 A. Yes, sir.

14 Q. Have you also looked at rates of decline
15 on first wells and fourth wells over time?

16 A. No, sir. That's not a comparison I've
17 done. But again, if there was -- you would -- it's
18 not just going to show up in the decline rate. You
19 would expect to see -- if there is energy lost you
20 would expect to see it in your initial potential.

21 Q. But you haven't looked at it?

22 A. No, sir.

23 MR. GRABLE: I pass the witness.

24 LEGAL EXAMINER BROOKS: The witness is
25 passed at 1:45.

1 TECHNICAL EXAMINER EZEANYIM: Any
2 redirect?

3 MS. MUNDS-DRY: I do. I didn't know if
4 Mr. Cooney had any.

5 MR. COONEY: I have no questions.

6 MR. GRABLE: I'm sorry. We had asked for
7 certain data over lunch, like the range of -- the
8 data on the range of the drainage areas and other
9 things. Have you gotten any of that for us?

10 MS. MUNDS-DRY: Do you want to do that now
11 or do you want to after redirect?

12 TECHNICAL EXAMINER EZEANYIM: Can we do
13 that during the break, if you can find some time?

14 MR. GRABLE: Well, if I have --

15 MS. MUNDS-DRY: I've got copies of things
16 that they requested. We can deal with it now or at
17 the break or...

18 MR. GRABLE: Let me listen to your
19 redirect, and then I will see.

20 TECHNICAL EXAMINER EZEANYIM: Before we go
21 on, a lot of -- you use the word Burnett. Does that
22 include Burnett/Hudson or is it just Burnett?

23 MR. GRABLE: Well, that's a good question,
24 Mr. Ezeanyim. I'm sorry. I tried to explain that
25 in my initial -- my opening statement, and I only

1 have this small-scale map.

2 But in the Loco Hills area, and what we
3 have been talking about is Section 8, these yellow
4 areas, that area is Burnett-operated and Hudson has
5 no interest in it.

6 What we refer to as the Maljamar sections
7 that are essentially undeveloped except for the
8 Hudson Company 1 well, those were sections that were
9 operated by Hudson on shallower production -- and
10 maybe deeper production.

11 TECHNICAL EXAMINER EZEANYIM: Okay.

12 MR. GRABLE: And those -- and there are
13 three Hudson descendants, two brothers and a sister.
14 And Burnett made a deal with the two brothers and
15 some of the other owners in there, and Burnett wound
16 up with two-thirds of the working interest and
17 Concho wound up with the other third in the Yeso.
18 And so that area, the so-called Maljamar area, is
19 where Burnett and Hudson have common interests. But
20 Hudson has no interest in these Loco Hills areas.

21 TECHNICAL EXAMINER EZEANYIM: Okay. I
22 understand that. Okay.

23 Proceed with your redirect.

24 MS. MUNDS-DRY: Thank you, Mr. Examiner.

25 LEGAL EXAMINER BROOKS: Again, we're

1 beginning at 1:47.

2 FURTHER EXAMINATION

3 BY MS. MUNDS-DRY:

4 Q. Mr. Midkiff, if we can go back to
5 Exhibits 12 and 13.

6 A. (Witness complies.)

7 Q. Were these slides intended to be -- I
8 don't know what you want to call it -- but a
9 snapshot of an actual area in the Yeso? What was
10 your intent in these?

11 A. Just -- just to show a diagram of our
12 interpretation of how the Yeso works, how the -- the
13 nature of the reservoir.

14 Q. So it was an illustration?

15 A. It was an illustration. It wasn't meant
16 to represent any single well.

17 Q. And earlier Mr. Grable asked you if
18 Concho's practice is to simply drill everywhere and
19 take the good wells with the bad wells. And you
20 were -- and your response, I believe, it was a
21 statistical plan. I wonder if you could expand on
22 that.

23 A. Well, you know kind of what Mr. Grable
24 handed out a minute ago, these lenses are -- are --
25 they have different permeabilities, probably -- you

1 know, different pressures. But that's hard to --
2 that's hard to know because of how complex it is.

3 So as you see, you intersect different
4 lenses with different permeabilities, it's expected
5 that there's going to be differences on -- on an
6 individual well-to-well basis. That's why we look
7 at it at -- the whole picture, all of the wells.

8 And that's why we call it a statistical
9 place, because the nature of the reservoir is so
10 complex you can't model it or think about it as a
11 conventional homogeneous block of rock. You've got
12 to look at it statistically, because that's the way
13 that it works.

14 MS. MUNDS-DRY: Thank you. I have no
15 further questions.

16 MR. GRABLE: No recross.

17 LEGAL EXAMINER BROOKS: Okay. The witness
18 was passed at 1:49.

19 TECHNICAL EXAMINER EZEANYIM: Let's go
20 back to that exhibit that shows the cumulative
21 production. Is it Exhibit 5? I forgot.

22 MS. MUNDS-DRY: Which one do you need,
23 Mr. Ezeanyim?

24 TECHNICAL EXAMINER EZEANYIM: The one that
25 shows the --

1 THE WITNESS: 27, I believe.

2 TECHNICAL EXAMINER EZEANYIM: It may be
3 Exhibit 27. It shows the cumulative production at
4 the time on the two wells and four wells, I guess.

5 MS. MUNDS-DRY: Exhibit 28?

6 TECHNICAL EXAMINER EZEANYIM: No, not 28.

7 MS. MUNDS-DRY: 27? I'm sorry.

8 TECHNICAL EXAMINER EZEANYIM: Yeah, that
9 one. This one. Okay.

10 Now I mean, first, do you have data, raw
11 data, that demonstrated this?

12 THE WITNESS: Yes, sir, I do.

13 TECHNICAL EXAMINER EZEANYIM: Okay. Is
14 there -- I know that they were asking for it. Can
15 that be made public so I can see and look at it?

16 THE WITNESS: Absolutely. Yes, sir.

17 TECHNICAL EXAMINER EZEANYIM: Do you have
18 it?

19 THE WITNESS: I might able to get it to
20 you today. I'm not sure. If not, I'll make sure
21 you get it.

22 TECHNICAL EXAMINER EZEANYIM: You don't
23 have to give it to me today. But you have data
24 showing this, raw data?

25 THE WITNESS: Yes, sir, absolutely.

1 TECHNICAL EXAMINER EZEANYIM: And then how
2 many wells -- he asked about how many wells on the
3 Bennett/Hudson.

4 THE WITNESS: Well, there was three wells
5 that went into that curve.

6 TECHNICAL EXAMINER EZEANYIM: Okay. And
7 there were 13 wells?

8 THE WITNESS: Yes, sir. I believe it was
9 13.

10 TECHNICAL EXAMINER EZEANYIM: Okay. You
11 have data on that?

12 THE WITNESS: Yes, sir.

13 TECHNICAL EXAMINER EZEANYIM: Okay. That
14 is very good. I think you can also pass it to them.
15 They were asking for it.

16 Mr. Grable, you were asking for that data?

17 MR. GRABLE: Yes, I was.

18 TECHNICAL EXAMINER EZEANYIM: Okay. Sure.
19 That's good.

20 THE WITNESS: Okay.

21 TECHNICAL EXAMINER EZEANYIM: If you could
22 get that.

23 Now, let's go back to the gas/oil ratio,
24 the gas/oil ratio on -- I think it's Exhibit 28.

25 THE WITNESS: Exhibit 28?

1 TECHNICAL EXAMINER EZEANYIM: Yes.
2 Presently, I want you to explain to the division why
3 you want this gas/oil ratio. I know -- and there
4 were some parts of this on -- some parts of this
5 pool that was in 1952.

6 THE WITNESS: Yes, sir.

7 TECHNICAL EXAMINER EZEANYIM: There was no
8 gas/oil issue they made. Is your -- is your request
9 based on that information or is it based on the
10 engineering that you have seen and demonstrated that
11 there should be an unlimited gas/oil ratio?

12 THE WITNESS: It's on -- on what we're
13 seeing. I've read back through that testimony. And
14 in fact, if you look at what they testified there,
15 they testified -- and it was really simply because
16 of the low permeability and nature of the
17 reservoir -- that that's why it was unnecessary to
18 have a GOR limitation.

19 And we still believe that about it today,
20 that it -- that's -- you know, you don't have the
21 permeability in this reservoir to cause damage. You
22 have to have permeabilities high enough for gas to
23 break out within the reservoir. And the
24 permeabilities are just much too low for that to
25 happen. Therefore, you're getting efficient use of

1 your gas expansion forcing oil to your well bore,
2 and it's natural depletion of a solution gas drive
3 reservoir.

4 And -- and I -- I think this is one of the
5 best plots to illustrate that. That as you --
6 you're not -- you're not draining -- you're not --
7 it's not acceleration. You're adding new reserves.
8 You're going out and finding pressurized lenses
9 within the reservoir and adding those reserves.

10 TECHNICAL EXAMINER EZEANYIM: Okay. To
11 ask the question a different way, suppose I say
12 going in 2,000 to 1 --

13 THE WITNESS: Yes, sir.

14 TECHNICAL EXAMINER EZEANYIM: -- how would
15 that, you know, do with your operations? How would
16 that affect your operations?

17 THE WITNESS: Well, I would have to, you
18 know, look at how that -- I would have to -- I would
19 have to look at those numbers on our well curves. I
20 mean because the -- nobody -- obviously, we're
21 overproduced, and that's why everybody is here
22 today. So everybody has produced unrestricted up to
23 this point. And so nobody, prior to this point, was
24 worried about well damage and damage due to GORs or
25 anything like that.

1 So you have a significant data backlog
2 there to be able to look at and see that you are
3 showing natural depletion characteristics of a
4 solution gas drive reservoir. You don't see huge
5 gas breakouts. It's typical -- typical decline.

6 TECHNICAL EXAMINER EZEANYIM: Do you think
7 on -- if you are granted, do you think it would
8 affect the correlative rights?

9 THE WITNESS: No, sir, I do not. Because
10 you know, like I say, we're drilling on 10s right
11 now and we're -- we're intersecting new reservoirs
12 on -- on 10s every time we drill it. And so that's,
13 you know, a good indication that those -- those
14 locations are not being drilled and that they need
15 to be drilled to prevent waste of those reserves.

16 TECHNICAL EXAMINER EZEANYIM: Okay. An
17 order that you presented, I think it's Exhibit
18 Number 35, that was based on northeast Red Lake
19 Glorieta-Yeso.

20 THE WITNESS: Yes, sir.

21 TECHNICAL EXAMINER EZEANYIM: Is this part
22 of the pools, among the 12 pools that are submitted
23 in this case?

24 THE WITNESS: No, sir. This is-- this is
25 immediately -- and we have got a map showing it.

1 This is -- this is connected. It's right there
2 (indicating) at the very end of where we're talking
3 about. It's immediately --

4 TECHNICAL EXAMINER EZEANYIM: To the left?

5 THE WITNESS: To the left, yes, sir.

6 TECHNICAL EXAMINER EZEANYIM: So it's not
7 one of these 12 pools you're asking for?

8 THE WITNESS: No, sir.

9 TECHNICAL EXAMINER EZEANYIM: It's not?

10 THE WITNESS: No, sir.

11 TECHNICAL EXAMINER EZEANYIM: This is a
12 different pool?

13 THE WITNESS: Yes, sir.

14 TECHNICAL EXAMINER EZEANYIM: But did
15 you -- this is all from the Yeso?

16 THE WITNESS: Yes, sir. It's all the same
17 rock, all the way connected.

18 Well, I shouldn't say connected. It's all
19 with the same trend of rock.

20 TECHNICAL EXAMINER EZEANYIM: All right.
21 You already talked about the decline curve analysis.
22 I mean we're talking about the exponential and the
23 hyperbolic.

24 THE WITNESS: Yes, sir.

25 TECHNICAL EXAMINER EZEANYIM: Which one

1 for --

2 THE WITNESS: We -- we use hyperbolic for
3 the early time decline, and then exponential for the
4 final decline.

5 TECHNICAL EXAMINER EZEANYIM: Is that the
6 correct process all across the board in that pool?
7 Is that what you're seeing?

8 THE WITNESS: You know, I've not -- I have
9 not checked with other people how they do their
10 decline curve analysis. That's how -- that's how
11 Concho does it, though, yes, sir.

12 TECHNICAL EXAMINER EZEANYIM: So for
13 hyperbolic and exponential?

14 THE WITNESS: Yes, sir.

15 TECHNICAL EXAMINER EZEANYIM: All right.
16 The only reason I was asking, I really want to get a
17 graph of this reservoir. I don't know, does anybody
18 have somehow the initial picture of this reservoir?
19 You know, I asked for it on Wednesday. I didn't --
20 I wasn't sure if somebody had checked the initial
21 bubble point pressure in this reservoir.

22 THE WITNESS: Mr. Prentice has some of
23 that data, and he will present it to you here in a
24 second.

25 TECHNICAL EXAMINER EZEANYIM: As far as

1 the current pressures right now, right?

2 THE WITNESS: I don't know that we -- that
3 we have that data. He -- I'm not sure what he has,
4 you know.

5 TECHNICAL EXAMINER EZEANYIM: Typically
6 when -- when do you expect the bubble point to
7 occur? Once you start, once the IP -- when do you
8 expect the bubble point to occur?

9 THE WITNESS: You know, it's -- we assume
10 that initially we're very close to the bubble point
11 pressure.

12 TECHNICAL EXAMINER EZEANYIM: Do you think
13 you will reach the bubble point?

14 THE WITNESS: You know, it's hard to say.
15 It's -- you know, you do initially see GORs
16 increasing, and so you have to assume that you are
17 either right at it or maybe a little bit under it,
18 which -- I'm not sure. But I do know that we -- you
19 know based off of our GORs, that we're very close to
20 it probably, initially.

21 TECHNICAL EXAMINER EZEANYIM: So you are
22 telling me that there's at no point in time -- at
23 the early stages of this, there is no point in time
24 that the well is undersaturated?

25 THE WITNESS: You know, I -- I'm not sure.

1 Mr. Prentice would be better to address those
2 questions for you.

3 TECHNICAL EXAMINER EZEANYIM: Because as
4 you know, there are several stages on this, right?

5 THE WITNESS: Yes, sir.

6 TECHNICAL EXAMINER EZEANYIM: Initially
7 you're undersaturated and sometimes you have gas
8 involved, you know, then the third stage is where I
9 think you guys are now.

10 THE WITNESS: Yes, sir.

11 TECHNICAL EXAMINER EZEANYIM: That's why
12 you're using -- and getting going with all these
13 gas/oil ratios.

14 THE WITNESS: Yes, sir.

15 TECHNICAL EXAMINER EZEANYIM: And that's
16 the trend now. I'm trying to understand what's
17 going on, because I am not practicing, and I need to
18 take your word for it.

19 THE WITNESS: Yes, sir.

20 TECHNICAL EXAMINER EZEANYIM: That is why
21 I'm asking all the questions.

22 THE WITNESS: Mr. Prentice is -- he's
23 looked at a lot of this data, and he will have
24 answers for you.

25 TECHNICAL EXAMINER EZEANYIM: Okay. On

1 this, I know you have some -- you have vertical
2 wells, you have some horizontal wells.

3 THE WITNESS: Yes, sir.

4 TECHNICAL EXAMINER EZEANYIM: Do you -- in
5 most cases, do you have a way of crossing the
6 vertical wells? Do they cross, and then that --

7 THE WITNESS: We do. Are you talking --
8 referring to --

9 TECHNICAL EXAMINER EZEANYIM: Yeah. Well,
10 I don't know how long it is. Well, maybe in some
11 cases you can cover about four units?

12 THE WITNESS: Yes, sir. We --

13 TECHNICAL EXAMINER EZEANYIM: You may have
14 had a vertical well in the Yeso formation?

15 THE WITNESS: Yes.

16 TECHNICAL EXAMINER EZEANYIM: And now your
17 horizontal, how many have you had? Have you seen
18 such?

19 THE WITNESS: We do have horizontal wells
20 that do go through the same proration unit as a
21 vertical well, if that's what you're asking.

22 TECHNICAL EXAMINER EZEANYIM: Yes.

23 THE WITNESS: We do have that, yes, sir.

24 TECHNICAL EXAMINER EZEANYIM: And then you
25 are going to count them as two wells, one that --

1 one passing as a vertical -- as a horizontal well?

2 THE WITNESS: Yes, sir.

3 TECHNICAL EXAMINER EZEANYIM: How do you
4 account for a portion in the operation? I mean...

5 THE WITNESS: We would -- if the well is
6 completed within that proration unit, then we assign
7 a fraction of the production to that proration unit.

8 TECHNICAL EXAMINER EZEANYIM: To that
9 unit?

10 THE WITNESS: Yes, sir.

11 TECHNICAL EXAMINER EZEANYIM: Do you have
12 wells in this northeast Red Lake -- Red Lake
13 Glorieta? Do you --

14 THE WITNESS: I don't believe so, no, sir.

15 TECHNICAL EXAMINER EZEANYIM: You don't
16 have any wells in there?

17 THE WITNESS: No, sir, I don't believe so.
18 Honestly, I don't know for sure.

19 TECHNICAL EXAMINER EZEANYIM: Any wells in
20 the northeast Red Lake Glorieta Yaso?

21 THE WITNESS: I don't know for sure, but
22 I'm -- I'm...

23 TECHNICAL EXAMINER EZEANYIM: Does anybody
24 know? Would anybody know?

25 THE WITNESS: I believe if I would have

1 been subject -- well, I guess...

2 TECHNICAL EXAMINER EZEANYIM: Can you talk
3 a little more about the PHI-H? You know, you did a
4 study on the PHI-H.

5 THE WITNESS: Yes, sir.

6 TECHNICAL EXAMINER EZEANYIM: And you
7 demonstrated there's no correlation at all.

8 THE WITNESS: Yes, sir.

9 TECHNICAL EXAMINER EZEANYIM: What does
10 that mean?

11 THE WITNESS: Well, in -- in a
12 conventional reservoir you can usually -- can start
13 making assumptions about the productivity of that
14 well based off of the PHI-H. And in a conventional
15 homogeneous reservoir, that's -- PHI-H is an
16 important indicator.

17 But with -- as statistical and as
18 compartmentalized and -- you know to reiterate,
19 homogeneous. You know, you see incremental reserves
20 as we frac out. We're connecting new lenses
21 together. So we know that -- that just the PHI-H
22 that we see at our well bore, you know which I say
23 is representative of an 8-inch diameter hole, that's
24 what we're learning -- you can't assume that that
25 applies to the whole reservoir, because you know

1 that you are intersecting new compartments as you
2 frac out.

3 TECHNICAL EXAMINER EZEANYIM: Yeah. So
4 all you're trying to demonstrate is to demonstrate
5 heterogenousity of the well?

6 THE WITNESS: Absolutely. Yes, sir.

7 TECHNICAL EXAMINER EZEANYIM: I don't have
8 any other comment.

9 Does anybody have any cross-examination
10 for this witness?

11 MR. GRABLE: I have a couple more
12 questions.

13 TECHNICAL EXAMINER EZEANYIM: Okay. That
14 time won't count for you.

15 LEGAL EXAMINER BROOKS: Okay. That took
16 11 minutes.

17 FURTHER EXAMINATION

18 BY MR. GRABLE:

19 Q. Mr. Midkiff, in response to some of
20 Mr. Ezeanyim's questions and some of your earlier
21 testimony, you continually come back and say every
22 time you drill a 10-acre well you intersect a new
23 reservoir.

24 Have you gotten any pressure data, any
25 bottom-hole pressure data, to indicate this?

1 A. I am going to -- Mr. Prentice can talk
2 about that.

3 Q. Mr. Prentice?

4 A. Yes.

5 Q. Does he also know whether or not you have
6 PVT data for this reservoir?

7 A. I believe he plans to talk about that,
8 yes, sir.

9 Q. Now on the PHI-H issue, isn't what's
10 really significant, to the extent there is
11 significance, the oil-saturated PHI-H, not the gross
12 PHI-H?

13 A. It's all about the oil, yes, sir.

14 Q. Thank you.

15 MR. GRABLE: That's all I have.

16 TECHNICAL EXAMINER EZEANYIM: We are --
17 yeah, I think we can call the next witness.

18 MS. MUNDS-DRY: Mr. Ezeanyim, before we do
19 that, Mr. Grable asked if -- there are certain
20 things that he had asked for throughout the morning.

21 TECHNICAL EXAMINER EZEANYIM: Okay.

22 MS. MUNDS-DRY: And I thought I would just
23 mention to you we printed out the slide that was
24 referenced about the library, the Yeso library, and
25 we marked it as an exhibit. We can offer it if you

1 want.

2 TECHNICAL EXAMINER EZEANYIM: Okay.

3 MS. MUNDS-DRY: We also have a table.

4 Mr. Grable asked about the core data. The core data
5 itself Concho considers proprietary. But what we do
6 have is a table that shows, I believe within the
7 pools that are subject to Concho's application,
8 where that core data came from, which is one of the
9 things he asked.

10 TECHNICAL EXAMINER EZEANYIM: Okay.

11 MS. MUNDS-DRY: And one more thing.

12 Mr. Grable asked also for the average drainage
13 areas. He asked Mr. Midkiff for that. And he has a
14 table showing those average drainage areas by lease,
15 I believe.

16 THE WITNESS: By area.

17 TECHNICAL EXAMINER EZEANYIM: Okay. So
18 you want to give him that?

19 MS. MUNDS-DRY: So we can pass them
20 around.

21 Okay. Let's take a five-minute break and
22 do it.

23 (A recess was taken from 2:05 p.m. to 2:15
24 p.m.)

25 TECHNICAL EXAMINER EZEANYIM: Let's go

1 back into the record now.

2 If you would call your next witness.

3 MS. MUNDS-DRY: Thank you, Mr. Ezeanyim.

4 Before I do that, we've handed you what has been
5 marked COG Exhibits 41, 42, and 43.

6 TECHNICAL EXAMINER EZEANYIM: I see.

7 Okay.

8 MS. MUNDS-DRY: These are -- these are
9 documents that Burnett requested.

10 The first is the slide of the data library
11 that's Exhibit 41.

12 Exhibit 42 is a table of where the core
13 data exists in the areas that are subject to
14 Concho's application.

15 And Exhibit 43 is the drainage -- average
16 drainage areas Mr. Midkiff referenced in his
17 testimony that Burnett asked for.

18 We would ask those be admitted into
19 evidence.

20 TECHNICAL EXAMINER EZEANYIM: Any
21 objection?

22 MR. GRABLE: I have no objection to their
23 admission.

24 I do wish to state for the record that
25 what I intended to be asking for was the range of

1 values for -- calculated granular from low to high
2 in the Blinebry.

3 Now these -- these are ranges within
4 existing pools. I mean these are calculated
5 averages within existing pools.

6 And just for instance in the Empire,
7 they're showing 9.9. In the Paddock and -- and in
8 the Blinebry, those numbers must have been cal --
9 that average has to be calculated from a spread of
10 individual well calculations that are greater or
11 lesser than that. And that's what we were looking
12 for, is how many wells and what's the low and what's
13 the high.

14 And maybe if the next witness can speak to
15 that, I'm not -- I think that's more of a topic,
16 perhaps, for the next witness than Mr. Midkiff. But
17 if not, then I may recall Mr. Midkiff and ask him
18 some questions about this.

19 But I believe Mr. Campbell asked
20 Ms. Munds-Dry on break if they had that information
21 we thought we were asking for, and I believe the
22 answer was no. So...

23 MR. CAMPBELL: That's right. We were
24 looking for the range that made up the calculation
25 of the average drainage in each of these pools, the

1 high and the low. If the pool averaged at least
2 9.9, that -- that, as logic dictates, there were
3 drainages higher than 9.9 and lower than 9.9. We're
4 interested in the range of calculated drainage, and
5 we did not get that. And I am informed they don't
6 have that.

7 TECHNICAL EXAMINER EZEANYIM: Do you have
8 that?

9 MS. MUNDS-DRY: Mr. Ezeanyim, I think it
10 was just a miscommunication from what Mr. Midkiff
11 had understood that they wanted. This is something
12 that he said he could provide.

13 We can explore with Mr. Prentice if that's
14 something that we can provide. I am told that no,
15 we do not have that, and I don't know if it's
16 because we don't have it with us now or -- but we
17 can explore that.

18 But this is what -- this is what
19 Mr. Midkiff was referring to when he said he could
20 provide the averages.

21 TECHNICAL EXAMINER EZEANYIM: Okay. So at
22 this point, do we still have an objection to those
23 three exhibits?

24 MR. GRABLE: No, I do not have an
25 objection. I just wanted to make a record that it's

1 not really what we asked for. So...

2 MS. MUNDS-DRY: And we weren't trying to
3 not give them what they were asking for. It is just
4 a miscommunication.

5 MR. GRABLE: I understand.

6 TECHNICAL EXAMINER EZEANYIM: Okay. It
7 wasn't what they were asking for.

8 Okay. At this point, Exhibits Number 41,
9 42, and 43 will be admitted into evidence.

10 MS. MUNDS-DRY: Thank you.

11 LEGAL EXAMINER BROOKS: Okay. Examination
12 begins, then, at 2:18.

13 RICHARD PRENTICE,
14 after having been first duly sworn under oath,
15 was questioned and testified as follows:

16 EXAMINATION

17 BY MS. MUNDS-DRY:

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

20 A. Richard Prentice.

21 Q. Mr. Prentice, where do you reside?

22 A. Midland, Texas.

23 Q. By whom are you employed?

24 A. Concho Resources.

25 Q. And what is your position with Concho?

1 A. I'm a reservoir engineer with them.

2 Q. And what do you do as a reservoir engineer
3 for Concho?

4 A. I work reservoir issues across the
5 Southeast New Mexico shelf area.

6 Q. Thank you. And have you previously
7 testified before the division?

8 A. Yes, I have.

9 Q. Were your credentials accepted and made a
10 matter of record at that time?

11 A. Yes, they were.

12 Q. And are you familiar with the application
13 filed by Concho?

14 A. Yes, I am.

15 Q. And have you made an engineering study of
16 the reservoirs that are subject to Concho's
17 application?

18 A. Yes, I have.

19 MS. MUNDS-DRY: Mr. Ezeanyim, we tender
20 Mr. Prentice as an expert in petroleum engineering.

21 TECHNICAL EXAMINER EZEANYIM: Mr. Prentice
22 is so qualified.

23 MS. MUNDS-DRY: And, Mr. Ezeanyim, you
24 usually ask this. Mr. Prentice is, in fact,
25 certified -- registered in two states as a petroleum

1 engineer.

2 TECHNICAL EXAMINER EZEANYIM: Oh, he is
3 registered. That's good.

4 THE WITNESS: You didn't give me the
5 opportunity to say I'm registered in Texas and
6 New Mexico. I've been waiting all day to say that.

7 Q. (By Ms. Munds-Dry) Mr. Prentice, let's
8 turn to what has been marked as Concho Number 36.

9 If you could, identify it and review it
10 for the examiners please.

11 A. Exhibit Number 36 is a compositional
12 analysis of four wells across the shelf area. Those
13 four wells are listed in the box to the upper right,
14 up here (indicating). One of the wells is in the
15 Empire field, going from west to east, Empire field.
16 One is in Loco Hills, one is in Friend, and one is
17 in Maljamar. Under each component there is a stack
18 of four different columns, and I'm just stating the
19 compositional analysis of that particular component
20 of each of these four wells.

21 The point of this whole plot is to
22 demonstrate, from our point of view, the oil in this
23 rock is the same. The profiles are very similar.

24 TECHNICAL EXAMINER EZEANYIM: What is your
25 Y axis? It's very hard to see.

1 THE WITNESS: I'm sorry?

2 TECHNICAL EXAMINER EZEANYIM: What do you
3 have on the Y axis?

4 THE WITNESS: The Y axis is a mole percent
5 number.

6 TECHNICAL EXAMINER EZEANYIM: Okay.

7 THE WITNESS: X axis is a component
8 number, a component.

9 TECHNICAL EXAMINER EZEANYIM: I can see
10 that one.

11 THE WITNESS: Okay. So for instance, in
12 the -- in the FN column, mole percent ranges upwards
13 of 32 to 40 percent across the field.

14 Follow me?

15 TECHNICAL EXAMINER EZEANYIM: Yes.

16 Q. (By Ms. Munds-Dry) And, Mr. Prentice, I'm
17 not sure if you said this. But was this an analysis
18 that Concho did or someone else?

19 A. Concho requested this analysis from a
20 third party.

21 Q. Okay. Let's turn to what has been marked
22 as Concho Exhibit Number 37, please.

23 What is this slide?

24 A. Exhibit Number 37. We not only conducted
25 a compositional analysis of the crudes, but we do an

1 isotope analysis, too. The point being, in --
2 mainly in Bullet Number 2, to determine the source
3 of the crude. The source of the crude, as -- as
4 our -- our laboratory reports indicate is that it is
5 a -- a source from all -- for all of these is a
6 distal marine shale. In the first sentence, "Likely
7 a distal marine shale," that this source -- that all
8 of these -- all these crudes came from.

9 Q. What's the conclusion you reached from
10 this, or that GeoMark reached?

11 A. The -- the point of these two slides is to
12 tie into Mr. Reyes' testimony that the rock is the
13 same in its heterogeneity. Not only is the rock the
14 same, the crude is the same across the reservoir.
15 Not only is the crude the same, the source of the
16 crude looks like it's the same source.

17 Q. Okay. Let's turn to what has been marked
18 as Concho Exhibit Number 38.

19 What is this document?

20 A. Exhibit Number 38 was my attempt to
21 summarize the calculations, range calculations, that
22 I conducted across the shelf area.

23 Q. And I note here that you have some
24 porosity cutoffs listed here.

25 A. Yes. We utilized a porosity cutoff in

1 both zones of 3 percent.

2 Q. And you also have a recovery factor. What
3 recovery factor do you use?

4 A. We -- we assumed a 15 percent recovery
5 factor in these reservoirs, because it's a --
6 typically an industry-accepted recovery factor.

7 Q. I'd ask if you would, Mr. Prentice --
8 MS. MUNDS-DRY: And, Mr. Ezeanyim, with
9 your permission, if Mr. Prentice could approach the
10 Dry Erase board.

11 Q. (By Ms. Munds-Dry) And if you could show
12 how Concho calculates its drainage area.

13 A. A couple of definitions, first of all, so
14 I'm sure we're on the same page.

15 Oil in place is OIP, oil in place.

16 A, area.

17 Acres.

18 PHI.

19 Porosity.

20 H, net pay.

21 S, connate water, water saturation.

22 B sub OI.

23 Formation volume factor. In this case we
24 use 1.29.

25 EUR, as you have already indicated,

1 ultimate recovery, ultimate primary recovery.

2 Okay. Those are the definitions that are
3 in the equation. It's a very standard equation.
4 The equation reads like this: OOIP equals 7758
5 barrels an acre foot times A times H PHI-H times 1
6 minus connate water, all divided by B sub OI.

7 Do you recognize the formula, sir?

8 TECHNICAL EXAMINER EZEANYIM: That is a
9 simple one. Everybody has that.

10 THE WITNESS: That's the same formula.
11 We're both using the same formula.

12 TECHNICAL EXAMINER EZEANYIM: How did you
13 get the 1.29?

14 THE WITNESS: That's what we generally use
15 out there.

16 TECHNICAL EXAMINER EZEANYIM: I mean --
17 generally use?

18 THE WITNESS: Yes.

19 TECHNICAL EXAMINER EZEANYIM: I mean how
20 did you get that number?

21 THE WITNESS: That's -- that's what we're
22 seeing off the core data.

23 TECHNICAL EXAMINER EZEANYIM: Okay.

24 THE WITNESS: Recovery factor, it would be
25 EUR -- oops. Yeah, EUR over OOIP.

1 The difference -- the only -- the real
2 difference that we -- between what we use versus
3 what Burnett used, Burnett assumed a 15 percent
4 recovery factor, just like we did, and calculated
5 out their OIP. Oil in place never intends to
6 include a -- a large statistical basis, based on
7 volumetrics, based on our log data, core data,
8 whatever else we could incorporate.

9 That's really the only significant
10 difference. That, plus our rather significant
11 difference in statistical sample base. Ours is
12 about 1,200 wells. I think Burnett might have about
13 89 or so.

14 TECHNICAL EXAMINER EZEANYIM: Yeah.
15 15 percent is not unreasonable. But is that -- that
16 using the pumps? I know they're using some pumps
17 over there right now.

18 THE WITNESS: I'm sorry, now?

19 TECHNICAL EXAMINER EZEANYIM: You are
20 using pumps.

21 THE WITNESS: Yes, that's correct.

22 TECHNICAL EXAMINER EZEANYIM: Okay. And
23 that's 15 percent because they are using pumps, or
24 is that the primary recovery?

25 THE WITNESS: This is a -- this is a

1 typical --

2 TECHNICAL EXAMINER EZEANYIM: Primary
3 recovery?

4 THE WITNESS: -- primary recovery in the
5 Clear Fork, Yeso. Yeso in New Mexico is a Clear
6 Fork -- clear Fork in Texas.

7 TECHNICAL EXAMINER EZEANYIM: Okay.

8 THE WITNESS: Very, very, very, very
9 standard typical recovery factor.

10 TECHNICAL EXAMINER EZEANYIM: Okay. Go
11 ahead.

12 THE WITNESS: I just wanted to present the
13 formula -- basic formula to make sure we are all on
14 the same page. If you are familiar with the
15 textbook of Craft & Hawkins, it's on page so-and-so
16 of Craft & Hawkins. It's a fundamental equation. I
17 don't think we dispute the methodology.

18 TECHNICAL EXAMINER EZEANYIM: Is anybody
19 acquainted with this equation? Nobody?

20 MR. GRABLE: It's included in our
21 exhibits?

22 TECHNICAL EXAMINER EZEANYIM: Right.

23 Q. (By Ms. Munds-Dry) Thank you,
24 Mr. Prentice, for that exercise.

25 And then in Exhibit Number 38 here you

1 give some average ultimate Paddock and average
2 ultimate Blinebry drainage areas. What are those?

3 A. We calculated the drainage areas based on
4 both cums and ultimate recoveries across 1,200 wells
5 across the entire shelf that we operate. And we
6 summarize those.

7 The -- in our view, the Paddock is
8 draining approximately 9 to 10 acres on average.
9 The Blinebry is draining something less than -- much
10 less than 10, probably maybe 4 to 6 acres on
11 average. Therefore, we think that the 10-acre rule
12 spacing that the commission has in place right now
13 is entirely adequate, entirely -- entirely right.

14 Blinebry we may have -- right now we're
15 not seeing quite 10-acre yet -- 10-acre drainage
16 yet.

17 Q. And what does this say, Mr. Prentice? I
18 understand the conclusion about the -- the density.
19 But what conclusions can you reach in terms of
20 Concho's application asking for an increased
21 allowable in these drainage calculations?

22 A. The increased allowable would help us
23 produce wells as they come in. Like I say, we're
24 seeing drainage areas that are much in accord with
25 what the current existing rules are.

1 Q. Thank you, Mr. Prentice.

2 I will ask you to turn to what has been
3 marked as Concho Exhibit Number 30. If you could,
4 explain this slide to the examiners, please.

5 A. Exhibit Number 30 is a typical 40-acre
6 development scheme under the -- under the current
7 allowable schedule.

8 The point of this schematic is to show the
9 length of time it takes to develop 40 acres under
10 the current allowable. It takes a good -- a good
11 eight, nine, ten years to drill -- completely
12 develop the 40 acres. In our view, that's a rather
13 prolonged amount of time.

14 There are several issues associated with
15 the prolonged -- prolonged development schedule.
16 There are operational issues, cost issues, so forth
17 and so on.

18 The primary issue that I have with it is
19 that it delays the implementation of potential
20 secondary recovery operations and reduces the
21 efficiency of any planned secondary operations by
22 allowing gas -- gas to form -- to form in the
23 reservoir and decrease the efficiency of injection
24 operations.

25 Q. What does this slide say about the proper

1 density for development of secondary recovery?

2 A. It -- it tends -- it tells me that
3 second -- I mean 10-acre drainage is very likely.
4 That's going to be what we're seeing from our point
5 of view. It takes four wells to drain 40 acres.
6 And assuming we get those four wells drilled and got
7 off primary and begin secondary, that potential
8 becomes realized.

9 Q. Mr. Prentice, you're particularly keen on
10 secondary recovery. What do you do for Concho in
11 terms of secondary recovery operations?

12 A. I work with their -- their secondary
13 recovery operations, and I work with potential
14 secondary recovery possibilities.

15 Q. And does Concho have plans for secondary
16 recovery in the Yeso pools?

17 A. Concho is always looking for ways to
18 develop -- properly develop its assets, including
19 primary and secondary. The Yeso formation is no
20 exception to that, to that planned development, to
21 that business plan.

22 Q. And in your mind, then, just to make sure
23 it's clear in terms of secondary recovery
24 operations, what is the proper allowable and GOR to
25 get you to your secondary recovery operations in an

1 efficient manner?

2 A. The high allowable requested by our -- by
3 Concho would get us there quicker. Quicker would
4 shorten up this -- this particular time frame plot.
5 A higher GOR, or elimination of GOR, would enhance
6 that plan, too.

7 Q. Thank you, Mr. Prentice.

8 MS. MUNDS-DRY: With that, Mr. Ezeanyim,
9 we would ask to move Exhibits 36, 37, 38, and 30
10 into evidence.

11 TECHNICAL EXAMINER EZEANYIM: Can you
12 repeat that, please?

13 MS. MUNDS-DRY: Yes, sir. 36, 37, 38, and
14 30.

15 TECHNICAL EXAMINER EZEANYIM: Any
16 objection?

17 MR. GRABLE: No objections to 36, 37, and
18 38. Can we withhold a ruling on Exhibit 38 until I
19 examine the witness?

20 LEGAL EXAMINER BROOKS: 38?

21 MR. GRABLE: I'm sorry. Number 30.

22 TECHNICAL EXAMINER EZEANYIM: Oh, 30?

23 MR. GRABLE: Yes, sir.

24 TECHNICAL EXAMINER EZEANYIM: Okay. You
25 want me to hold on to 30?

1 LEGAL EXAMINER BROOKS: Okay. You wish to
2 examine the witness before you state your objection?

3 MR. GRABLE: Well, we're going to pass the
4 witness. I'm going to have some questions on this
5 exhibit to see if it has any probative value
6 whatsoever.

7 LEGAL EXAMINER BROOKS: Okay.

8 MR. GRABLE: And I may have an objection
9 to it at the end of that and I may not. So...

10 LEGAL EXAMINER BROOKS: Okay.

11 MR. GRABLE: But I don't want to just
12 agree to admit it now, because I may have an
13 objection. And rather than taking him on voir dire,
14 I would rather just -- if we're going to cross,
15 let's just go to cross.

16 LEGAL EXAMINER BROOKS: I agree that
17 that's more appropriate.

18 TECHNICAL EXAMINER EZEANYIM: Your point
19 is well taken. Therefore, at this point, Exhibits
20 36, 37, and 38 will be admitted.

21 LEGAL EXAMINER BROOKS: Okay.

22 MS. MUNDS-DRY: And with that, I pass the
23 witness.

24 LEGAL EXAMINER BROOKS: You pass the
25 witness at 2:33.

1 TECHNICAL EXAMINER EZEANYIM: Mr. Grable?

2 MR. GRABLE: Thank you.

3 EXAMINATION

4 BY MR. GRABLE:

5 Q. Mr. Prentice, I'm Bob Grable, from
6 Fort Worth. I represent Burnett and Hudson. We
7 haven't met before today, have we, sir?

8 A. No, sir, I'm not aware of it.

9 Q. We may have spoken over each other on the
10 telephone last Wednesday. I think you were here for
11 a prehearing conference. Is that right?

12 A. Yes, sir, I was.

13 Q. Okay. Let me ask you just quickly on 36
14 and 37, I take it from your company's presentation
15 on the geologic similarity, the deposition on
16 environment, the rock similarity, the oil
17 similarity, that these are all essentially --
18 they're all part of the rock deposited at the same
19 time and have similar saturations?

20 A. We are seeing similar crude in the rock
21 that's similar.

22 Q. And this makes them good candidates for
23 consolidation as a single reservoir?

24 A. That's a possibility, sure.

25 Q. Okay. And just off the mark a minute, on

1 this quantitative and qualitative analysis, this
2 appears to be a very light crude, doesn't it, with
3 that high percent of ethanes and propanes and
4 butanes?

5 A. Relatively speaking, it is a light crude.

6 Q. What is its gravity?

7 A. I'm sorry?

8 TECHNICAL EXAMINER EZEANYIM: Gravity.

9 A. Gravity? About 35 to 38.

10 Q. (By Mr. Grable) All right.

11 Before we go to 38, I might have a lot of
12 questions on that. Let's go back to Exhibit 30.

13 Why did you assume a 15-year requirement
14 here before development on a 40-acre proration?

15 A. I think -- I think the Concho is about ten
16 years. This is -- this is what I understand that it
17 takes to develop a 40-acre tract based on current
18 allowable rules, GOR rules.

19 Q. So is the point of this exhibit your
20 request for a 300-barrel-a-day allowable?

21 A. Yes.

22 Q. Okay. But this -- this is not -- this is
23 not a representation of any particular 40 acres
24 within the reservoir; this is just a schematic or --

25 A. Generic.

1 Q. -- generic. But it's certainly not the
2 way Concho has developed its properties, is it?

3 A. No. We have tended to expedite things.

4 MR. GRABLE: I don't object to 30, I don't
5 believe.

6 Q. (By Mr. Grable) Let's go to 38. You
7 listed all of those factors up there. Let's talk
8 about a few others.

9 What do you need to know to derive your
10 porosity value for this equation?

11 A. You would like to know, either from core
12 data, log data, or whatever data that you could come
13 up with, what the porosity might be.

14 Q. And what -- what properties do you extract
15 from that data in order to calculate the porosity?

16 A. Well, porosity generally comes directly
17 off the core data. If you could correlate your log
18 data with the core data, that's always a good step.

19 Q. Do you need to know grain density?

20 A. That may be part of the calculation. I'm
21 not sure it's a significant part, but it may be --
22 I'm sure it's part of the calculation.

23 Q. Do you know what grain density Concho used
24 on your Exhibit 38?

25 A. I do not.

1 Q. Do you have any way to tell?

2 A. No, sir, not from -- not from the -- not
3 from right here, no.

4 Q. Did you, in fact, calculate a grain
5 density in your core analysis?

6 A. I did not.

7 Q. Okay. Is grain density an input factor
8 into a modern log in order to get a reading of
9 porosity from the log?

10 A. It could be.

11 Q. But you can't tell me what -- what grain
12 density you did give?

13 A. I -- I cannot tell you that.

14 Q. Do you believe there would be a measurable
15 difference in using a grain density of 2.87 versus
16 2.84?

17 A. I -- I would not know. The numbers sound
18 very insignificant to me.

19 Q. The difference or the --

20 A. The difference.

21 Q. Okay. Do you know, is -- is there a
22 standard grain density value for dolomite?

23 A. Yes, there is, but I do not remember what
24 it is. I'm sorry.

25 Q. Do you think you used that standard or you

1 just have no idea what was used?

2 A. I'm sure they utilized that standard as
3 part of their net pay calculations.

4 Q. All right. Now the last bullet point on
5 your slide says: "Yucca State examples attached."

6 The copy I had didn't have any of those.
7 Do you have those?

8 A. I -- I do not. They may have been dropped
9 along the way. I just -- I was just trying to use
10 that as an example of how we calculate --

11 Q. So you had examples, but they were taken
12 off at some point?

13 A. I think they -- I think they probably
14 were.

15 Q. Can you pull them up from your computer
16 back in the office?

17 A. Very possibly.

18 MR. GRABLE: Ms. Munds-Dry, could you
19 check for me?

20 MS. MUNDS-DRY: Yeah. Mr. Grable, we are
21 trying to determine that, if that was something that
22 we originally sent to you. We'll just have to
23 figure that out.

24 Q. (By Mr. Grable) All right. Let's talk
25 about 15 percent recovery, primary recovery

1 factoring. In Permian dolomite reservoirs, isn't
2 that in the high range?

3 A. No, sir. I'm not aware of that being in
4 the high range at all. It's very, very typical from
5 the -- from my experience.

6 Q. Typical where? What is your experience?

7 A. My experience has been with Clear Fork
8 type reservoirs in the Permian Basin.

9 Q. Aren't they more permeable and porous than
10 this Yeso over here in New Mexico?

11 A. I see very similar comparisons, very
12 tight, very -- very lenticular, low porosity, low --
13 PHI-Hs, low perms. I -- I see very low differences
14 right now between the Clear Fork reservoirs I've
15 worked with and --

16 Q. Well, I can't cite you chapter and verse
17 sitting right here, but haven't there been Clear
18 Fork reservoirs produced as conventional reservoirs
19 for the last 50 years on the Texas side of the
20 Permian Basin?

21 A. Yes, sir.

22 Q. And this Yeso was drilled through and
23 ignored for 50 years. I mean people have just
24 started developing it when the modern fracture
25 stimulation came in. Isn't that true?

1 A. I don't know what prompted them to begin
2 development, but it's been a late -- a rather
3 late -- late development, I suspect.

4 Q. But it's your testimony that the rock
5 quality in Texas Clear Fork reservoirs is comparable
6 to this New Mexico Yeso?

7 A. From what I can tell, it's very similar.

8 Q. Okay. And that's why you used 15 percent?

9 A. Yes, sir.

10 Q. Did you analyze what happens to your
11 drainage areas if you use 12 or 10 percent?

12 A. No, sir. I utilized 15 percent.

13 Q. They would get bigger though, wouldn't
14 they?

15 A. Yes.

16 Q. Do you have a range of permeability in the
17 reservoir from the core analysis that Concho was
18 doing?

19 A. I do not have that in my head, no, sir.

20 Q. Now look at your second bullet point:
21 "Oil saturated porosity height, porosity net pay
22 determined from available digitized logs with
23 geological picks in the Paddock and Blinbry
24 intervals using geographic integration software."

25 A. Yes, sir.

1 Q. Were the net pay picks that you used in
2 this analysis done by computer?

3 A. We -- we supplied the net picks, and they
4 were -- they were -- they were input into the
5 computer, yes, into the geographics program.

6 Q. All right. Let's talk about the grain
7 density part of porosity calculations.

8 Were the -- which porosity curve or curves
9 from the log analysis did you use for porosity
10 calculation?

11 A. I suspect they use the cross-flooded
12 porosity.

13 Q. Okay. Has Concho done any studies to see
14 whether neutron or density is more accurate or
15 correlates more closely with the porosity from your
16 core work?

17 A. I'm not aware of such studies. I don't
18 know if they have or not.

19 Q. But a cross-plot will give you some value
20 between --

21 A. Yes, sir, they will.

22 Q. -- between the two. Not an average, but I
23 mean some value between the neutron --

24 A. Yes, sir, in between.

25 Q. -- and the density.

1 If you -- if you had -- and I thought you
2 said earlier in your testimony that comparing your
3 log analysis with your core work was a good thing to
4 do. But I mean if you -- if you had done that and
5 it showed that the core work showed that true
6 porosity was closer to one or the other, would you
7 have used that rather than a cross-plot?

8 A. That likely would have been incorporated
9 into their -- into their calculations.

10 Q. But you think they used cross-plot?

11 A. Yes, sir, I do.

12 Q. Now going down six bullet points: "Current
13 drainage area based on allocated cumulative
14 production."

15 How was the production allocated between
16 Paddock and Blinebry?

17 A. My allocation was 50 percent for Blinebry
18 and 50 percent for the Paddock, when I had the
19 commingled well bore to work with.

20 I think it was just set forth on the one
21 just above it.

22 Q. Now, you were here when I asked
23 Mr. Midkiff and then your counsel about the range of
24 values within the average.

25 Are you aware of the range of -- of

1 calculated drainage areas in your 9.2-acre average
2 for Paddock?

3 A. I am aware of the ranges. I cannot quote
4 them to you, because I looked at 1,200 wells, and
5 that range was significant.

6 Q. Okay. Can you kind of fence it in with --
7 I know they got down as low as X, and I don't think
8 they got higher than Y?

9 A. I have seen some drainage areas, depending
10 on the zone.

11 Q. Yes. On the Paddock. I mean what -- what
12 do you -- what do you recall seeing as low on
13 Paddock and high on Paddock.

14 A. Again, my memory is going to be faulty.
15 But probably between 10 to -- between 5 and 10 acres
16 up to 20.

17 Q. How about in the Blinebry?

18 A. As low as -- again depending on the --
19 where you are, 1 to 2 to 3 acres up to 10 acres.
20 And my memory could be faulty, sir.

21 Q. That's fine.

22 A. There's 1,200 wells.

23 Q. I understand. I'm just trying to get a
24 feel for what the spread was around the average.

25 Of course all of that depends upon the

1 accuracy of the other factors and assumptions that
2 went into the calculation?

3 A. It does.

4 Q. If you changed any of those, then it would
5 change both your average and the high/lows?

6 A. Yes, it would.

7 Q. Just a couple more questions,
8 Mr. Prentice. I'm sorry for that delay.

9 Is it your experience that typically
10 neutron density log readings tend to be higher than
11 a density reading -- a density curve off that same
12 well?

13 A. Typically.

14 Q. Typically.

15 A. Typically.

16 Q. Yes, typically.

17 A. Yes. I'm saying, yes, typically.

18 Q. Okay. And of the 1,600 wells or so, do
19 you know how many of those you have open-hole logs
20 on?

21 A. No, sir, I do not. I would refer to what
22 Mr. Reyes has supplied you.

23 Q. Did you use any of the cased-hole neutron
24 logs to interpret net pay or porosity?

25 A. I -- I do not know that for a fact. This

1 was done by a geophysicist. I utilized whatever
2 logs were available that he could use.

3 Q. So you don't know whether you used them or
4 not?

5 A. I do not. I suspect he probably used
6 open-hole logs to come up with the best number he
7 could come up with.

8 Q. Wouldn't the open-hole logs typically give
9 you better readings than cased-hole logs?

10 A. Yes, they would.

11 MR. GRABLE: I pass the witness.

12 LEGAL EXAMINER BROOKS: Okay. Passed the
13 witness as 2:50.

14 TECHNICAL EXAMINER EZEANYIM: Redirect?

15 MS. MUNDS-DRY: I have just one question,
16 please.

17 FURTHER EXAMINATION

18 BY MS. MUNDS-DRY:

19 Q. Mr. Prentice, in the ranges you gave for
20 the drainage areas for the Paddock and the Blinebry,
21 is that typical to see those kind of ranges when you
22 have this kind of reservoir?

23 A. Very much so.

24 Q. And again, your average for the Paddock
25 and the Blinebry were 9.2 and 4.9 acres?

1 A. Paddock was 9.2. The Blinebry, I believe,
2 was 4.9. That's what we're showing on the summary
3 of the methodology.

4 MS. MUNDS-DRY: Okay. Thank you. Nothing
5 further.

6 MR. GRABLE: I did recall one thing I
7 wanted to ask him and I had forgotten. It's on a
8 totally different topic, if I may. I'll be
9 exceedingly brief.

10 TECHNICAL EXAMINER EZEANYIM: Okay. Go
11 ahead.

12 FURTHER EXAMINATION

13 BY MR. GRABLE:

14 Q. Doesn't Concho have a pilot secondary
15 project in this area right now?

16 A. That is correct. Yes, sir.

17 Q. Is it far enough along in its progress to
18 have reached a conclusion as to whether or not you
19 could flood this field?

20 A. No, sir.

21 Q. How long have you been putting water in?

22 A. There, since 2007.

23 Q. How many injection wells?

24 A. We have about eight, I believe.

25 Q. What kind of pump pressure do you need to

1 get water back into this reservoir?

2 A. We're injecting -- we're injecting a
3 thousand barrels a day. Let me preface this.

4 You seem to have implied that this pilot
5 water flood is indicative of the Yeso potential and
6 across the shelf. It is not. This is a pilot flood
7 in the Paddock only.

8 We have been injecting water for some
9 time. I don't recall exactly the wellhead pressure
10 at this point; on the order of a thousand pounds or
11 so.

12 Q. And the jury is still out on whether it's
13 going to work or not?

14 A. Yes, sir. That's absolutely right.

15 MR. GRABLE: All right. Thank you.

16 LEGAL EXAMINER BROOKS: Okay. Each side
17 used an additional one minute.

18 TECHNICAL EXAMINER EZEANYIM: Okay. Any
19 more questions for this witness?

20 Okay.

21 MS. MUNDS-DRY: Oh, Mr. Ezeanyim, I would
22 ask to move -- I believe Mr. Grable said he didn't
23 have any objection to 30.

24 MR. GRABLE: I withdrew my thinking about
25 making an objection to 30, so I have no objection to

1 30.

2 MS. MUNDS-DRY: We'd ask that Exhibit 30
3 be admitted into evidence.

4 TECHNICAL EXAMINER EZEANYIM: At this
5 point, Exhibit 30 will be admitted.

6 MS. MUNDS-DRY: Thank you.

7 TECHNICAL EXAMINER EZEANYIM: Mr. Prentice,
8 how do you calculate your water saturation?

9 THE WITNESS: That's based off of
10 resistivity logs. And that varies as you go down,
11 you know, you go down the hole.

12 Q. (By Mr. Grable) Are you using the actual
13 equation or something?

14 THE WITNESS: Yes. Yes, we are. We're
15 using the standard SW-type calculations.

16 TECHNICAL EXAMINER EZEANYIM: And typical
17 water saturation in this area is what? Do you have
18 any idea?

19 THE WITNESS: Well, it varies such -- it
20 varies in the -- like I said, it varies from the
21 Paddock to the Blinebry. We're seeing saturations
22 of close to 25 to 30 percent in the Paddock and
23 close to 40 percent in the -- in the Blinebry.

24 TECHNICAL EXAMINER EZEANYIM: Yes.
25 Mr. Prentice, you know that what we're here to do is

1 to get the area -- this area -- and the oil
2 saturation, the PHI-H, is very important. But I
3 know the other time I was talking to you about it,
4 and you said you don't have numbers for that, it's
5 all -- it is an average, right?

6 THE WITNESS: That's -- that's -- we have
7 taken the statistical basis. You know in our view,
8 PHI-H, it's like the example that Mr. Reyes gave you
9 this morning. He showed you that log with that low,
10 low PHI-H number and said if you had a million
11 dollars would you invest in that well?

12 Any wise investor would say, "There's
13 nothing there."

14 TECHNICAL EXAMINER EZEANYIM: Yeah.

15 THE WITNESS: So what does that tell you
16 about the importance of PHI-H in any particular
17 spot?

18 TECHNICAL EXAMINER EZEANYIM: Nothing,
19 except that I want to see how it pans out in the
20 calculation of the drainage area.

21 THE WITNESS: Yeah. Well, if you
22 calculate it -- try to calculate that drainage area
23 off that zero PHI-H, what would your drainage area
24 be? Zero, right? Because you have nothing to
25 drain.

1 See my point?

2 TECHNICAL EXAMINER EZEANYIM: Yeah. But
3 this S sub zero PHI-H has a number that you're using
4 to calculate your drainage area, right? That's a
5 number?

6 THE WITNESS: Yes. Because -- because the
7 only thing we can figure drainage area off of is a
8 statistical PHI-H number, or -- or -- yeah, the Yeso
9 PHI-H number plus the barrels that we produce from
10 that well. That goes into your recovery factor,
11 just like I said right over there.

12 TECHNICAL EXAMINER EZEANYIM: Yeah. What
13 do you mean by "statistical"? Empirical? What are
14 you talking about?

15 THE WITNESS: Well, if -- if one -- if one
16 point is zero PHI-H, there's nothing to drain, is
17 there?

18 TECHNICAL EXAMINER EZEANYIM: No.

19 THE WITNESS: No. So -- but you know
20 you've cum'd, say, 100,000 barrels. But you
21 don't -- you don't produce 100,000 barrels from no
22 PHI-H. So you've got to expand your -- your
23 statistical sampling to include wells that have got
24 porosity in them. You can't just use one or two
25 points. The more points that you have the more

1 reliable your drainage calculations become, in our
2 view.

3 Do you see my point?

4 TECHNICAL EXAMINER EZEANYIM: Yeah, I see
5 your point. But you see my point? I wanted to see
6 how you got your numbers. You know, I want to be
7 comfortable with that.

8 THE WITNESS: The numbers come right off
9 of log data. We put them through a geophysical
10 model that tries to incorporate core data, log data,
11 everything else we can possibly figure out. And --
12 and that's how we develop our PHI-H numbers. It is
13 a -- it is developed off of a model.

14 You indicated last week that you would
15 like very much to sit down with a set of logs and
16 figure out PHI-H and try to match it to ours.

17 I'm going to submit to you that ours is
18 such a statistical basis that would be a very
19 difficult task for you or for anybody else to do.
20 We run it through a model and that model, based on a
21 lot of correlations, determines our PHI-H numbers.

22 TECHNICAL EXAMINER EZEANYIM: Yes. Okay.
23 We talked about it last week.

24 Is there any way I could get a sample of
25 that PHI-H number, you know, the statistical, the

1 average?

2 THE WITNESS: That's what -- I think
3 that's what you've already been -- you know, I think
4 that's what we already submitted. I know they asked
5 for it by lease, and we gave it to them.

6 TECHNICAL EXAMINER EZEANYIM: What you
7 submitted was the -- you know, the average drainage
8 area.

9 THE WITNESS: The average drainage areas,
10 that's correct.

11 TECHNICAL EXAMINER EZEANYIM: Yeah, but I
12 don't see a PHI-H number --

13 THE WITNESS: The average. I think
14 they -- I think they asked for a PHI-H number by
15 lease, which we submitted to them.

16 TECHNICAL EXAMINER EZEANYIM: Do we have
17 it?

18 THE WITNESS: I do not have it with me,
19 but I know that --

20 MR. GRABLE: Mr. Ezeanyim, that's what
21 they -- they did. They did give us that under a
22 confidentiality order.

23 TECHNICAL EXAMINER EZEANYIM: Okay.

24 MR. GRABLE: So I haven't asked anybody
25 about it.

1 TECHNICAL EXAMINER EZEANYIM: Okay. Yeah.

2 MR. GRABLE: So we do have some --

3 TECHNICAL EXAMINER EZEANYIM: Okay. I'm
4 qualified on the confidentiality, too, so I may want
5 to have that.

6 MS. MUNDS-DRY: Yes.

7 TECHNICAL EXAMINER EZEANYIM: That is why
8 I'm asking these questions.

9 MS. MUNDS-DRY: If we're going to go
10 there, we would ask, then, that the folks that are
11 not subject to that confidentiality order --

12 TECHNICAL EXAMINER EZEANYIM: To get out.
13 I know. I don't want to go there either. So
14 I'll --

15 MS. MUNDS-DRY: But if you want to do that
16 at a certain point, we can do that.

17 TECHNICAL EXAMINER EZEANYIM: Yeah.

18 MS. MUNDS-DRY: We just need to go into
19 closed session.

20 TECHNICAL EXAMINER EZEANYIM: No, no. We
21 don't have to do that, since I can get those
22 numbers.

23 MS. MUNDS-DRY: Yes.

24 TECHNICAL EXAMINER EZEANYIM: No, we don't
25 have to drive anybody out.

1 MS. MUNDS-DRY: Okay.

2 TECHNICAL EXAMINER EZEANYIM: On the --
3 the water flood project, you designed this water
4 flood pattern. What pattern are you using?

5 THE WITNESS: I'm sorry?

6 TECHNICAL EXAMINER EZEANYIM: What pattern
7 are you using?

8 THE WITNESS: What pattern?

9 TECHNICAL EXAMINER EZEANYIM: Yeah.

10 THE WITNESS: We -- we began the water
11 flood pattern on a 5-spot.

12 TECHNICAL EXAMINER EZEANYIM: A 5-spot?

13 THE WITNESS: A -- a 20-acre 5-spot.
14 10-acre wells usually gives you a 20-acre 5-spot.
15 The very typical -- very typical beginning of a
16 water flood. We have since realigned it to a
17 different pattern.

18 TECHNICAL EXAMINER EZEANYIM: Okay.
19 You -- I -- did you -- I know there must be an order
20 that -- you know, there must be an order that
21 allowed you to conduct a pilot project. Do you know
22 the order number?

23 THE WITNESS: I do not right off the top
24 of my head. No, sir. I'm sorry.

25 MS. MUNDS-DRY: We can look that up on a

1 break.

2 TECHNICAL EXAMINER EZEANYIM: Yeah, I need
3 to -- I want to know the number that authorized this
4 water flood -- this water flood project.

5 THE WITNESS: Yes, sir. I'm sorry I did
6 not bring that with me.

7 TECHNICAL EXAMINER EZEANYIM: Okay.
8 That's all I have for you. You're excused.

9 THE WITNESS: Thank you, sir.

10 LEGAL EXAMINER BROOKS: 2:59.

11 MS. MUNDS-DRY: That concludes our direct
12 case, Mr. Ezeanyim.

13 TECHNICAL EXAMINER EZEANYIM: Okay. Thank
14 you very much.

15 Now, Apache, do you have some witnesses?

16 MR. COONEY: Yes. Mr. Hearing Officer,
17 could we take a little break while we set up our
18 computer for our exhibits?

19 TECHNICAL EXAMINER EZEANYIM: Okay. Let's
20 take five minutes.

21 (A recess was taken from 3:02 p.m. to 3:12
22 p.m.)

23 TECHNICAL EXAMINER EZEANYIM: Let's go
24 back on the record.

25 Okay. Now, Apache.

1 MR. COONEY: Apache Corporation,
2 Mr. Hearing Examiner, calls as its first witness
3 Mr. Keevin, K-E-E-V-I-N, Barnes.

4 KEEVIN BARNES,
5 after having been first duly sworn under oath,
6 was questioned and testified as follows:

7 EXAMINATION

8 BY MR. COONEY:

9 Q. Would you state your name, please?

10 A. Keevin Barnes.

11 Q. Who do you work for, Mr. Barnes?

12 A. Apache Corporation.

13 Q. Have you previously testified before the
14 division and the New Mexico Oil Conservation
15 Commission?

16 A. I have.

17 Q. Was your testimony accepted as an expert
18 in reservoir engineering?

19 A. It was.

20 Q. And does the record reflect your
21 credentials as accepted by the division and the
22 commission as a reservoir engineer?

23 A. It does.

24 MR. COONEY: We tender Mr. Barnes as an
25 expert in reservoir engineering.

1 TECHNICAL EXAMINER EZEANYIM: Mr. Barnes,
2 do you happen to be registered?

3 THE WITNESS: No, sir.

4 TECHNICAL EXAMINER EZEANYIM: Okay. He is
5 qualified to testify.

6 MR. COONEY: Okay. Thank you very much.

7 LEGAL EXAMINER BROOKS: Okay. Interject
8 at this point. The examination began at 3:10.

9 MR. COONEY: Thank you very much, sir.

10 Q. (By Mr. Cooney) Are you familiar with the
11 amended application filed by Concho in this case and
12 the lands that are the subject of that application?

13 A. I am.

14 Q. Does Apache have any wells in the Yeso
15 fields, in the Loco Hills fields, and the Cedar Lake
16 fields?

17 A. It does. This map shows Apache-operated
18 wells here (indicating) and here (indicating) with
19 Burnett-operated wells here (indicating) in the
20 middle.

21 Q. Of the pools that are involved in Concho's
22 application, are these the two pools in which both
23 Apache and Burnett operate wells?

24 A. Yes, sir.

25 Q. Okay. Now on this slide -- it may be a

1 little difficult to see from here. It might be
2 easier in the book.

3 The Apache-operated wells are the light
4 blue wells?

5 A. Correct.

6 Q. And the Burnett wells appear both as black
7 and red on the printed copy of the slide?

8 A. Correct. That was an effect from the blue
9 land acreage, to turn the red dots black.

10 Q. Would you turn to Exhibit 4, please?

11 A. (Witness complies.)

12 Q. Would you explain -- did you prepare
13 Exhibit 4?

14 A. I did.

15 Q. Would you explain what Exhibit 4 is?

16 A. I'm going to go through about six
17 proration units, the first four of which I have done
18 decline curve analysis on to explain allowable and
19 waste. The second two just go toward the allowable.

20 I have at the top here the location, 17/30
21 and 10J, and over here a map that shows the well.

22 What this first column shows is my decline
23 curve analysis, the reserves estimated on a 20-acre
24 development.

25 This second column here (indicating)

1 indicates the reserves estimated on 10-acre
2 development with the darker green amount indicating
3 the waste, having not developed on a 10-acre space.

4 Q. Do I understand correctly, sir, that what
5 you designate here as waste on Exhibit 4 would be
6 the amount of reserve that would not be recovered if
7 the proration unit were developed on 20-acre
8 spacing?

9 A. Correct.

10 Q. And on the left side, that's the EUR
11 volumes. Is that correct?

12 A. Correct, and equivalence.

13 Q. Okay. Now, would -- how much do you show
14 of reserve that would not be recovered in this
15 proration unit on the basis of 20-acre spacing?

16 A. In this particular proration, you would
17 need 273,000 barrels.

18 Q. Would you turn to Exhibit 5, please?

19 A. (Witness complies.)

20 Q. What does Exhibit 5 represent?

21 A. This represents the monthly production
22 data for the first two wells drilled within the
23 proration unit.

24 Q. Now, is that the same proration unit which
25 is referred to in Exhibit 4?

1 A. Yes, sir, it is.

2 Q. And that's the actual monthly production
3 data?

4 A. That is the monthly production data from
5 IHS.

6 TECHNICAL EXAMINER EZEANYIM: On 20 acres?

7 Q. (By Mr. Cooney) On 20 acres?

8 A. On 20 acres.

9 Q. Would you turn to Exhibit 6, please?

10 A. (Witness complies.)

11 Q. What does Exhibit 6 depict?

12 A. This shows the additional two wells, so
13 10-acre development. You can see the well count
14 down here at the bottom, the increase in the
15 production.

16 And what I did for the first two was
17 forecast this data right here (indicating). And for
18 the final -- or for the 10-acre development,
19 forecast all four wells together. And that's where
20 I came up with the waste.

21 Q. All right. Let's focus for a moment on
22 the period of time just after January of 2010. That
23 would be when the fourth well came on line?

24 A. Correct. In this case, third and fourth.

25 Q. Third and fourth.

1 And if we look at the graph showing the
2 gas production, what is the -- excuse me, the oil
3 production -- the green line?

4 A. Uh-huh.

5 Q. What is the approximate amount of oil
6 production as of the fourth well coming on line?

7 A. For the whole proration unit you're at 9-
8 to 10,000 barrels a month, which is about
9 300 barrels a day.

10 Q. Do you believe that this data supports
11 Concho's application that the allowable be increased
12 for these pools?

13 A. Yes, I do.

14 Q. Now, would you go back for a moment? We
15 can see now, looking at Exhibit 6, what the
16 projected production is through January 11 on the
17 10-acre spacing, four wells, in the proration unit.

18 A. Uh-huh.

19 Q. If we go back to Exhibit 5, can you look
20 at these two exhibits and tell the hearing examiner
21 whether the drilling of the third and the fourth
22 well affected the rates of production of the first
23 two wells?

24 A. The drilling of the third and the fourth
25 well occurred right at this point (indicating). And

1 I don't see any abnormal change in decline for the
2 first two wells, which would indicate
3 noninterference.

4 Q. So these two slides together would
5 indicate that the drilling of the third and the
6 fourth wells did not result in interference with the
7 existing two wells that had -- that already existed
8 in the 40-acre proration unit?

9 A. Correct.

10 Q. Does that indicate to you anything, sir,
11 with respect to whether drilling on the 10-acre
12 spacing and increasing the allowables, as sought by
13 the application, would affect any correlative rights
14 with respect to offset locations on the 10-acre
15 basis?

16 A. I feel it would not.

17 Q. It would not?

18 A. Huh-uh.

19 Q. Thank you.

20 Now, would you return -- or excuse me.

21 Would you turn to Exhibit 7?

22 A. (Witness complies.)

23 Q. Is Exhibit 7 a depiction of another
24 proration unit depicting basically the same kind of
25 information that was depicted on Exhibit 4?

1 A. Correct. Location and proration unit is
2 at the top.

3 Q. And did you calculate what amount of
4 ultimate recovery would not be recovered in this
5 proration unit without the third and fourth well?

6 A. In this particular proration unit, it was
7 a 409,000-barrel equivalent.

8 Q. All right. And on Exhibit 8, you show the
9 production data based on the 20-acre spacing. Is
10 that correct?

11 A. Correct.

12 Q. And what does Exhibit 9 show?

13 A. Exhibit 9 shows, when you have the third
14 well come on and then the fourth well come on, you
15 are seeing a dramatic increase in production,
16 sustained production. And you're also, again, up
17 here at 9- to 10,000 barrels a month --
18 9,000 barrels a month, which is your 300 barrels a
19 day --

20 Q. All right.

21 A. -- for allowable.

22 Q. What do Exhibits 8 and 9 show with respect
23 to whether the drilling of the third and the fourth
24 wells on the 10-acre spacing interfered with the
25 existing two wells on the 20-acre spacing?

1 A. The third well was drilled 9 --
2 January 9 -- or excuse me -- December '08.

3 Let me rephrase that again.

4 October of '08.

5 And the fourth well was drilled, it looks
6 like, June of '09, which would have been in the
7 middle here. I don't see anything that would
8 indicate interference to me.

9 Q. Would you turn to Exhibit 10?

10 A. (Witness complies.)

11 Q. Is this another 40-acre proration unit?

12 A. Correct.

13 Q. And what did you calculate it as --
14 calculate, excuse me, as the amount of reserves
15 which would not be recovered on the two wells or a
16 20-acre?

17 A. The amount calculated was 74,000 in DOE.

18 Q. And again, Exhibit 11 shows the monthly
19 rates on the 20-acre spacing?

20 A. Correct.

21 Q. And what does Exhibit 12 show?

22 A. Exhibit 12 shows the incremental
23 production on the next three wells. In this
24 proration unit we do not get to the allowable. I
25 would note that this is Paddock only.

1 Q. Now do these two exhibits, Exhibits 11 and
2 12, indicate that the drilling of the third and the
3 fourth well interfered with the existing wells
4 drilled on the 20-acre spacing?

5 A. I believe they do not interfere.

6 Q. I notice the --if you will look at
7 Exhibit 11, there's a slight downward trend of
8 the -- all of the production beginning, say, with
9 about the middle of 2008. Is that correct?

10 A. Are you looking at this right here
11 (indicating)?

12 Q. Yes.

13 A. Yes. I -- I am not positive what caused
14 that. It could be mechanical. It is not a result
15 of the offset drilling.

16 Q. But if you look all the way to the right,
17 now, you'll see that these lines are drifting down.

18 A. Correct. That trend is constant --

19 Q. And would you --

20 A. -- at the point the offset wells were
21 drilled.

22 Q. Would you consider that to be a normal
23 decline in production?

24 A. Correct.

25 Q. If there had been any interference by the

1 third and fourth wells with the first two wells, the
2 20-acre wells, would you have expected to see a much
3 greater decline in production of the 20-acre?

4 A. I would have expected to see a dramatic
5 shift and decline.

6 Q. Would you turn to Exhibit 13, please?

7 A. (Witness complies.)

8 Q. What is Exhibit 13?

9 A. This is another proration unit where I
10 have calculated 22,000 barrels of waste. This,
11 again, is Paddock only.

12 Q. All right. And similar to the prior
13 exhibits, Exhibit 14 shows the production -- monthly
14 rate production on the 20-acre spacing?

15 A. Correct.

16 Q. And Exhibit 15 shows the production on
17 10-acre spacing?

18 A. Correct.

19 Q. Do these wells -- excuse me -- Exhibits 14
20 and 15 indicate to you whether there was any
21 interference from the drilling of the third and the
22 fourth well with the existing wells drilled on the
23 20-acre basis?

24 A. There was a slight change in the decline,
25 which could indicate maybe a high -- this again is

1 Paddock only -- there could have been a high perm
2 streak within the Paddock that communicated. But
3 again, it steadied out on a normal decline here and
4 actually broke over later in time.

5 And again, I still calculated waste from
6 this proration unit.

7 Q. If there had been interference with -- by
8 the third and fourth wells with the first two wells
9 that were drilled on the 20-acre spacing, would you
10 have expected to see a much greater decline?

11 A. And we see a bit of decline in there, so
12 there may have been a high perm streak interference,
13 but I -- I think that would be it.

14 Q. Okay. And just temporary?

15 A. Very temporary.

16 Q. Okay. Now, would you -- what conclusions
17 have you drawn from these Exhibits 4 through 15
18 concerning whether the drilling of wells on 10-acre
19 spacing interferes with wells drilled on 20-acre
20 spacing in this -- in the Yeso formation, which is
21 the subject of this application?

22 A. I think by not drilling on 10-acre spacing
23 you're going to create waste.

24 I think on a proration unit, as we have
25 seen in just about every example, you need 300

1 barrels a day of unrestricted production for
2 allowable.

3 Q. Do these exhibits indicate to you, as a
4 professional reservoir engineer, whether the
5 drilling on a 10-acre spacing impairs collateral
6 rights of owners of mineral interest in offsetting
7 10-acre locations?

8 A. I don't believe it does.

9 Q. Do these indicate to you that the drilling
10 on the 10-acre spacing with the allowable increased
11 allows efficient production of the reserves?

12 A. Would you repeat? I'm sorry.

13 Q. Does the drilling on the 10-acre spacing
14 in the -- and the increase in allowables allow for
15 efficient production of the available reserves?

16 A. Yes, it does.

17 Q. Do you believe that drilling on the
18 10-acre spacing prevents waste?

19 A. Yes, I do.

20 Q. Now, would you turn to Exhibit 16?

21 A. (Witness complies.)

22 Q. What does Exhibit 16 represent,
23 Mr. Barnes?

24 A. Exhibit 16 is 17 South, 29 East,
25 Section 30H, a 40-acre proration unit drilled down

1 on 10 acres. And again you can see the 300-barrel-
2 a-day reached by the proration unit.

3 It also shows a decrease in the GOR at the
4 time the new wells were brought on.

5 Q. What does that indicate to you, the
6 decrease in the GOR when the new wells are brought
7 on?

8 A. It indicates a -- contacting a new
9 reservoir.

10 Q. All right. What does --

11 A. And it indicates that you're contacting a
12 new reservoir. It goes towards the heterogeneity of
13 it.

14 Q. Would that be consistent with the
15 testimony that's been offered here by COG?

16 A. Yes, it would.

17 Q. All right. Now, does this data indicate
18 to you whether the reservoir energy is being
19 depleted by the drilling of wells on the 10-acre
20 spacing?

21 A. No.

22 Q. After the wells are drilled and the new
23 reservoir encountered, the GOR is back on trend?

24 A. Yes. Here's the GOR trend for the 2-acre
25 wells. Following the addition of the 10-acre --

1 excuse me, the 20-acre wells.

2 Following the addition of the 10-acre
3 wells, it does increase, as you would expect from a
4 depletion drive reservoir, but it looks like it gets
5 back on track.

6 Q. So are you able to reach any conclusion as
7 to whether the drilling of the wells on a 10-acre
8 spacing and increasing the allowable to 300 barrels
9 a day and removing the gas/oil ratio would harm this
10 reservoir?

11 A. I see no harm of the reservoir at all.

12 Q. Would you turn to Exhibit 17, please?

13 A. (Witness complies.)

14 Q. Would you explain what Exhibit 17 depicts?

15 A. This is the same, just a different
16 proration unit. Again you can see, when you get
17 down to 10-acre spacing, the proration unit gets up
18 to 300 barrels a day.

19 Again you see a slight dip in the GOR with
20 the addition of the 10-acre wells. You do see an
21 increase in the GOR, as you would in the depletion
22 drive reservoir, but it does look like it gets back
23 on trend.

24 Q. Does this indicate that drilling on a
25 10-acre spacing, eliminating the GOR and increasing

1 the allowable to 300 barrels a day, would result in
2 any harm to the reservoir?

3 A. I feel it would not result in any harm.

4 Q. What is Exhibit 18, sir?

5 A. Exhibit 18 is Apache-operated NFE
6 Number 10. It's in the Cedar Lake field.

7 What we tended to show here is this
8 increase in oil production was actually a speedup in
9 the pump. We saw about 100 barrels a day increase
10 in the oil production with no effect on the GOR.

11 Q. What does that show you, as a reservoir
12 engineer, with respect to whether eliminating the
13 GOR and increasing the allowable to 300 barrels per
14 day would have any effect of harming the reservoir?

15 A. It tells me we're not harming the
16 reservoir.

17 Q. All right. Now, Mr. Barnes, based on this
18 data and your conclusions, do you believe that
19 increasing the allowable to 300 barrels per day,
20 removing the gas/oil ratio, and allowing the
21 continuation of drilling of wells on 10-acre spacing
22 is in the best interest of conserving natural
23 resources and preventing waste?

24 A. It is.

25 Q. Do you believe that doing so would in any

1 way impair correlative rights or harm correlative
2 rights?

3 A. I do not.

4 MR. COONEY: Mr. Hearing Examiner, we
5 would move the admission into evidence of Exhibits 1
6 and 4 through 18.

7 TECHNICAL EXAMINER EZEANYIM: Any
8 objection?

9 MR. GRABLE: No objection.

10 TECHNICAL EXAMINER EZEANYIM: Exhibits 1
11 and 4 through 18 will be admitted.

12 MR. COONEY: Pass the witness.

13 LEGAL EXAMINER BROOKS: Okay. Pass the
14 witness at 3:30.

15 EXAMINATION

16 BY MR. GRABLE:

17 Q. It's Mr. Banes, is it?

18 A. Barnes.

19 Q. Barnes. Pardon me, Mr. Barnes.

20 Just looking at your Exhibit 1, does
21 Concho own a nonoperating working interest in the
22 wells operated by Apache?

23 A. Yes, they do.

24 Q. Does Apache own nonoperator working
25 interests in any wells operated by COG?

1 A. That, I'm not aware of.

2 Q. When did Apache begin operating in this
3 field?

4 A. We took over operations October 14 of last
5 year.

6 Q. And those wells were previously operated
7 by Marbob?

8 A. Correct.

9 Q. How many wells does Apache now operate?

10 A. I don't have the number off the top of my
11 head. I think it's around 280.

12 Q. And how many of those has Apache drilled?

13 A. We have drilled 18 through 19.

14 Q. Have you done cased-hole log suites on all
15 of those that you have drilled?

16 A. No. We have done open-hole log suites on
17 every well we've drilled.

18 Q. Yeah. I meant open hole. Pardon me.

19 You have done open-hole log suites on
20 every well?

21 A. We have.

22 Q. Do you use a log analysis to assist you
23 with your completion profile on each well?

24 A. We do.

25 Q. And the wells you've taken over have been,

1 just from looking at those that are on the Cedar
2 Lake field, are developed on a 20-acre pattern?

3 A. Correct.

4 Q. And some of the wells over in Loco Hills
5 are on 10 acres and some are on 20?

6 A. Correct.

7 Q. Let me just get a couple of preliminaries
8 out of the way.

9 All of the oil statistics you have
10 presented are based upon barrels of -- or MBOE.
11 That's barrels of oil equivalent?

12 A. Correct.

13 Q. And what ratio do you use to convert MCF
14 of gas to barrels of oil?

15 A. Six. Six to one.

16 Q. Which is an energy conversion?

17 A. Correct.

18 Q. That's certainly nowhere near a dollar
19 conversion these days?

20 A. No.

21 Q. What percentage of your MBOE, on average,
22 is gas?

23 A. I don't have that figure offhand. I can
24 certainly get it to you. I have the forecast with
25 me.

1 Q. All right. Now all of your conclusions on
2 waste assume, do they not, that whoever was
3 operating these 40-acre tracts would never drill
4 wells three and four. Isn't that the assumption
5 embedded in your presentation?

6 A. Well, the assumption -- the forecasts were
7 done on the first two wells prior to the other two
8 wells being drilled.

9 Q. All right. But your simple bar graph, you
10 just carry over your two-well forecast, and that's
11 the base of your four-well forecast, and the rest of
12 it is waste?

13 A. Well, the two-well forecast assumes that
14 the remaining two wells will not be drilled in the
15 40-acre proration unit. That's what you would have
16 gotten if you would have developed on 20-acre
17 spacing.

18 Q. Right. And when you've testified to
19 waste, that means the oil will either be -- well,
20 let me ask you.

21 When I hear the word "waste," I think of
22 physical waste in a sense of producible oil that
23 will not be produced.

24 A. It's not producible oil that will not
25 produced. It's oil that would not be produced had

1 the 10-acre wells had not been drilled.

2 Q. Let me ask it this way.

3 On your two-well bar graph --

4 A. Uh-huh.

5 Q. -- the oil in your waste column, the dark
6 green, would still remain in the reservoir at the
7 point these two wells decline.

8 A. Correct. At the point of their economic
9 limit.

10 Q. Right. Whenever -- whatever the
11 operator's economic limit is?

12 A. Right.

13 Q. But that oil is not being somehow rendered
14 unproducible. I mean the assumption embedded in
15 your exhibit is that this operator would never,
16 under any circumstances, drill wells three and four.

17 A. I'm not sure I agree.

18 Q. Well, let me ask it this way, then.

19 If this operator -- well, the whole
20 premise of this is initially drill wells one and two
21 and then sometime later, as shown on your production
22 graph, the operator drills wells three and four?

23 A. Correct.

24 Q. All right. So this oil is not somehow
25 irretrievably lost in the reservoir locked up in a

1 lockbox where you can't get it out. I mean it's
2 still in the reservoir, right?

3 A. It's still in the reservoir. It's not
4 going to be recovered by the claim.

5 Q. In your opinion, it's not going to be
6 recovered by the two wells, but it would still be
7 recoverable by wells three and four if and when they
8 are drilled?

9 A. Correct.

10 Q. Now, are these supposed to be specific
11 governmental 40-acre blocks? Because these colored
12 shaded things look more like rectangles than
13 squares.

14 A. They're actual letter proration units. I
15 have -- and I have it up at the top of each one, so
16 they represent a 40-acre.

17 Q. Well, why is it rectangular rather than
18 square?

19 A. This is a map out of IHS. And that
20 rectangle is what I used to select the wells, so I
21 could grab the production out of IHS. That's just a
22 byproduct of what it looks like. It's not in any
23 way to represent the actual 40 acres.

24 Q. Okay. Well, whose wells are these?

25 A. I don't have that with me right now. I

1 can certainly get you that information, sir.

2 Q. You don't who the operator is?

3 A. I'm assuming most of these are Concho. I
4 think one of them was Cimarex.

5 Q. Do you know for a fact that all four wells
6 are completed in both Blinebry and Paddock?

7 A. In the first two wells -- or the first
8 example, the first two wells that were completed in
9 '08 were actually completed in Paddock and just a
10 little bit into the top of Blinebry.

11 The second two wells were completed
12 Paddock only, so you're actually getting more
13 reserves from a little bit less completion zone.

14 In the final two examples they are
15 Paddock.

16 Q. Well, I want to just stick with the first
17 example.

18 MR. CAMPBELL: Could we reference an
19 exhibit?

20 MR. GRABLE: It's Exhibit 4. I think I'm
21 asking about Exhibit 4.

22 THE WITNESS: Yes.

23 Q. (By Mr. Grable) Do you know how these
24 wells were completed, as far as any stimulation?

25 A. I do not.

1 Q. Wouldn't that be relevant in comparing
2 them?

3 A. I'm not a completions engineer.

4 Q. Okay. Well, why did you happen to pick
5 these four examples you did out of all of the
6 examples in the field?

7 A. I was trying to get as close to apples to
8 apples as I could, measuring Paddock against
9 Paddock.

10 The typical way a lot of these 10-acre
11 proration units were developed were the early wells
12 were drilled Paddock and completed Paddock. The
13 later wells were drilled Paddock and Blinbry. So I
14 was trying to get as close to apples to apples as I
15 could comparing them.

16 Q. Without knowing how the -- well, let me
17 back up a minute.

18 You do agree that this is a low perm --
19 low permeability reservoir that requires -- or
20 produces more prolifically with large fracture
21 stimulations than it does without?

22 A. Yes.

23 Q. And so wouldn't it -- in order to get an
24 apples to apples comparison, wouldn't you want to
25 compare wells that had been completed in a similar

1 fashion?

2 A. Again, I'm not a completions engineer. I
3 don't know if an acid job is going to do just as
4 good as a frac job in this.

5 Q. Some of these wells may have just had an
6 acid job, may not have been fracked at all. Do you
7 realize that?

8 A. It's possible.

9 Q. All right. In the production graph, two
10 graphs on that two-well example, you've testified
11 that you saw no effect.

12 Could you flip to Exhibit 5 please?

13 A. (Witness complies.)

14 Q. If you look at the third and fourth wells
15 that were drilled in January of '10 -- is that
16 correct?

17 A. Correct.

18 Q. You've got a drop in rate there that kind
19 of corresponds with the time those two wells come
20 on. Do you think that's --

21 A. But your oil rate comes right back up to
22 pre- -- preexisting conditions.

23 Q. Well, I'm not going to argue declines with
24 you. But if you put a line through there, wouldn't
25 it kind of be a line parallel to, but lower than the

1 decline curve through the previous rate?

2 A. It's hard for me to tell what you're
3 pointing at up there.

4 Q. I know, and that's why I don't really want
5 to spend a lot of time on it.

6 But your opinion is this shows no effect
7 at all?

8 A. Correct.

9 Q. Let's go to your next example, which is
10 your Exhibit 7.

11 A. (Witness complies.)

12 Q. Now, this is captioned "Blinebry/Paddock."
13 It's your testimony that all four wells included in
14 this comparison were completed both in the Blinebry
15 and the Paddock?

16 A. As a matter of fact, it says
17 Blinebry/Paddock is -- one of the wells is
18 Blinebry/Paddock.

19 The first three wells were Blinebry only.
20 The fourth well, which is in the northeast quadrant,
21 drilled in 2009, completed a little bit up into the
22 Paddock, may count for some of the waste, but
23 certainly not that amount of volume.

24 Q. Again, do you know whose wells these are?

25 A. It's most likely Concho's.

1 Q. Do you know how these wells were
2 completed?

3 A. I do not.

4 Q. All right.

5 Turn to Exhibit 10, please, sir.

6 A. (Witness complies.)

7 Q. All right. Do you know whose wells these
8 are?

9 A. Again, most likely Concho's.

10 Q. And you don't know how these wells were
11 completed either?

12 A. No, sir.

13 Q. All right. And here you're showing 74,000
14 MBOE of incremental production. That would be
15 37,000 barrels per well?

16 A. Correct.

17 Q. And some portion -- 10 or 20 percent of
18 that is gas?

19 A. I couldn't tell you off the top of my
20 head. I would have to go back to my forecast.

21 Q. Less than 35,000 barrels?

22 A. Less than 35,000 barrels.

23 Q. Would Apache approve an AFE to drill a
24 well with a geological prognosis of 35,000 barrels
25 for the life of the well?

1 A. Under the current price scenarios, yes, we
2 would.

3 Q. You would? You'd drill for 35,000?

4 A. You'll make numbers at 35,000.

5 Q. What's your AFE, about a million-five,
6 -six, normally?

7 A. I'm not going to discuss my AFEs.

8 Q. More than 1 but less than 2 million?

9 A. Less than 2 million.

10 Q. Okay.

11 A. And again, this is Paddock only.

12 Q. All right.

13 MR. GRABLE: Now, let's look at the slide
14 11 -- Exhibit 11, please, Mr. Taylor.

15 Q. (By Mr. Grable) There is a drop up here
16 in the two-well decline rate about the time that the
17 third and fourth wells come on, is it not?

18 A. Well, if you look at when those third and
19 fourth wells came on, that decline happened, oh,
20 three or four months before.

21 And to me, with all volumes -- with every
22 single volume, oil, gas, and water going down it, it
23 looks mechanical to me. It's not a result of
24 drilling the offset wells.

25 Q. All right. Now your last exhibit,

1 Exhibit 13, again, you do not know whose wells these
2 are?

3 A. Again, my best guess is Concho. Three of
4 them -- three of my examples were Concho. I believe
5 one was Cimarex. I did not look at the operators on
6 those.

7 Q. These aren't even in the same 40 acres,
8 are they?

9 A. It's a 40-acre proration unit, it's not
10 necessarily the same lettered unit. It still makes
11 up a 40-acre proration unit.

12 Q. All right. It's a single-operator
13 proration unit, but with 10 acres out of four
14 different 40-acre --

15 A. Correct. Again, I was trying to find
16 wells that were completed in the same zones. So
17 these are all four Paddocks.

18 Q. These were Paddock only?

19 A. Yes.

20 Q. And again, do you know how Cimarex
21 completed these wells?

22 A. I do not.

23 Q. And the early wells, they were completed
24 back in '98 and '99?

25 A. Correct.

1 Q. Are you aware that the completion
2 techniques of this reservoir have changed
3 dramatically from '98 to...

4 A. Absolutely.

5 Q. Are these wells true 10-acre spacing?

6 A. Yes.

7 Q. Each of these four wells is in a different
8 governmental quarter, quarter section?

9 A. Correct.

10 Q. But is it your testimony that they're
11 drilled on true 10-acre spacing, so that they would
12 be out of 10-acre tracts. So when you added them
13 up, they would make a 40?

14 A. Yeah. I mean you can picture that box as
15 a 40. Those are 10-acre wells.

16 Q. All right. We have some doubt about it in
17 this corner, but we will find it on a map.

18 A. I can provide you that map, if you would
19 like.

20 Q. Good. That would be useful.

21 Well, let's look at the decline analysis.
22 Let's look at your Exhibit 14, if we can.

23 Wells three and four came on the middle of
24 '01, early part of '02?

25 A. Correct.

1 Q. Which would be up in about this
2 (indicating) area?

3 A. Correct.

4 Q. Is it your opinion that a decline trend
5 through that dataset ending in mid '01 would look
6 like a decline trend through the dataset from mid
7 '01 to the end?

8 A. Say that one more time.

9 Q. Well, if you took a decline trend through
10 your oil curve here from January '09 through, let's
11 say July of '0- -- about in there (indicating) --

12 A. Uh-huh.

13 Q. -- where the third well came on, that
14 looks pretty flat to me, maybe flat to increasing.

15 A. Your decline would not look the same. But
16 in my -- I'll call it waste again -- waste
17 calculation, I did use that data to forecast the
18 20-acre development and still came up with
19 225,000 barrels equivalent of reserves left behind.

20 Q. Do you have the curves that you did for
21 that?

22 A. I do. I have -- with me, I just have the
23 summary of the 20-acre and summary of the 10-acre.
24 I have forecasted individual wells. I do not have
25 that with me, but I can get it to you.

1 Q. And if you just look at that oil decline,
2 the green line to there (indicating), and then that
3 oil line (indicating), doesn't it just eyeball to
4 you that there is a marked shift in decline rate
5 from right about the time the well drill -- well was
6 previously drilled?

7 A. I have already agreed that there's a
8 decline.

9 Q. All right. Let's look at Exhibit 16 if we
10 may, sir.

11 A. (Witness complies.)

12 Q. The same general question here. I mean if
13 you just eyeball a decline trend through there
14 (indicating) versus a decline trend through there
15 (indicating), doesn't the implied slope seem steeper
16 here (indicating) than it does down here
17 (indicating)?

18 A. Well, that was not my intention on this
19 slide. But you can't just use that data to decline.
20 I mean you've got data out here that suggests you're
21 going to be as flat as that.

22 But my intention of this slide was to
23 indicate the 300 barrels a day for a proration unit.

24 Q. We'll talk about that in a minute.

25 But in your engineering opinion, are the

1 decline rates shown by the early two-well period of
2 this line greater than or equivalent to or less than
3 what occurs after wells three and four are drilled?

4 A. Well, I haven't done the analysis on this
5 particular proration unit. But looking at the data,
6 it looks fairly similar to me.

7 Q. All right. We will talk about your
8 300 barrels a day. It touched a 300-barrel-a-day
9 value for one month?

10 A. Correct.

11 Q. You're aware aren't you, sir, that
12 Burnett/Hudson proposed -- and the other operators
13 who have made appearances -- have agreed to a
14 one-year balancing?

15 A. Correct.

16 Q. And have you calculated, on an annual
17 basis, if you would need 300 barrels a day to
18 produce that capacity?

19 A. Have I done that calculation? No, sir.

20 Q. But you can just tell, looking at this,
21 you wouldn't. Because you only hit 300 one month,
22 so you know the average has to be less than 300 in
23 any year?

24 A. Correct.

25 Q. In fact, it looks like it's -- well, let

1 me take a look at that.

2 And then on the GOR part of the graph,
3 doesn't it appear to you that there's a distinct
4 increase in GOR after -- the rate of GOR increase --

5 A. There is --

6 Q. -- after --

7 A. There is an increase in GOR, but it
8 certainly looks like it gets back on trend.

9 Q. At the very end there?

10 A. Yes.

11 Q. If you were just drawing a projected GOR
12 rate from this dataset versus that dataset, the
13 two-well dataset, you're saying they would look the
14 same?

15 A. But I have this dataset that tells me they
16 do.

17 Q. Even considering that dataset, wouldn't
18 the rate of increase be greater?

19 A. If you want to chop off data, yeah, it
20 would look different.

21 Q. I'm asking you to consider all the data.

22 A. I am considering all the data. You see an
23 increase in GOR, like you would see in a depletion
24 drive reservoir. And that -- at this time, it looks
25 to me like it's breaking over to come into line with

1 the 20-acre well.

2 Q. All right. Let's look at your Exhibit 17
3 if we might, sir.

4 A. (Witness complies.)

5 Q. Again on here, on the 300 barrels a day,
6 this unit appears to have hit or exceeded 300
7 barrels a day for two months.

8 A. Correct.

9 Q. But again, it would not -- with an annual
10 balancing, it would not need a 300-barrel-a-day
11 allowable to produce a full allowable to full
12 capacity. Is that correct?

13 A. Correct.

14 Q. And again the same question on GOR. Is it
15 your opinion that this post 10-acre drilling GOR
16 increase is equivalent to the two-well GOR?

17 A. It's not as pronounced as the previous
18 example. It's kind of hard to tell what this data
19 is going to do. I mean it's come down here at the
20 end, so it kind of looks like it's a trend, but it's
21 not as much data to go off of.

22 Q. Okay. How about the rate of oil decline?
23 Doesn't this four-well decline look a lot steeper
24 than this two-well decline?

25 A. Well, I'm probably going to decline this

1 with a hyperbolic, as this data would have been. It
2 probably would have come into line with this later
3 data, so your incremental reserves would have been
4 the area between those declines -- well, that actual
5 production in that model decline.

6 Q. Two-well production seemed to have
7 flattened out on hyperbolic about a year or year and
8 a half into their productive life?

9 A. Uh-huh.

10 Q. Doesn't it appear that you have a flat
11 hyperbolic decline with two wells sooner than you
12 did with your four wells?

13 A. I don't know if I agree with that.

14 Q. Pardon me?

15 A. Well, maybe it's sooner, but you still get
16 to that flat decline.

17 This data, while jumping around a little
18 bit, is -- has a year's worth of basically flat
19 production.

20 Q. Okay. Finally, on your Exhibit 18, who
21 operates this well?

22 A. Apache does.

23 Q. And what, did you put a submersible pump
24 in it or what did you do?

25 A. No. We were actually running off a

1 generator in this early time data. We finally got
2 it hooked up to a power company. We were able to
3 speed up the pump and increase production that way.

4 Q. Now, this is a single well?

5 A. Correct.

6 Q. Is this in an area developed on 20s or
7 10s?

8 A. This is actually the first well in a
9 proration unit.

10 Q. This well is still on 40s?

11 A. Correct.

12 MR. GRABLE: I pass the witness.

13 LEGAL EXAMINER BROOKS: Okay. Pass the
14 witness at 3:55.

15 TECHNICAL EXAMINER EZEANYIM: Redirect?

16 MR. COONEY: Just a little.

17 TECHNICAL EXAMINER EZEANYIM: Ms. Munds-
18 Dry?

19 MS. MUNDS-DRY: I have no questions.

20 FURTHER EXAMINATION

21 BY MR. COONEY:

22 Q. Mr. Barnes, looking at Exhibit 17 --

23 A. Yes.

24 Q. -- the end of that right-hand side of the
25 graph in the oil production, does that show a marked

1 increase?

2 A. It does. It got about three months of
3 increased production, and that's a thousand barrels
4 a month.

5 Q. All right. In this analysis, sir, were
6 you trying to study or depict or render opinions to
7 the relative merits of completion techniques or
8 fracking techniques?

9 A. No, sir.

10 Q. You were just taking production data and
11 calculating decline curves?

12 A. Yes. This is a decline curve analysis.

13 Q. All right. You were also asked some
14 questions of -- by Mr. Grable about your having
15 assumed that the third and fourth wells would not be
16 drilled in the 40-acre proration unit.

17 A. Correct.

18 Q. In fact, if the division were to reduce
19 the density to two wells per 40-acre proration unit,
20 the third and fourth wells could not be drilled?

21 A. That is correct.

22 MR. COONEY: Nothing further.

23 TECHNICAL EXAMINER EZEANYIM: Anything
24 further, Mr. Grable?

25 MR. GRABLE: No, sir.

1 TECHNICAL EXAMINER EZEANYIM: Thank you.

2 Do you have any questions?

3 LEGAL EXAMINER BROOKS: No questions.

4 TECHNICAL EXAMINER EZEANYIM: Okay. Can
5 you comment on your gas/oil ratio? You are the one
6 that issued the formal -- to get ruled that we give
7 you unlimited gas/oil ratio of this?

8 THE WITNESS: Yes.

9 TECHNICAL EXAMINER EZEANYIM: And if so,
10 how?

11 THE WITNESS: I think we need to
12 significantly increase the gas/oil ratio or have an
13 unlimited GOR. Because with the limited GOR, we're
14 having to cut back our current -- curtail
15 production, which isn't an efficient way to produce
16 this reservoir.

17 TECHNICAL EXAMINER EZEANYIM: Do you have
18 anything to demonstrate that in your slides?

19 THE WITNESS: I don't.

20 TECHNICAL EXAMINER EZEANYIM: But you
21 believe that the gas/oil ratios are limited?

22 THE WITNESS: Yes, I do.

23 TECHNICAL EXAMINER EZEANYIM: Do you have
24 some number? What do you think?

25 THE WITNESS: I don't have a specific

1 number.

2 TECHNICAL EXAMINER EZEANYIM: All right.
3 Nothing further.

4 At this point, I think we're going to --
5 you are excused, unless anybody has anything for
6 him.

7 You are done with your witnesses, right?

8 MR. COONEY: We are -- no, we have one
9 more.

10 TECHNICAL EXAMINER EZEANYIM: One more?
11 Okay.

12 I think we are going to have to take a
13 break.

14 MS. MUNDS-DRY: May we take a break after
15 Apache finishes its witness, and then we can start
16 with Premier after the break?

17 TECHNICAL EXAMINER EZEANYIM: Okay. And
18 it will be brief?

19 MS. MUNDS-DRY: Brief, yes.

20 MR. COONEY: Yes, we will be brief.

21 TECHNICAL EXAMINER EZEANYIM: Okay.

22 Apache, call your next witness.

23 MR. COONEY: Mr. Clint Mills.

24 TECHNICAL EXAMINER EZEANYIM: State your
25 name.

1 THE WITNESS: Clint Mills.

2 CLINT MILLS,

3 after having been first duly sworn under oath,

4 was questioned and testified as follows:

5 EXAMINATION

6 BY MR. COONEY:

7 Q. Mr. Mills, who do you work for?

8 A. Apache Corporation.

9 Q. Have you previously testified before the
10 Oil Conservation Division?

11 A. Yes, I have.

12 Q. What is your job with Apache?

13 A. I am the district manager looking over the
14 New Mexico operations.

15 Q. Have you testified previously in this very
16 case before the division on the -- at the hearing on
17 April 14?

18 A. Yes, sir, I have.

19 Q. Were your credentials as an expert in
20 production accepted at that April 14 hearing?

21 A. Yes, sir, they were.

22 Q. And were they accepted in your previous
23 appearances before the Oil Conservation Division and
24 made a matter of record?

25 A. Yes, sir, they were.

1 MR. COONEY: We would tender this witness
2 as an expert in production engineering.

3 TECHNICAL EXAMINER EZEANYIM: He is so
4 qualified.

5 MR. GRABLE: Can you refresh my
6 recollection? I remember his face from the last
7 hearing day, but he is a petroleum engineer?

8 THE WITNESS: That's my degree, yes, sir.

9 MR. COONEY: He is an engineer. He is the
10 production -- the manager, the district manager for
11 the Eunice office.

12 MR. GRABLE: Okay. That's fine.

13 Q. (By Mr. Cooney) Now, I'm only going to
14 cover one topic with you, sir. Mr. Prentice
15 mentioned that if the allowable in these pools was
16 not increased there would be operational and cost
17 issues in continuing to restrict production to
18 remain within the present allowable.

19 A. Yes, sir.

20 Q. Could you -- and I know the division's
21 prior order said that during the pendency of this
22 proceeding the wells were not to be shut in to
23 remain within allowable, but to be regulated or
24 restricted --

25 A. That's correct.

1 Q. -- as necessary. What I would like you to
2 address, sir, from your experience, is what
3 operational and cost issues would result from having
4 to restrict the production of these wells in these
5 pools in the future to remain within the present
6 allowables.

7 A. If we restrict the production under the
8 current allowable, whether that be with slowing the
9 pumps down choking the wells, putting them on
10 timers, we are not removing the fluid from the well
11 bore that the well wants to give up. In turn, we
12 are creating a fluid level in our wells.

13 With a sustained fluid level, it's very
14 difficult to effectively treat the wells with
15 chemical, meaning that you never get chemical on the
16 bottom and effectively treat where the reservoir is.

17 As far as the chemical is concerned, my
18 primary concerns are scale, as well as corrosion.
19 It's very difficult to treat for scale if you're not
20 pumping your wells off.

21 As far as the cost basis, it's more
22 effective to prevent scale from forming rather than
23 having to remove it later from the well bore. Scale
24 down the road, you may have to pull your equipment.
25 It can mean stuck pumps. Mechanically removing the

1 scale would mean running the scraper, as well as
2 treating it with acid.

3 If the scale cannot be treated that way,
4 we would have to reperforate the well, which is also
5 additional costs.

6 Another concern with operating under the
7 current allowable is, by definition, we're going to
8 take more years to recover the amount of oil from
9 that well. And the more years we take, that's more
10 years of fixed cost for me, as the operator; more
11 years that I have to ensure that I have a competent
12 pumper to make sure that that well is being
13 efficiently produced, as well as more years for the
14 life of the well bore itself. Meaning, as we all
15 know, as well bores get older, we have more problems
16 with them.

17 By that I mean instability problems. It's
18 not uncommon to have collapsed casing, where you
19 have to run swedges or mills. With a collapsed
20 casing, you can have stuck tubing. It's even
21 possible to lose your well bore altogether, as well
22 as get older.

23 Q. I believe Mr. Prentice also testified that
24 remaining within the current allowable would
25 lengthen the time before the possibility of

1 secondary recovery in these areas.

2 Do you agree with that?

3 A. Yes, sir, I do agree with that.

4 Q. Do you think that's a good thing, to
5 lengthen the time before you are able to institute
6 secondary recovery efforts?

7 A. No, sir, I do not. It's back to the life
8 of the well bore again.

9 Q. Do you support Concho's application that
10 the allowable be increased to 300 barrels per day?

11 A. Yes, I do.

12 Q. Do you support the application that the
13 gas/oil ratio be eliminated?

14 A. Yes, I do.

15 Q. And do you support -- or do you oppose
16 Burnett/Hudson's application that the well density
17 be decreased to two wells for 40-acre spacing?

18 A. Yes, I do oppose that.

19 MR. COONEY: I have nothing further.

20 MS. MUNDS-DRY: No questions.

21 LEGAL EXAMINER BROOKS: End with the
22 witness at 4:04.

23 TECHNICAL EXAMINER EZEANYIM: Okay.

24 Mr. Grable?

25 MR. GRABLE: This might set a record,

1 Mr. Ezeanyim.

2 TECHNICAL EXAMINER EZEANYIM: I like that.

3 EXAMINATION

4 BY MR. GRABLE:

5 Q. Have you done any calculations on Apache's
6 properties to see if they could produce, essentially
7 without restrictions, at a 187-barrel allowable,
8 2,000 GOR and one-year averaging?

9 A. No, sir, I have not.

10 Q. And if -- if those -- if it showed that
11 they could produce without restrictions at those
12 rates would you be satisfied with Burnett's proposed
13 allowable rules?

14 A. No, I would not.

15 Q. Why is that?

16 A. We have -- as you know, we have only been
17 operating here for six months. But we have seen
18 that a single well bore can produce in excess of
19 150 barrels per day. We have got a couple of
20 examples that have already done that in our area.
21 And as far as what the declines are, how long that
22 150 barrels will last, I can't speak to that.

23 But I don't want to be restricted by
24 187 barrels, if that's what you're asking.

25 Q. You understand we're proposing a one-year

1 averaging to average out those first few months that
2 are higher rates?

3 A. Yes, sir, I do understand that.

4 Q. From the evidence that the previous Apache
5 witness presented, it appeared that you didn't need
6 anywhere near a 300-barrel-a-day allowable to
7 produce those units.

8 A. Okay. I don't --

9 Q. But those weren't Apache units.

10 A. Okay. Those weren't our units, so I can't
11 speak to those.

12 Q. But you don't have any evidence to present
13 that, with Apache's current production, you need an
14 allowable of 300 barrels a day to produce?

15 A. No, sir, I do not.

16 MR. GRABLE: That's all I have. Thank
17 you.

18 LEGAL EXAMINER BROOKS: Passed the witness
19 at 4:06. 3 hours and 56 minutes remaining.

20 MR. COONEY: No redirect, and we have no
21 further witnesses.

22 TECHNICAL EXAMINER EZEANYIM: Okay.

23 Mr. Mills, can you explain to me about
24 these operational and cost issues? You say you are
25 limited in allowables.

1 THE WITNESS: Can you be more specific,
2 Mr. Examiner?

3 TECHNICAL EXAMINER EZEANYIM: Yeah. You
4 said if you are not allowed to produce up to
5 300 barrels a day --

6 THE WITNESS: Yes, sir.

7 TECHNICAL EXAMINER EZEANYIM: -- there
8 would be operation and cost issues. Can you explain
9 those again for me?

10 THE WITNESS: The development of scale is
11 a concern. If a well wants to produce 150 barrels
12 of oil and we are forcing it to produce 80, saying
13 that there's only one well in the allowable area,
14 we're going to create a fluid level and also
15 increase the life of the well, meaning that's years
16 of operational expenses that I have to tack on to
17 that well, making it less economical.

18 In addition, the formation of scale is our
19 primary concern within the well bore. And when
20 scale forms, then that also adds costs to me to
21 either try to treat the scale from the surface or to
22 actually pull my production equipment and remove the
23 scale manually.

24 TECHNICAL EXAMINER EZEANYIM: Can you give
25 me an approximate percentage of wells that can

1 produce up to 300 barrels a day?

2 THE WITNESS: Of Apache's wells?

3 TECHNICAL EXAMINER EZEANYIM: Yeah,
4 Apache's wells. Or for that matter, anywhere
5 that -- you have been operating for six months
6 there.

7 THE WITNESS: I don't think I can speak to
8 a percentage, sir.

9 TECHNICAL EXAMINER EZEANYIM: But there
10 are some wells that produce more than 300 a day,
11 right?

12 THE WITNESS: More than 300 barrels of
13 oil?

14 TECHNICAL EXAMINER EZEANYIM: Yeah.

15 THE WITNESS: Not to my knowledge. One of
16 our -- one of Apa- -- and I can't speak to Burnett's
17 or even Concho's. But --

18 TECHNICAL EXAMINER EZEANYIM: Let me put
19 it another way. I think I'm asking you the wrong
20 question. The units.

21 THE WITNESS: Oh, yes.

22 TECHNICAL EXAMINER EZEANYIM: What
23 percentage of units produce more than 300 barrels a
24 day?

25 THE WITNESS: I don't know that I can give

1 you a percentage, but we have several units. We --
2 we had 30 wells shut in, all in different -- not
3 necessarily all in different units, but sometimes
4 two in a unit, so I would guess 15. But, now,
5 that's a complete guess.

6 TECHNICAL EXAMINER EZEANYIM: Well,
7 anyway, all those wells must have been put back in
8 production, because --

9 THE WITNESS: We are on production.

10 TECHNICAL EXAMINER EZEANYIM: Yeah. So
11 you don't have any shut in?

12 THE WITNESS: We don't have a single well
13 shut in.

14 TECHNICAL EXAMINER EZEANYIM: Okay. Good.
15 Okay. I have nothing further. Thank you.

16 MR. GRABLE: Nothing further.

17 TECHNICAL EXAMINER EZEANYIM: Okay. So we
18 will take a break now and start with Premier.

19 (A recess was taken from 4:10 p.m. to 4:24
20 p.m..)

21 TECHNICAL EXAMINER EZEANYIM: Let us go
22 back into the record and continue with Premier. Is
23 that where we stopped?

24 MS. MUNDS-DRY: Yes, sir.

25 TECHNICAL EXAMINER EZEANYIM: Okay. Let's

1 continue with Premier.

2 MS. MUNDS-DRY: Mr. Rankin will be taking
3 the direct of Premier.

4 MR. RANKIN: Thank you, Mr. Examiner.
5 Should I proceed?

6 TECHNICAL EXAMINER EZEANYIM: Yes,
7 proceed.

8 KENNETH C. JONES,
9 after having been first duly sworn under oath,
10 was questioned and testified as follows:

11 EXAMINATION

12 BY MR. RANKIN:

13 Q. Mr. Jones, can you state your full name
14 for the record, please?

15 LEGAL EXAMINER BROOKS: Okay. Started at
16 4:24.

17 A. Kenneth C. Jones.

18 Q. (By Mr. Rankin) Thank you. And where do
19 you reside?

20 A. Dallas, Texas.

21 Q. Mr. Jones, by whom are you employed?

22 A. Premier Oil and Gas.

23 Q. What's your position with Premier?

24 A. I'm president, the current president.

25 Q. Okay. Thank you. How long have you been

1 involved in the oil and gas industry?

2 A. 30 years.

3 Q. And how long have you been president of
4 Premier Oil and Gas?

5 A. Just for a couple of years, but I was vice
6 president prior.

7 Q. Can you tell me a little bit about Premier
8 Oil and Gas? I mean it's got an I-N-C at the end of
9 the name, but it's not --

10 A. It is incorporated, but it is a
11 family-owned company that -- I grew up in Artesia
12 and around the oil patch, and it's just a
13 family-owned company.

14 Q. How long has the --

15 A. So are the working interest owners in the
16 lease.

17 Q. How long has Premier been a producer and
18 operator in New Mexico?

19 A. Since the early '80s.

20 Q. Have you previously testified before the
21 Oil Conservation Division before?

22 A. Yes, I have.

23 Q. And can you please identify for me and
24 explain what is Exhibit Number 1?

25 A. Exhibit Number 1 is a map.

1 TECHNICAL EXAMINER EZEANYIM: Before you
2 go there, is this witness a fact witness or --

3 MR. RANKIN: He's a fact witness.

4 TECHNICAL EXAMINER EZEANYIM: A fact
5 witness, not an expert witness?

6 MR. RANKIN: No, no.

7 TECHNICAL EXAMINER EZEANYIM: Okay. I
8 want the record to reflect that.

9 MR. RANKIN: Sure.

10 TECHNICAL EXAMINER EZEANYIM: Go ahead.

11 Q. (By Mr. Rankin) Mr. Jones, can you please
12 describe and identify for the examiner what Exhibit
13 Number 1 is?

14 A. Exhibit Number 1 is an outline of our
15 lease, which is directly in between Concho and
16 Burnett.

17 Q. And it -- what field is this in?

18 A. It's the Yeso field.

19 Q. Okay. It's in the Loco Hills. Is that
20 correct?

21 A. Yes, it is.

22 Q. Do you happen to know the section and
23 township and range? Do you happen to know it, by
24 any chance?

25 A. Yes. It's primarily in Section 15 and 22

1 and 17 South, 30 East. And there's one 40-acre
2 proration in -- actually, there are three in Section
3 23.

4 Q. Okay. Thank you. Are you familiar with
5 the applications filed in this case from Burnett and
6 Hudson and from Concho?

7 A. Yes, I am.

8 Q. Do you support the Concho application and
9 the allowables that's requested?

10 A. Yes, I do. I wish they were higher,
11 though.

12 Q. Is that the same for the limited GOR?

13 A. Yes. I support an unlimited GOR.

14 Q. Can you please briefly state what issue or
15 concerns you have with the application?

16 A. I have an issue with their well density,
17 and I have an issue with their GOR.

18 Q. Okay. And we'll get into --

19 A. And the allowable, which are intermixed.

20 Q. Okay. In your opinion, the allowable is
21 too low?

22 A. It's too low, correct.

23 Q. The same with the GOR?

24 A. Yes.

25 Q. And the well density is not adequate to

1 produce the reserves. Is that your opinion?

2 A. That is correct.

3 Q. Can you please, just briefly using this --
4 referencing this map on Exhibit Number 1, can you
5 please give a history of the Loco Hills area and
6 Premier's involvement and how that placement
7 developed?

8 A. We purchased this lease in 1989 from
9 Meridian, at that time. At that time we owned the
10 Grayburg San Andres rights.

11 In the early '90s, Mack and Nick Chase and
12 Johnny Gray were developing the Yeso, and we watched
13 that field as it expanded forward.

14 Around 1998, they came to us and wanted to
15 make a deal of commingling rights. And we made that
16 deal. We remained operator at that time. ARCO was
17 also in that -- in that deal when they commingled
18 the rights.

19 In late 1998, we began drilling wells.
20 And in 1999, we began completing wells only in the
21 Paddock. At that time, both of those companies
22 believed -- I'm talking about Chase Oil and
23 Marbob -- that the Paddock was the only productive
24 interval. We began doing that on 20-acre spacing.

25 We are under a little bit different of an

1 economic situation than what the two bigger
2 companies here are and what Burnett is. We drill
3 about four or five wells a year on this property.
4 It took probably to about 2005 before we ended the
5 Paddock production. I believe every well was
6 productive except for the most southern well, which
7 is actually an injection well, that we used to
8 dispose of water. It is probably at least a hundred
9 or 150 feet down dip. So obviously, we kind of fell
10 off the shelf at that point. And we further watched
11 development take place.

12 When Concho -- and I'll thank them for
13 what they did. They purchased Mack Chase in 2006.
14 And in 2007, along our immediate border to the west,
15 they began drilling a combination of Blinebry and
16 Paddock wells.

17 We watched them go to the west, we watched
18 them go to the north. They had a -- one 40 in the
19 middle of us, which would be in Section 15, and the
20 unit on that would be J.

21 They had a 40 to the east of us. We
22 watched them do that. We watched them go to the
23 south of us. They went totally around us for about
24 a year and a half. And then at that point we
25 decided to begin developing our own Blinebry and

1 Paddock rights.

2 Q. Mr. Jones, can you explain what Exhibit
3 Number 2 is, the contents, and identify that
4 exhibit for the examiner, please?

5 A. Exhibit 2?

6 Q. Yes, that's correct. Yes.

7 A. In -- well, let me continue the story a
8 little bit more.

9 We began -- we went in and drilled about
10 13 to 14 Blinbry/Paddock wells. And then last
11 July the Marbob and BP announced their sales. We
12 had pref rights to purchase those interests on this
13 property.

14 So at that point we needed to develop a
15 reserve report for our existing production and for
16 our remaining PUDs. And William Cobb developed a --
17 in Dallas -- developed an engineering report for us.

18 Q. That's -- would be identified as Exhibit
19 Number 2. Is that correct, Mr. Jones?

20 A. It is.

21 Q. So you have already explained who created
22 it and why.

23 Can you lead us through a little bit,
24 please, Mr. Jones, the -- what the report says
25 and...

1 A. The report goes in, and it looks at the
2 current wells, the first block of wells. On page 1,
3 and the last three wells on page 2, are a list of
4 all the actual producing wells at this time.

5 The second block is the list of the PUD
6 locations that we have on our -- on our lease, and
7 this was done by a third-party engineer for banking
8 purposes.

9 Q. There's a total of 20 of those. Is that
10 correct?

11 A. There are 20 of those, with a --

12 MR. GRABLE: Mr. Examiners, may I ask the
13 witness a couple of questions on -- does New Mexico
14 say voir dire?

15 LEGAL EXAMINER BROOKS: Well, I don't
16 know. I always say voir dire.

17 Okay, you may go ahead. It will count
18 against your time.

19 MR. GRABLE: I understand that.

20 VOIR DIRE EXAMINATION

21 BY MR. GRABLE:

22 Q. Mr. Jones?

23 A. Yes, sir.

24 Q. This Exhibit 2 is not a report you
25 prepared, is it?

1 A. It is not. It was done by William Cobb
2 and Associates in Dallas, Texas.

3 Q. And you did not develop and decide the
4 relevance and propriety of the various entries and
5 assumptions embedded in the report, did you?

6 A. No. I mean we furnished the information,
7 such as the net revenue interests. And you know,
8 the various PDP numbers that you're seeing there are
9 numbers that are -- that are developed by the
10 engineer.

11 Q. But the engineering work, the price deck,
12 the decline, all of the engineering and financial
13 assumptions embedded in this report were someone
14 else's work?

15 A. That's correct.

16 MR. GRABLE: I'll object to this witness
17 testifying to the details of it. I don't mind him
18 saying generally that he got a report and it showed
19 this. But I mean this is pure hearsay, and I can't
20 really cross-examine this witness on whether or not
21 the assumptions and conclusions of this report are
22 appropriate and accurate or not.

23 MR. CAMPBELL: If I might add to that,
24 Mr. Examiner, Premier entered an appearance and
25 filed a prehearing statement on the 9th of May, just

1 like any other party. But they did not deliver to
2 us their exhibits on May 11, which was the
3 division's order.

4 We didn't get exhibits -- we didn't get
5 Exhibits 1 through 5 until last night at 11:00. And
6 they have this morning, or just now, handed us two
7 additional exhibits.

8 We suggest that at least Exhibits 1
9 through 5 were untimely, relative to the prior order
10 of the division.

11 TECHNICAL EXAMINER EZEANYIM: Well --

12 LEGAL EXAMINER BROOKS: Since he is not an
13 expert -- if he were an expert, of course, he would
14 be allowed to testify from another expert's report,
15 if he had said that he reasonably based his
16 conclusions on that. But since -- and the point was
17 made to the fact that he is a fact witness and not
18 an expert. I think your objection is well-taken.

19 MR. RANKIN: Mr. Brooks?

20 LEGAL EXAMINER BROOKS: Mr. Rankin?

21 MR. RANKIN: I just want to make a point
22 that this is a -- he's the president of the company.
23 This information was used by him to make a business
24 decision. It's used in everyday business as a
25 business decision. It's a -- the fact that he

1 didn't prepare the report or didn't provide
2 information to lead to the assumptions doesn't
3 change the fact that it was used, as any president
4 of any company would use it, to make an informed
5 business decision. That's the point I want to make.

6 LEGAL EXAMINER BROOKS: Well, I gather
7 Mr. Grable's objection is not to the fact that he
8 got a report that says such-and-such, but to us
9 considering the report for the truth of the matter
10 stated there.

11 MR. GRABLE: Exactly. I don't even mind
12 him saying -- I think this is his point -- we think
13 10-acre drilling is economic. I don't mind him
14 giving his personal view of that.

15 But to put in an engineering report and
16 all of the implied and embedded assumptions and data
17 in it and just dump it in the record, I just -- I
18 think it's --

19 LEGAL EXAMINER BROOKS: Well, I'm going to
20 sustain the objection to the report insofar as it's
21 offered for the truth of the matter stated therein.

22 MR. GRABLE: Thank you, Mr. Brooks.

23 THE WITNESS: Can I say, Mr. Examiner,
24 that there was an \$86 million decision made based
25 upon this report?

1 TECHNICAL EXAMINER EZEANYIM: We
2 understand that.

3 FURTHER EXAMINATION

4 BY MR. RANKIN:

5 Q. I don't remember where you were on this --
6 at this point. But we were talking, I believe,
7 about the separation of this report, the PDP
8 reserves?

9 A. Yes. The report was built to give us a
10 number to make an economic decision on this -- on,
11 obviously, a very large purchase. And it was used,
12 once again, for banking purposes. It was very
13 important.

14 We've always recognized we have a number
15 of reserves left out there. We have had a lot of
16 success, even more success than what has been
17 described here.

18 Q. And can you please briefly describe the 20
19 PUD wells in more detail?

20 A. The 20 PUD wells was -- the report was
21 based upon 20-acre Blinebry spacing and 10-acre
22 Paddock spacing. And the reason it was done that
23 way was we didn't have numbers to -- to increase
24 Blinebry production and adequately give reserves to
25 those numbers at this point. It's too early in the

1 game for us to understand where that's at.

2 What we were doing prior to this with --
3 with BP, who took over ARCO, and with Marbob, was
4 placing the lease on 10-acre Paddock spacing and
5 20-acre Blinebry spacing.

6 Q. So if the Burnett and Hudson application
7 is accepted, or requested for spacing, what happens
8 with these 20 wells?

9 A. We're going to lose these 20 -- 20 wells.

10 Q. Mr. Jones, can you please briefly
11 reference Exhibit Number 1? And if you would, can
12 you describe the location of some of those PUD
13 wells?

14 A. Could I ask a favor and get Exhibit
15 Number 1 so I can --

16 Q. Oh, yes.

17 A. This is also -- this is the -- this comes
18 from the report. It was done by the engineer. And
19 what he did was, he took peak month production, and
20 he went in and developed a curve line and matched
21 all our previous wells. And he went in, and he
22 modeled what he felt was going to be the peak
23 production for the new wells coming on. And then
24 from that, he developed an EUR for those existing
25 PUDs.

1 Q. Can you explain why Premier has been a
2 little slow to produce these wells? You explained
3 earlier how you watched Concho drill all the way
4 around you. Did that raise --

5 A. It's mainly because of the
6 conservativeness of the way we run the company. We
7 have always operated out of cash flow. We don't go
8 borrow money, until this previous purchase.

9 Q. Mr. Jones, can you please identify for me
10 what has been marked as this large Exhibit Number 3?

11 A. Yes.

12 Q. And discuss the contents, and explain what
13 it is.

14 A. So the purchase was finally completed in
15 February of this year with the additional interests.

16 Previous to that, we were drilling about
17 one well per month and developing the Blinebry. So
18 subsequent to that, we -- we shut off -- shut down
19 drilling operation until after the pref rights were
20 completed.

21 And in March we drilled two wells, two of
22 the new PUD wells that you see listed on here. We
23 drilled the C-23 and we drilled the A-38.

24 And this exhibit is a direct 10-acre
25 offset to a Concho well that was drilled in 2007.

1 And you can see from the report, the completion --
2 you can see the styles of completions. I don't want
3 to get into that. I will let the engineer.

4 But I want to direct you up here to the
5 top corner. And this is what the EUR talks about in
6 the report for the C-23. It talks about
7 111,000 barrels of oil. It talks about a peak
8 production rate of 143 barrels.

9 And what I want to point out to the
10 examiner, Mr. Examiner, is that for the month of
11 April, we averaged 196 barrels for that well. So we
12 far exceeded what was projected from that, which is
13 going to increase our EUR above what is down there.

14 But when you reflect upon what the common
15 sense tells you here, you've got a well that was
16 drilled by Concho four years prior to us. And yet
17 it's exceeding what the third-party reservoir
18 engineer has stated the well will do.

19 And I would add that if I produce this
20 well differently -- it's on a beam pump now. If I
21 was to run a REDA in this -- I know where the fluid
22 level is. It's like at about a thousand feet at
23 this moment -- that this well would greatly exceed
24 what we're even talking about in production,
25 probably by two times the factor.

1 What typically happens when we -- when we
2 drill these wells, our frac system is about
3 18,000 barrels net. And we put them on beam pump,
4 and it takes a long time to remove that fluid off of
5 the well. You're only looking at moving about 400
6 to 450 barrels of fluid a day, so you can imagine
7 the length of time that it takes to get that off.

8 When we originally drilled our Paddock
9 wells out there we went in with REDA pumps and
10 basically dewatered the reservoir and put them on
11 production that way. And that's -- I'm talking
12 about the 1999 to 2005 wells.

13 Now, I am talking about the way the wells
14 work. And with the Blinbry, we actually just go in
15 with the beam pump. In this case we could have used
16 the REDA and far exceeded where our allowables are
17 at this point. We're exceeding allowable now on
18 this lease with one location still to drill.

19 Q. Mr. Jones, as president of Premier, you
20 make business decisions. Can you explain what you
21 conclude and how you use this information, as an
22 example, to make your decisions and how Premier
23 operates and attempts to operate, its concern for
24 drainage and so forth?

25 A. Well, our -- we don't -- we don't believe

1 there has been any drainage. We don't believe
2 there's an issue with drainage.

3 For instance, we just had a meeting two
4 weeks ago, and we basically were looking at what --
5 what wells are we going to drill for next year.
6 I've already got four APDs out right now that are
7 ready to drill, so we're planning for our five or
8 six next year. And I can, for instance, point to
9 what would be the northwest quarter of the -- of the
10 southwest quarter in Section 15. Two of our best
11 locations, by the -- by the PUD report, they are
12 predicted to be 155- to 160,000-barrel locations,
13 and we're not even planning on drilling those, even
14 though at this point Concho has outlined completely
15 around me on 10-acre spacing. We just don't feel
16 like drainage is an issue at all.

17 Q. I think -- did you already mention what
18 lag time was between these wells?

19 A. Between which two?

20 Q. Between these wells on this cross-section.

21 A. Yes, I did. I mean they -- they were
22 developed four years prior to -- to our drilling
23 this well.

24 Q. Thank you. Mr. Jones, let's move on to
25 Exhibit Number 4. This is on a different issue

1 here.

2 Can you just briefly state what this
3 spreadsheet represents?

4 A. This spreadsheet?

5 Q. Yes, this one.

6 A. This may be a little bit awkward, because
7 I was going to -- we were going to be a rebuttal to
8 Burnett. But we'll delve into this.

9 One of Burnett's exhibits that is coming
10 up is a nine-well comparison between nine wells that
11 Burnett has and nine wells that Concho has that are
12 offset. There's a density issue. The nine wells
13 that Concho has are based on the 10-acre spacing.
14 The nine wells it looks like that Burnett is dealing
15 with, is on a much higher-spacing level.

16 We just so happened to change our frac
17 techniques after five or six of the Blinbry wells,
18 and we went to the high rate/high volume sand fracs,
19 similar to what Concho does. And we just so happen
20 to have only nine wells that have got that sort of
21 treatment with six months of production.

22 And what you're going to see is, we are
23 developing on the same spacing as what Concho is
24 doing, but we're getting great results behind what
25 we're doing.

1 Q. Mr. Jones, can you identify -- I don't
2 know if it would be helpful or not -- but identify
3 Exhibit Number 5.

4 A. Yeah. Exhibit Number 5 is -- the wells
5 outlined in red are those nine wells that we have
6 done the high rate/high volume sand fracs.

7 So I think you can see they're not just
8 specifically in one area. There's like three or
9 four to the north. There is a couple in the center
10 of 15 to the west side, and then we have some to the
11 south, also.

12 Q. Mr. Jones, on Exhibit Number 7, this may
13 help as well. Can you explain what this
14 exhibit shows?

15 A. Exhibit Number 7 is what is another hybrid
16 of what we believe Burnett is going to be showing
17 you. And it shows the difference in slickwater frac
18 volumes. It shows you that sand volumes are roughly
19 the same for all three companies, but the Burnett
20 slickwaters are about four and a half times greater
21 in terms of actual volumes than what Concho and
22 Premier are doing at this time.

23 Q. Can you explain a little bit about what
24 that comparison tells you?

25 A. Well, it, A, relates -- what we're looking

1 at, between Concho and Premier as being very
2 similar, even though we don't -- certainly never
3 shared information. But that's how we view the
4 reservoir in terms of development.

5 Q. Mr. Jones, moving on to Exhibit Number 6,
6 can you explain and identify this exhibit, please,
7 for the examiner?

8 A. This is -- this is, once again, another
9 hybrid of one of Burnett's exhibits that you are
10 about to see. And in this, you should see actual
11 oil production per month, and you're going to see
12 the GORs.

13 And if you look -- I'm sorry we don't have
14 this on computer for you, or I could outline it.
15 But if you look towards the bottom, you will notice
16 that Premier and Burnett have very similar
17 characteristics on their GORs, and you will notice
18 that Concho is a little bit higher on their GORs.

19 So our density is the same, our fracs are
20 the same as Concho's, but yet our performance is
21 actually better than what Burnett's is.

22 Q. Thank you, Mr. Jones.

23 Just to reiterate, would you mind
24 concluding what your -- what the effect would be on
25 your production and operation if we were to accept

1 the application request of Burnett and Hudson?

2 A. Sure. Let me go in real quick on the
3 A-38, just to describe to you, which is the second
4 new well that we've drilled. It would be located
5 roughly 2310 from the east line and 990 from the
6 south line, in Section 15.

7 That well was drilled on a 10-acre Paddock
8 spacing. The three Premier wells have EURs of
9 roughly 150,000 barrels out of the Paddock.

10 Concho had a -- has a well directly north
11 of us that's a Paddock well. It has an EUR -- I'm
12 not sure what it is, but it has produced about
13 80,000 barrels. It's actually been refracked. It
14 was a Mack-produced well. They went in with the hot
15 acid. Concho went in and refracked the well. We
16 were actually unorthodox to the Concho site. We
17 drilled that well. Our completion takes about two
18 days. We do the two lower frac zones putting
19 composite plugs over them as we go.

20 The second day we do the last two zones,
21 putting a composite plug over the third zone, but
22 the Paddock zone is open. And when we -- we got
23 there the next morning to drill that well, drill the
24 plugs out of the well and start cleaning it out to
25 put it on the beam pump, we had 550-pounds of gas

1 and oil pressure on that well. And here it is in
2 the middle of 10-acre spacing around terrific wells
3 that have been there forever. Those are reserves
4 that never would have been captured by those other
5 wells.

6 Q. Thank you, Mr. Jones.

7 A. So in conclusion, where -- where you were
8 leading me, the -- we need to be -- we need the
9 commission to allow us to be able to drill and
10 complete our wells as we have been doing, and -- and
11 let us capture those reserves as they are. We paid
12 huge, huge sums of money for those rights.

13 Q. So, Mr. Jones, in your opinion as an
14 operator, what well density is necessary to
15 efficiently develop reserves, to prevent waste,
16 protect correlative rights, and would be in the
17 interest of conservation?

18 A. At least 10-acre spacing.

19 Q. And in your opinion, in that 10-acre
20 spacing are you producing incremental reserves or
21 are you accelerating them, I mean if it were to go
22 to this -- this --

23 A. In the report there were areas where there
24 were boundaries that were set up. But in order to
25 develop the Blinbry, and in order to add the

1 Paddock reserves to it, that makes the well
2 economical for us. To eliminate one or the other is
3 not going to make it economical. It's going to
4 hinder -- it's going to hinder our drilling
5 activity, which is slower than anybody else's in
6 this room at this point.

7 Q. Thank you, Mr. Jones.

8 Do you have anything else you want to add?

9 A. Just briefly. There was a discussion by
10 Apache's head that -- about scale. I mean we've had
11 this issue. We've had to clean out, and it's not
12 just -- we end up with calcium sulfate, which means
13 we have to run converters and other -- other issues
14 into this. So if we leave high fluid levels in the
15 wells we are going to have operational issues. We
16 will continue to have those. And it is -- it is a
17 detriment, it is a hindrance to -- to the overall
18 production of the interval.

19 MR. RANKIN: Thank you, Mr. Jones.

20 Pass the witness.

21 TECHNICAL EXAMINER EZEANYIM: All right.

22 Before --

23 MR. RANKIN: Mr. Examiner, I'm sorry. I'd
24 move to admit Exhibits 1 through 7, please.

25 TECHNICAL EXAMINER EZEANYIM: Yeah, and

1 there's one that was contested. Which one was that?

2 MR. GRABLE: Exhibit 2.

3 TECHNICAL EXAMINER EZEANYIM: Exhibit 2?

4 MR. GRABLE: Exhibit 2 was the one that I
5 objected to, and I believe Mr. Brooks --

6 TECHNICAL EXAMINER EZEANYIM: Right.

7 LEGAL EXAMINER BROOKS: It's not admitted
8 for the truth of the matter of the opinions
9 contained therein.

10 MR. GRABLE: I would also add that same
11 objection to the -- what I understand to be PUD EUR
12 values in red on Exhibit 1, because I believe they
13 come directly from Exhibit 2.

14 THE WITNESS: Those are not EURs. They
15 are -- those are the peak oil per day for the first
16 month.

17 MR. GRABLE: Okay. I misunderstood your
18 counsel's questioning, then.

19 TECHNICAL EXAMINER EZEANYIM: Okay. Your
20 only objection is Number 2, right?

21 MR. GRABLE: My only objection is
22 Number 2.

23 TECHNICAL EXAMINER EZEANYIM: At this
24 point, Exhibits 1, 3, 4, through 7 will be admitted.

25 LEGAL EXAMINER BROOKS: Okay. The witness

1 was passed at 4:54.

2 TECHNICAL EXAMINER EZEANYIM: Mr. Grable?

3 MR. GRABLE: Yes, Mr. Examiner. I was
4 just looking at my notes. I don't think we'll be
5 long with this witness.

6 EXAMINATION

7 BY MR. GRABLE:

8 Q. Mr. Jones, are you aware that operators
9 can seek and obtain the density exception in
10 New Mexico?

11 A. I am aware of the state rule of four wells
12 per 40.

13 Q. Right. But you have testified that if the
14 rule were changed to a special rule of 20-acre
15 density --

16 A. Yes, I am, to answer your question.

17 Q. -- it would deny you your rights to drill
18 certain wells.

19 Are you aware that the state, the
20 division, can grant exceptions to grant an
21 unorthodox location or exception location, or
22 whatever you want to call it, to prevent waste, to
23 protect drilling rights?

24 A. Yes, I am.

25 Q. And if you had situations like you have

1 testified to, where you suspect reserves that are
2 not being captured by existing wells, you could
3 apply for an exception location if the rules were
4 20 acres?

5 A. Yes, I'm aware of that.

6 Q. Okay. Now, are you -- is your testimony
7 that your firm drills all of its new wells as both
8 Paddock and Blinebry commingled completions?

9 A. Yes, that's true.

10 Q. Are you aware, on the wells in your
11 nine-well comparison --

12 A. Uh-huh.

13 Q. -- whether all of those wells were --
14 well, let's just talk about -- where are the Premier
15 wells completed in the --

16 A. All of them are Blinebry/Paddock-completed
17 wells.

18 Q. And how many Premier wells are in here?

19 A. In the nine wells? Just nine.

20 Q. Oh, okay.

21 A. I'm sorry. It's a nine versus nine versus
22 nine. We just happen to have nine that fit the
23 criteria of what your exhibit was going to be.

24 Q. I see. You added nine Premier wells to
25 the nine Burnett wells and the nine Concho wells on

1 the exhibit that is --

2 A. Let -- yeah. Let me -- there are -- we
3 have other Blinebry/Paddock wells. But in order to
4 get a comparison of the frac volumes and the frac
5 rates, we only had nine that fit that criteria.
6 Because the first eight were done on -- with hot
7 acid.

8 Q. The first eight of your company's wells?

9 A. Yes. So that's not really a true, fair
10 comparison. I mean, obviously, we've seen
11 substantial increases in what we're doing with the
12 new frac techniques. I'm hard to move sometimes.

13 Q. So do you know where the nine Burnett
14 wells are completed, whether they're
15 Paddock/Blinebry combinations?

16 A. They are -- the ones that I looked at,
17 they were Blinebry, and there was some
18 Blinebry/Paddock.

19 Q. So some were not Blinebry/Paddock?

20 A. I remember one that wasn't a
21 Blinebry/Paddock.

22 Q. Now, I believe you also testified on the
23 large cross-section comparative exhibit that your
24 frac profiles in volumes of fluid and pounds of sand
25 were comparable to Concho. Did I hear you right?

1 A. No. We did one more frac in this,
2 obviously, from the -- from the --

3 Q. Yeah. It appears that you used
4 substantially larger volumes of fluid and sand than
5 Concho's does.

6 A. Right. But my point of this was they
7 didn't drain us.

8 Q. Okay.

9 A. I mean the overall perception.

10 Q. If you testified that your company's frac
11 techniques are comparable to Concho, would you
12 misspeak or did I misunderstand you?

13 A. No. This -- this -- this exhibit --
14 you're confusing that exhibit with what the
15 nine-by-nine comparison is.

16 Q. Yes, sir.

17 A. So the purpose of this was, we were
18 looking at a well that was drilled four years prior
19 us to even doing anything, and it outperformed what
20 the third-party reservoir engineer had assigned to
21 that. It's going to outperform it.

22 Q. Okay. And I am a little confused on that,
23 too. If I look -- the existing Concho well would be
24 in the southwest of the southwest of the southwest
25 of 14?

1 A. Yes. It would be 330 off the lines, both
2 in the south and from the west line.

3 Q. Of the far southwest corner of Section 14?

4 A. Right. And this -- there is a little map
5 drawn off to the side.

6 Q. Right. But if you look on your Exhibit 1,
7 there appears to be no such well on your Exhibit 1.

8 A. That's -- that's just that the engineer
9 didn't pick it up on his report. It exists.

10 Q. So you're saying Exhibit 1 is wrong. It
11 just omits a well?

12 A. I'm saying it is correct as to the Premier
13 acreage. Outside of those boundary lines there's
14 more wells now than what there were. And why he
15 didn't pick it up, I don't know. But that comes
16 from his report strictly. So...

17 Q. Okay. Do you know how that Concho well
18 over there on the far southwest corner of 14 was
19 completed, if fracture stimulation, if any, was
20 given?

21 A. Yeah. It's outlined, right.

22 Q. Oh, that's what you're showing on there?

23 A. Yes, sir.

24 Q. Okay.

25 A. We have a projected EUR on the decline of

1 about 65,000 barrels.

2 Q. All right. Do you think if that well
3 had -- that Concho well had been completed with a
4 frac job like Premier or Burnett uses that you may
5 have seen some drainage over on your lease? Do you
6 have any view of that? Have you even --

7 A. I think that the zone that they left out
8 looks awfully tight on the logs, so they probably
9 didn't want to leave it out.

10 They are very aggressive. They go after
11 everything they can. I mean, obviously, the
12 upper -- the upper Paddock got completed, we ended
13 up putting three fracs in the Blinbry. If you will
14 notice, our frac -- well, no, that's not true, too.

15 Our -- what would be their missing zone,
16 which we overlap with on their second zone a little
17 bit, we put a fairly substantial frac in it.

18 Would it have made up the difference of
19 50,000 barrels? I doubt that.

20 Q. I'm a little confused to what the well
21 spots -- were the well spots on your Exhibit 1
22 supposed to be actual existing completed wells?

23 A. The well spots on Exhibit 1 are where the
24 PUD locations are. There's oftentimes an existing
25 Grayburg San Andres well in the area and we have to

1 move the well, like, 50 feet one direction or the
2 other because of the existence of that previous
3 well.

4 So the well spots relate to where the PUD
5 locations are. Does the well actually -- was the
6 C-23 actually drilled right there? No, it was moved
7 over about, I believe, 50 feet.

8 Q. Well, what average density have you
9 developed the Premier acreage to this day, as shown,
10 in the Yeso?

11 A. Okay. Back in the history of it, in 1999
12 through 2005, we developed Paddock only, so we
13 drilled only 5,000-foot wells on 20-acre spacing.

14 Subsequently, since then, everything that
15 we've drilled has been Paddock/Blaine
16 combinations.

17 Q. But I am asking you: To what density have
18 you developed this lease in the Yeso without regard
19 to whether it's Blaine, Paddock, or a combination?
20 How many wells have you got on how many acres?

21 A. Well, we've got 20 more -- 20 more
22 locations to drill like we want to. And I guess if
23 you wanted to average, we would be averaging about
24 three wells currently per 40, because we have some
25 40s that have got full development. We have other

1 40s that do not have full development, that have no
2 development on them.

3 For instance, in my testimony a minute ago
4 I was discussing the fact that the one 40, which is
5 one of the best ones that the reservoir engineer
6 picks out, we're not even planning on drilling it.
7 But we have two PUD locations on that.

8 MR. GRABLE: Okay. Pass the witness.

9 LEGAL EXAMINER BROOKS: Passed the witness
10 at 5:05.

11 TECHNICAL EXAMINER EZEANYIM: More
12 questions?

13 MR. RANKIN: Just one more.

14 TECHNICAL EXAMINER EZEANYIM: Sure.

15 FURTHER EXAMINATION

16 BY MR. RANKIN:

17 Q. Mr. Jones, are you aware that under
18 existing rules an operator is not required to drill
19 more -- to drill up to four wells per 40?

20 A. Yes, I am.

21 MR. RANKIN: I got it out finally.

22 Thank you.

23 TECHNICAL EXAMINER EZEANYIM: What was
24 your question?

25 MR. RANKIN: My question was if he was

1 aware that an operator is not required to drill four
2 wells per 40.

3 TECHNICAL EXAMINER EZEANYIM: Not
4 required?

5 MR. RANKIN: Not required.

6 THE WITNESS: Not required.

7 TECHNICAL EXAMINER EZEANYIM: But you can
8 if you want to.

9 MR. RANKIN: Exactly. Absolutely.

10 TECHNICAL EXAMINER EZEANYIM: I don't have
11 to examine a fact witness, because I don't know what
12 questions to ask. But I have to ask you --

13 THE WITNESS: I can answer anything. I
14 have been out there forever. So...

15 TECHNICAL EXAMINER EZEANYIM: So I'm going
16 to ask you something. Right before, you stated that
17 you wished that you could get -- we are talking
18 about 300 barrels a day per unit. But you said, "We
19 wish we could get more."

20 Why do you wish that? If you wish that,
21 you have the right to go in to ask for more. I mean
22 there is nothing that says you can't come here and
23 ask for one thousand or one million, whatever you
24 want.

25 THE WITNESS: To be honest with you,

1 Mr. Examiner, I have not even studied the numbers.
2 I don't even know exactly where our overproduction
3 is at this point.

4 For -- I mean common sense says that this
5 is -- I mean this is -- this is a massive reservoir.
6 It's -- it's -- on our lease, it's 14-, 1,500 feet.
7 And you know, nobody has ever brought a case up to
8 the OCD saying, "You guys are overproducing." I
9 mean nobody has ever done it after 12 years, and we
10 have been out there forever, so we have been doing
11 it.

12 For instance, there is a well that offsets
13 us to the west that is best -- to the best of my
14 knowledge, and I have studied this fairly
15 intensely -- the highest producing vertical well
16 ever. I mean it's directly off of our lease.

17 In March -- Marbob put that well on late
18 February of 2008. I think it made -- in ten days it
19 made 2,500 barrels, but in March it made over
20 15,000 barrels, and it was sitting on my edge. They
21 started to shut the well down in April. It only
22 made about 5,000 barrels in April.

23 They were scared -- they were actually
24 worried about their allowables. They -- they didn't
25 come to me. I mean we were partners, obviously, off

1 to the side. But they -- I mean it was a very large
2 producer. They shut it in through the whole summer.
3 It had, like, 600 pounds of pressure on it. I mean
4 it was literally -- it would just flow oil straight
5 up the casing. It wasn't even pumping when it was
6 producing.

7 TECHNICAL EXAMINER EZEANYIM: Do you mind
8 telling me the operator?

9 THE WITNESS: I'm sorry?

10 TECHNICAL EXAMINER EZEANYIM: Who is the
11 operator?

12 THE WITNESS: It was Marbob.

13 TECHNICAL EXAMINER EZEANYIM: Oh, okay.

14 THE WITNESS: Marbob was at that time.
15 It's an Apache well now.

16 TECHNICAL EXAMINER EZEANYIM: Oh, okay.

17 THE WITNESS: I mean it -- but the crazy
18 thing is, is when they -- so there was a question a
19 moment ago about, well, is anybody ever limited?
20 Well, yeah, this is actually a case of somebody
21 limiting -- limiting their production. And that
22 limitation resulted in the fact that that well
23 didn't come back the way it did before. It was
24 producing before. It's like it lost its momentum.

25 TECHNICAL EXAMINER EZEANYIM: It was shut?

1 THE WITNESS: They shut it, like, four or
2 five months. They would produce, like, maybe a
3 hundred barrels through May, June, July, August, and
4 I think they may have turned it back on in
5 September. It was in the fall of that year.

6 But to continue the story, we offset it to
7 the southwest, which is a little bit down dip, in
8 December of that year. And the second day that we
9 had the well on beam pump our well began flowing at
10 550 pounds of pressure. It was flowing 100 percent
11 oil up the casing, you know.

12 I'm -- I knew about the -- I knew -- I
13 was, like, this is -- this is crazy. So we -- we
14 actually put a choke. We put chokes on all our
15 wells, so there is a limitation on how we produce
16 them initially. But we actually put an active and
17 adjustable choke on it, and we punched it back to 8
18 or 9/64s, and we only allowed it to produce at 130,
19 150 barrels a day.

20 What I perceived was, when we began to
21 open up the choke, we had lost our momentum, also.

22 Now, I'm not here to -- to recognize or be
23 a reservoir engineer. But this is -- this is --
24 these are cases that disturb me, as an operator, of
25 slowing it down.

1 We have limitations in our production
2 where we have -- our flow lines are -- are rated to,
3 like, 300 pounds. So once I know these wells begin
4 kicking off, they will start flowing up the casing
5 at over 300 pounds of pressure.

6 We actually have a Mercoid switch that
7 kicks the jack off when that happens, so that the
8 well won't continue to build too much pressure and
9 blow our flow line and we have a huge mess on BLM
10 land. And we have -- we have -- we have limitations
11 built in there on this lease when we do it.

12 In viewing all the leases out there, you
13 know, I'm not bragging, but we -- we fortunately,
14 somehow, bought into the best -- probably the best
15 set of leases in the whole field. It's either the
16 first or the second, depending on whether you want
17 to argue Mar- -- what used to be Marbob's Barnsdale
18 leases back over in 17/29. It's a great lease. So
19 there is limitations there on how we do it.

20 The efficiency of how we frac and we
21 complete our wells is important to us, because just
22 even getting -- as a small operator, just even
23 getting frac tanks, getting set up with Halliburton,
24 because you are getting run over by the bigger
25 companies. They're going to service the big

1 companies first.

2 To even get the amount of equipment that
3 we need out there just to do our work, we have to
4 get it done in a couple of days. We can't go in and
5 do frac one and frac two and then turn the well on
6 and then come back and do frac three and frac four.
7 I mean there's just not -- we get run over at that
8 point.

9 Plus the costs of that are -- are
10 enormous. You know, we are talking about
11 40-something frac tanks when we do these.

12 TECHNICAL EXAMINER EZEANYIM: At the time
13 that well was producing, did you -- were you
14 concerned, then, that they may drain you, because
15 you're on offset? Were you concerned about that
16 well producing?

17 THE WITNESS: No, sir.

18 TECHNICAL EXAMINER EZEANYIM: You weren't?

19 THE WITNESS: No, sir.

20 TECHNICAL EXAMINER EZEANYIM: Why not?
21 Because if I listen to you, I'd be producing -- do
22 you have any way to --

23 THE WITNESS: I don't know. Call it a
24 magic barrier there. It's -- we haven't seen any --
25 any drainage from anybody. We're still not scared

1 of -- of -- when you look at the map and you've got
2 10-acre Concho spacing all the way around our north
3 lease, and we have great -- some of our best
4 locations are through the south half of Section 15.

5 TECHNICAL EXAMINER EZEANYIM: Okay.

6 That's good.

7 Well, anyway, there is some testimony you
8 said, that if Burnett/Hudson's application were to
9 be granted, you're going to lose 20 wells. Can you
10 explain that to me?

11 You said it. I wrote it down, because I
12 didn't want to interrupt. What do you mean that you
13 are going to lose 20 wells?

14 THE WITNESS: Well, we have -- we have 20
15 more locations to drill on what our reserve
16 report -- on our reserve report. And understand,
17 this is -- this is -- this is our breadline to the
18 bank. When we went to the bank we had to have
19 something to say, "Hey, we're -- you guys are crazy.
20 We're not going to loan you that much money."

21 It's -- it's -- we already have two wells
22 per 40 drilled with Paddock -- with the Paddock
23 wells. Their initial application was for just two
24 wells per -- per 40 on that.

25 They have adjusted that at this point, but

1 it's still a penalty. The funny thing was is they
2 dropped their allowable down once they made their
3 change, and I'm real interested to hear that part of
4 the story.

5 But they jumped -- they dropped their
6 allowable down from 240 to 187 after they made this
7 adjustment for the -- for what they called the well
8 density now, which is, "Okay. Well, we're going to
9 let you have two Paddock wells but only two Blinebry
10 wells, and you can't have two of the Paddock wells."

11 Well, that would be absolutely loss of
12 common sense, just because of what I described on
13 that A-38, where I've got three great Paddock wells
14 that are around that. You would have thought that
15 they would have drained that location.

16 We were unorthodox to a well that Concho
17 had that they had already fracked twice in the
18 Paddock. And when we -- when we come up the next
19 morning, I mean we're drilling those plugs out, and
20 we're having to carry oil off because it's
21 flowing -- or we're circulating oil because we have
22 to foam this stuff out. But I mean there's 550
23 pounds of pressure on it the next morning. That's a
24 clear example of not being drained.

25 TECHNICAL EXAMINER EZEANYIM: What do you

1 think about the gas/oil ratio in this pool?

2 THE WITNESS: I didn't-- honestly, I
3 didn't look at it until -- until I saw this. I was
4 worried, you know, what -- what our GOR is.

5 We have wells now that they slowly begin
6 to climb to a 4,000 to 1 GOR over time. A lot of
7 our production runs in that 4,000 to 1, even the
8 older stuff. So 2,000 to 1, we're going to be
9 hindered again on our production. And it opens up
10 into the whole scale issue. It opens up into a lot
11 of other issues.

12 I mean it's -- for instance, our scale
13 issue came on a couple of our older wells, and it
14 came -- it came as a result of an issue that we had
15 with the pipeline company out there.

16 Frontier, who is the gas purchaser, all
17 through last summer and all through the fall had
18 extraordinarily high line pressure, so high that we
19 couldn't even -- we couldn't even get into the -- to
20 the pipeline. We were venting our gas, because the
21 production equipment is essentially at 60 to 70
22 pounds, and that's all it's rated to.

23 So when their line pressure jumps up to
24 70, 75, 80 pounds, and sometimes even up to 100, I
25 have no -- if I produce the well I'm venting the

1 gas. So I mean, I -- I had -- at one point in
2 August I had 80 percent of my production shut in
3 because -- because of the line pressure.

4 But now that that has been resolved, you
5 know -- and so what that did is that created high --
6 high fluid levels within our wells, and it created
7 some scale problems on a couple of them.

8 We try -- we tried to pump chemical with
9 our fracs, because there is an issue with the --
10 with the Blinebry water and the Paddock water. So
11 when we do these, we put special chemicals in to
12 prevent that calcium sulfate from forming.

13 TECHNICAL EXAMINER EZEANYIM: All right.
14 Did you prepare Exhibit Number 6?

15 THE WITNESS: Yeah. Yeah. I mean Dan, my
16 brother, did. He is an engineer.

17 TECHNICAL EXAMINER EZEANYIM: Okay. But
18 you are aware of the numbers there. Can I ask you a
19 question about it?

20 THE WITNESS: Oh, sure.

21 TECHNICAL EXAMINER EZEANYIM: Yeah. If
22 you look at the gas/oil ratio, or all the gas/oil
23 ratios, why is COG's gas/oil ratio higher than
24 Burnett and Premier? Why is it higher? You guys
25 are producing from the same pool.

1 THE WITNESS: I don't know if this is
2 cherrypicked. I mean I've seen enough issue out of
3 Concho at that point that this may just be something
4 that's -- that is cherrypicked by Burnett. I
5 don't -- I'm not qualified enough to answer that.

6 TECHNICAL EXAMINER EZEANYIM: But the --

7 THE WITNESS: The reservoir is not the
8 same. It's not even the same on our lease. I could
9 get into a real long description of what it is.

10 TECHNICAL EXAMINER EZEANYIM: I
11 understand.

12 THE WITNESS: But I mean it's not even --
13 there's a fairway, there's tighter rock, and then
14 there gets to be really tight rock to the north.

15 And where these wells are, I don't know.
16 What we were -- what we were looking at strictly
17 was, what's that GOR looking? Are we -- are we out
18 of line? Is our density and our frac going to be
19 the same?

20 I think that Burnett -- I'll compliment
21 them on the slickwater thing. They may be on to
22 something. I mean slickwater -- you know, somebody
23 asked -- well, somebody made a comment a minute ago
24 about gels not extending out as far. I would
25 probably call gels being cumbersome, in terms of

1 when they're fracking through the formation versus
2 the slickwater, and it's been proven in the shales
3 and in a number of places. I mean you know the
4 whole story.

5 And like the Barnett is -- somebody forgot
6 to bring the chemicals out to gel the -- to gel
7 before a Barnett shale frac. The operator was under
8 time constraints, and he fracked it with slickwater
9 and got a better performance. So he's maybe getting
10 more complex fractures. That is beyond me at this
11 point.

12 TECHNICAL EXAMINER EZEANYIM: Okay.

13 Anything further from this witness?

14 MR. GRABLE: I did have one other question
15 in some of that.

16 FURTHER EXAMINATION

17 BY MR. GRABLE:

18 Q. Sir, does your company run a suite of
19 open-hole logs on all your wells?

20 A. Yes, we do. Well, we -- we did except for
21 the A-38. We had an issue with -- we do our casing
22 program a little differently than Burnett. We run
23 an intermediate string over the salt section for
24 protection, and we weren't able to do it in that
25 well, and there's some shales in the salt that

1 prohibit us from doing it. So we actually had to
2 run a cased-hole log in it which is, in our -- in
3 our view, disappointing.

4 Q. Do you do log analysis and design your
5 perforations based upon what the logs tell you?

6 A. Now, for instance, the --

7 Q. I'm sorry?

8 A. The last two wells, for instance, were
9 completed by Marbob's ex-engineer, Brian Collins,
10 who actually has an interest in the stuff now in
11 our -- in our leases.

12 Q. But did you say you do design selective
13 perforations based upon log analysis?

14 A. Yes.

15 MR. GRABLE: Thank you.

16 TECHNICAL EXAMINER EZEANYIM: Are you
17 done?

18 MR. GRABLE: I'm done.

19 TECHNICAL EXAMINER EZEANYIM: Do you have
20 any other witness?

21 MR. RANKIN: No, Mr. Examiner, we are
22 through.

23 TECHNICAL EXAMINER EZEANYIM: You are
24 through?

25 At this point, we are going to take five

1 before we call -- how many witnesses do you have?

2 MR. CAMPBELL: We have three,

3 Mr. Examiner.

4 TECHNICAL EXAMINER EZEANYIM: Okay. Is he
5 here?

6 MR. CAMPBELL: We will hear Mr. Haiduk,
7 our first witness, a geologist. Can we have two
8 minutes to make sure our slides are set up?

9 TECHNICAL EXAMINER EZEANYIM: Okay. Let's
10 take five.

11 (A recess was taken from 5:22 p.m. to 5:33
12 p.m.)

13 TECHNICAL EXAMINER EZEANYIM: The counsel
14 have suggested that we call it a day today, since
15 we're making good progress. I really appreciate
16 that. I thank you all for cooperating and being
17 civil to each other. We did a good job today.

18 So what we have, the other side, I think
19 we can get it tomorrow. So the suggestion was to
20 call it a day today and start tomorrow morning by
21 8:30.

22 What time do you guys want to start
23 tomorrow?

24 MR. GRABLE: 8:30 is fine.

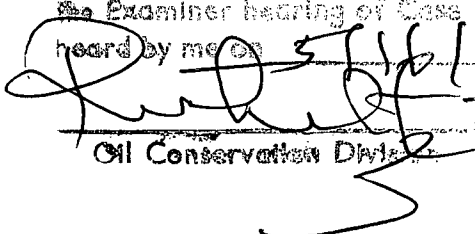
25 TECHNICAL EXAMINER EZEANYIM: 8:30? I

1 think we can get it tomorrow, because I don't want
2 you to go too --

3 MR. GRABLE: We have only three witnesses,
4 and we did seven today.

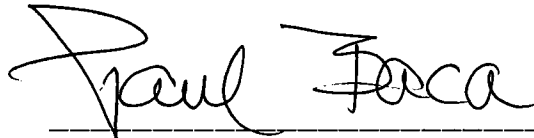
5 TECHNICAL EXAMINER EZEANYIM: Yeah. So
6 why don't we end the hearing now and then start
7 again by 8:30 tomorrow morning?

8 (Evening recess.)
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15 I hereby certify that the foregoing is
16 a complete record of the proceedings of
17 the Examiner hearing of Case No. 14613214647
18 heard by me on 5/16/11
19 
20 Oil Conservation Division
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1 CERTIFICATE

2
3 I, Paul Baca, RPR, CCR in and for the
4 State of New Mexico, do hereby certify that the
5 above and foregoing contains a true and correct
6 record, produced to the best of my ability via
7 machine shorthand and computer-aided transcription,
8 of the proceedings had in this matter.

9
10 

11 _____
12 PAUL BACA, RPR, CCR
13 Certified Court Reporter #112
14 License Expires: 12-31-11
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