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A P P E A R A N C E S

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A P P E A R A N C E S (Cont'd)

ALSO PRESENT:

Dean McClure, Technical Examiner (via
videoconference)

Freya Tschantz, Law Clerk

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I N D E X

WITNESSES:	DX	CX	RDX	RCX
JOHN HARPER				
By Mr. Rankin		302		325
By Mr. McClure		319		
By Ms. Hardy			322	
SHANE KELLY				
By Ms. Hardy	327		377	
By Mr. Rankin		343		
By Mr. McClure		370		

P R E V I O U S L Y M A R K E D E X H I B I T S

NO.	DESCRIPTION	ID/EVD
Avant:		
Exhibit A-17	Lease Tract Ownership, Committed Working Interest Owners	369/
Exhibit B-4	Gun Barrel Development Plan of Avant Grayling Unit	303/
Exhibit B-7	First Bone Spring Offset Activity	306/
Exhibit B-19	Apache's Performance and Engineering Analysis Ignores Geology	312/
Exhibit B-20	Avant Compliance with OCD Filing Requirements	319/
Exhibit C-3	Comparison of Avant Grayling Development Plan with Apache Dustbowl Development Plan	365/
Exhibit C-5	Graph Depicting Avant's Proven Third Bone Spring Development Recovery	348/
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1 P R E V I O U S L Y M A R K E D E X H I B I T S

2 (Cont'd)

3 NO. DESCRIPTION ID/EVD

4 Avant (Cont'd):

5 Exhibit C-12 Two-Mile Type Curve for
6 First Bone Spring Wells 353/

7 Exhibit C-13 Avant Cutbow Well Performance 350/

8 Exhibit C-14 Two-Mile Type Curve for
9 Second Bone Spring Wells

10 Exhibit C-15 Two-Mile Type Curve for
11 Third Bone Spring Wells 353/

12 Exhibit C-16 Apache's Summary of Activity
13 is Inaccurate 329/

14 Exhibit C-17 Avant Drilling Operations
15 Minimize Disturbance 329/

16 Exhibit C-18 Avant Outperforms in
17 Analogous Rock Quality 331/

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19 NO. DESCRIPTION ID/EVD

20 Apache:

21 Exhibit 36 Typical Development Well
22 Spacing Over Time 333/

23 Exhibit 37 EUR Prediction Using
24 Limited Production Data 334/

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P R E V I O U S L Y M A R K E D E X H I B I T S

(Cont'd)

NO.	DESCRIPTION	ID/EVD
Apache (Cont'd):		
Exhibit 38	Performance Degradation at Tighter Spacing	335/
Exhibit 39	Golden Tee 3BSS Results	336/
Exhibit 40	Avant's Full Bench Development Approach	338/

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P R O C E E D I N G S

THE HEARING OFFICER: All right. Let's get on the record. It's 8:32 on May 30, 2024.

We have Avant's second witness, John Harper, who has just testified under direct examination to both his direct and rebuttal exhibits and testimony. And we are set for cross-examination, and we will start with Mr. Rankin.

MR. RANKIN: Good morning, Mr. Examiner.

THE HEARING OFFICER: Good morning. WHEREUPON,

JOHN HARPER, called as a witness and having been previously sworn to tell the truth, the whole truth and nothing but the truth, was examined and testified as follows:

CROSS-EXAMINATION

BY MR. RANKIN:

Q Good morning, Mr. Harper.

A Good morning.

Q I'll go ahead and share my screen so we can walk through these exhibits. Are you able to see my screen on yours?

A Yes, sir.

Q Okay. I'm going to start with Avant's

1 Exhibit B-4.

2 (Avant Exhibit B-4 was previously
3 marked for identification.)

4 And before I jump into the exhibit, I'm
5 going to ask you: You've reviewed and are familiar
6 with the target formations, the total vertical depths
7 that were identified in Avant's well proposals that
8 were sent out in September of 2023?

9 A Yes.

10 Q And the TVDs identified here in Exhibit B-4
11 are the TVDs that Avant is now proposing for its wells
12 in the spacing unit. Is that correct?

13 A Yes.

14 Q And these TVDs for the first Bone Spring are
15 approximately -- are more than 100 feet deeper than
16 they were in the well proposal; correct?

17 A That's correct.

18 Q And that's the same for the second Bone
19 Spring?

20 A I don't have the second Bone Spring TVD
21 depths in front of me from the proposals, but I think
22 that is correct.

23 Q Okay. And the depths now in your exhibit
24 here, B-4, for the first and second Bone Spring, they
25 match essentially what Apache's proposed in its

1 development?

2 A I believe so, yes.

3 Q Are you aware whether when Avant filed its
4 BLM permits for these wells, are they at the proposed
5 depths in the well proposals, or are they at the
6 depths that you represent here in the Exhibit B-4?

7 A I can confirm that the depths that were
8 submitted with our APDs are at 8700 feet TVD, which is
9 what this is in this screen.

10 Q And that's for the first Bone Spring?

11 A Yes, sir.

12 Q How about for the second Bone Spring?

13 A I can also confirm that the depths for the
14 second Bone Spring sand that were submitted to the
15 BLM, the APDs were at this depth here at 9600.

16 Q Okay. Do you know, does Avant own seismic
17 data over this acreage?

18 A No, sir.

19 Q On this -- call it the type log. You use
20 this -- is it the Korczak Federal? Is that how you
21 pronounce it?

22 A I believe so.

23 Q Okay. Looking at that type log, that left
24 track, that's your gamma ray track; right?

25 A Yes, sir.

1 Q And between where you've got the third Bone
2 Spring carbonate labeled out, that sort of separates
3 the second Bone Spring sand from the third Bone Spring
4 sand; correct?

5 A Correct.

6 Q And that third Bone Spring carbonate, does
7 that function as a frack barrier between the third
8 Bone Spring and the second Bone Spring sand?

9 A I believe it would be. Yes.

10 Q Okay. So you agree that the third Bone
11 Spring sand can be developed independently of the
12 second Bone Spring?

13 A Yes.

14 Q So nothing prevents Apache or Avant from
15 developing the third Bone Spring sand separately,
16 either before or at a later time from the first or
17 second Bone Spring?

18 A Correct.

19 Q So targeting the third Bone Spring sand at a
20 later time as a secondary development or an infill
21 under a pooling order would not result in waste or
22 strand reserves because that bench can be drilled
23 through infill development; correct?

24 A Yes. I believe so.

25 Q As long as it's developed?

1 A Yes, sir.

2 Q Okay. Switching over to Exhibit B-7.

3 (Avant Exhibit B-7 was previously
4 marked for identification.)

5 This is offset activity for the first Bone
6 Spring; correct?

7 A Correct.

8 Q So in the -- I'm looking at your -- you
9 point out your Cutbow development here, and I think we
10 touched on this yesterday, but I'm just confirming.
11 There are only five wells in the first Bone Spring in
12 the Cutbow?

13 A That is correct. Two different
14 developments.

15 Q Say that again?

16 A There are three initial wells spaced at six
17 well spacing.

18 Q And then you came back and developed two
19 wells on the west half at modified --

20 A Correct.

21 Q -- a modified six well spacing. So
22 essentially five well spacing for that spacing unit?

23 A Correct.

24 Q Okay. Do you know the reason why the sixth
25 well on the west half was dropped?

1 A Midstream constraints.

2 Q Midstream constraints. Okay. Not over
3 concerns about interference with the wells in the east
4 half?

5 A No, sir.

6 Q Okay. So Avant had already developed and
7 completed its wells in the third Bone Spring, and in
8 which you did six wells in the third Bone Spring;
9 correct?

10 A Correct.

11 Q Okay. And the experience of developing and
12 completing those wells didn't dictate your decision to
13 drop the third well in the west half of the first Bone
14 Spring?

15 A No, sir.

16 Q Okay. Now, looking at this offset, I don't
17 see any other wells that are at -- and maybe you can
18 point them out to me -- any other sections or spacing
19 units that are at six well spacing for the first Bone
20 Spring. Is that your view of that offset area as
21 well?

22 A In this map view, yes. These are all wells
23 at all time, so some of these wells are very dated.
24 You can see that. So the first Bone Spring sand is a
25 newer target in this area, so modern development, that

1 being more than four wells per section, has not
2 necessarily made it to this area at this time.

3 However, outside this map view, I do believe
4 that the first Bone Spring sand are more than four
5 wells per section.

6 Q But you control this offset map and you
7 chose this as your offset activity?

8 A Correct. At Avant we like to keep like for
9 like rock. We believe that this area is
10 representative of the first Bone Spring sand.

11 Q Okay. Up and over to the second Bone Spring
12 offset activity. Similar map, similar idea, except
13 with a focus on second Bone Spring; correct?

14 A Yes, sir.

15 Q So here I note that the second Bone Spring
16 in the Cutbow area, which is at this area highlighted
17 in yellow, sections 30 and section 1; correct?

18 A Section 36.

19 Q I'm sorry, 36. Yep. Thank you. Thirty-six
20 and section 1; correct?

21 A Yes.

22 Q Okay. I see there's two full two-mile wells
23 on the west half but only a partial well down the
24 middle. What happened with that partial well?

25 A I can't speak to that partial well. That's

1 not an Avant-operated well.

2 Q Okay. Got it. So that was a preexisting
3 well on the second Bone Spring in that location?

4 A Yes, sir. It was stripped by Marathon.

5 Q Okay. And is Avant currently completing
6 these wells in the second Bone Spring?

7 A Yes.

8 Q These are the wells that are currently going
9 completion operations?

10 A I'll defer to Shane Kelly as to whether or
11 not they're currently still fracking said wells. We
12 either have finished fracking or are still fracking,
13 but I'll defer to him to confirm current operations.

14 Q Does Avant plan to come in and drill wells
15 on the east half of that spacing unit in the second
16 Bone Spring?

17 A We have the optionality to come in and drill
18 wells at a later date. We will still evaluate the
19 economics of said project. There is significant
20 depletion on the east half of the unit, which is why
21 we are drilling the west half currently.

22 Q Okay. So those wells are not currently on
23 the rig schedule, then, to drill the east half of the
24 second Bone Spring?

25 A Not currently, due to significant depletion.

1 Q Okay. Now, as with the first Bone Spring, I
2 reviewed these offset activity, and I don't see wells
3 at a six well spacing per section. Do you see any or
4 can you point them out to me if there are any, I
5 guess?

6 A Section 29, 19, 32, there are 5 --

7 Q Five wells?

8 A -- second sands wells. Correct. However,
9 if you move this map a couple miles south or east, you
10 will see PR has drilled their Batman unit at eight
11 wells per section spacing.

12 Q And the Batman, that was Wine Rack. Is that
13 right?

14 A I'm not certain.

15 Q Okay. Is five well spacing the same as six
16 well spacing?

17 A No.

18 Q So I don't see -- so in this offset map,
19 there are no other -- besides the five well spacing,
20 there's nothing else that's spaced at greater density
21 than four well spacing?

22 A Other than that one section, 29. Most of
23 these dated wells, again, are at four wells per
24 section.

25 Q Let's see. Third Bone Spring again, same

1 kind of set of questions here. Again, you're calling
2 out the Cutbow in sections 36 and section 1; correct?

3 A Correct.

4 Q And those wells are drilled at a six well
5 spacing per section?

6 A Correct.

7 Q Are there any other sections that are
8 developed at five or six well within this offset area?

9 A You can see that the third Bone Spring sand
10 is a new target in this area. Mewbourne is the only
11 other operator in this map view that is drilling the
12 third Bone Spring sand other than us. We were one of
13 the first movers if not the first movers to develop
14 the third Bone Spring sand in this area.

15 But to answer your question, no, there are
16 no other four-plus wells or wells that are drilled at
17 tighter spacing than four wells due to the fact that
18 it's a new target.

19 Q So on this map, the wells that are third
20 Bone Spring sands are the ones that are kind of bolded
21 in an orange color?

22 A That is correct.

23 Q So the only ones showing are yourselves and
24 then the Mewbourne to the north?

25 A Those are the only third Bone Spring sand

1 horizontals drilled in this map view.

2 Q Okay. Thank you. I'm going to flip over to
3 your rebuttal exhibits. I'm going to start at B-19.

4 (Avant Exhibit B-19 was previously
5 marked for identification.)

6 Let's see. Where is that? This is hard to
7 read, number one, because I'm not a geologist; number
8 two, because it's so small. So I'm going to try my
9 best to kind of -- I just want to make sure I
10 understand your testimony around this cross-section.

11 So when I look at this cross-section, you've
12 identified on the left-hand side here the different
13 benches: the first Bone Spring, second Bone Spring,
14 and then at the base the third Bone Spring; right?

15 A That is correct.

16 Q And you've kind of highlighted
17 stratigraphically where the first Bone Spring is
18 identified in each of these logs; right?

19 A Yes.

20 Q And that's based on that the top of the Bone
21 Spring is where my cursor is here. It's kind of hung
22 off the top of the Bone Spring; correct?

23 A Correct.

24 Q And then the base of the first Bone Spring
25 is at this next dark line where my cursor is hovering.

1 Is that right?

2 A The way I interpret it, yes.

3 Q Okay. And that extends stratigraphically
4 across each of these logs to the -- from I guess one
5 to seven?

6 A Correct.

7 Q Okay. And same thing for second Bone Spring
8 and third Bone Spring; right? That's how you've
9 identified your interpretation of those benches?

10 A Correct.

11 Q Okay. And then the logs that are shown
12 here, the first track is gamma ray?

13 A Yes.

14 Q Second track is depth. Third track is
15 resistivity. Is that right?

16 A Yes.

17 Q And then porosity, is that P-O-R?

18 A Yes. Neutron and density porosity.

19 Q Neutron and?

20 A Density.

21 Q Okay. So when I'm looking at the first Bone
22 Spring -- and now, the porosity log has neutron and
23 density and did you use a -- what was your cutoff?

24 A Six percent or higher is what's shaded in
25 teal.

1 Q And that's the same cutoff you used for your
2 initial original exhibits; correct?

3 A The pay maps, yes.

4 Q Yeah. Okay. So 6 percent across for all
5 these logs, correct, is what's shaded?

6 A Yes.

7 Q Okay. So the teal, does the teal represent,
8 then, your interpretation of what would be net pay?

9 A My interpretation, yes.

10 Q Okay. And so for the first Bone Spring. So
11 I'm just going from left to right. From the Palmillo,
12 it looks like there's a fair amount of pay in the
13 first and in the Palmillo?

14 A Yes.

15 Q And then a little less in Salt Fork?

16 A Yes.

17 Q But pretty good in the Cutbow?

18 A Yes.

19 Q Okay. And Black and Tan, not so much?

20 A Not so much, no.

21 Q Okay. All right. I just want to make sure
22 I'm following. And Ghost Rider's got a pretty thick
23 section of net pay?

24 A The best, yes.

25 Q Okay. So your view is that the Ghost Rider

1 has the best net pay in the first out of all of the
2 wells?

3 A There's a lot that goes into pay, but
4 net -- based on the criteria of net footage greater
5 than 6 percent porosity, I would say the Cutbow has
6 the most footage of that.

7 However, there are other factors as in depth
8 and resistivity could also factor into net pay. If
9 you look at the Ghost Rider, yes, it has a lot more
10 net footage greater than 6 percent, but jumping from 6
11 percent to 10 percent to 50 percent is a significant
12 increase in both porosity and subsequently
13 permeability.

14 So in my professional opinion, I would say,
15 you know, the Ghost Rider has significant porosity,
16 that being what looks to be close to 15 percent, which
17 is the highest on this of these wells.

18 Q And in terms of footage, the Cutbow has the
19 most?

20 A Correct.

21 Q Okay. All right. And looking at the second
22 Bone Spring and the Cutbow's the third log here. Is
23 it also one of the thickest in terms of net pay in
24 terms of footage?

25 A One of the better type logs, yes.

1 Q Okay. And over here the Palmillo's pretty
2 thin in terms of footages?

3 A In terms of footages, yes.

4 Q Okay. So it's kind of a mix in terms of,
5 you know, between operators, between Avant and Apache
6 for first Bone Spring. It's a fair mix between
7 quality between first and second Bone Spring?

8 A I mean, that goes to the heterogeneity of
9 the geology in the Delaware Basin.

10 Q I can't -- it's a little hard to read. I
11 guess I don't think you show the scale. Are there
12 scales on the porosity log?

13 A They're not displayed here, no, but it is
14 standard to be negative 10 percent on the far right
15 and 30 percent on the far left of the log. So each
16 tick mark -- each vertical tick mark is roughly 10
17 percent. Where your cursor is would be zero.

18 Q Okay. So the porosity log shows neutron and
19 density porosity but not net fee?

20 A No, sir.

21 Q And then on the density porosity, did you
22 calculate the log curves? How did you calculate the
23 curves for density?

24 A How did I calculate the density log?

25 Q Yes.

1 A There are -- I'm not a petrophysicist, so I
2 can't answer that question.

3 Q Okay. Did Avant do it or did it come from a
4 database?

5 A I believe these came from a database.

6 Q Was it like TGS?

7 A I believe these were IHS.

8 Q IHS. Do you know if IHS normalizes its
9 logs?

10 A Again, I'm not a petrophysicist. I'm not an
11 expert in that realm.

12 Q So just so I'm clear, when we're talking
13 about the teal flag here, that's what you would say
14 would be the net pay in that integral?

15 A In my opinion, that is a factor that
16 include -- that is indicative of pay.

17 Q So when you state that the -- back out so I
18 can see the whole thing again. You say that Apache's
19 Salt Fork second and third Bone Spring wells, which is
20 your Cutbow, is irrelevant because there's more than
21 75 percent net pay in the second and third Bone
22 Springs in the Salt Fork versus the Cutbow.

23 When you calculated your net pay, you added
24 up the footages of that teal flag in the second and
25 third and compared them between the two wells. Is

1 that right?

2 A Correct. On average basis. Yes.

3 Q On an average basis. Okay. So average
4 being within what you identified as the top of the
5 third Bone Spring and the bottom of the base of the
6 third Bone Spring? You took the average footage for
7 each of those zones for each well?

8 A The pay maps in my exhibits are based on the
9 net footage. This bar chart refers to an average of
10 the net footage per zone.

11 Q Okay. See if I have any other questions
12 here.

13 So I understand that you're developing the
14 west half of the Cutbow, and presumably that's because
15 you believe it's a viable target, correct, for the
16 west half of the second Bone Spring? Sorry. West
17 half second Bone Spring in Cutbow is a viable target?

18 A For the second Bone Spring sand?

19 Q Second Bone Spring.

20 A Yes.

21 Q Okay. How about the X Y in Cutbow? Is it a
22 viable target too?

23 A I would say that the Wolfcamp does have
24 potential here, yes.

25 MR. RANKIN: All right. I don't have

1 any other questions for Mr. Harper.

2 THE HEARING OFFICER: Mr. McClure?

3 MR. MCCLURE: Thank you, Mr. Hearing
4 Examiner.

5 CROSS-EXAMINATION

6 BY MR. MCCLURE:

7 Q Mr. Harper, all the Exhibit Bs for Avant
8 were prepared by you or are associated with yourself.
9 Is that correct?

10 A That is correct.

11 Q Okay. Mr. Harper, if I may direct your
12 attention to page 7 of 14 of Avant's rebuttal
13 exhibits. The top of the slide says "Avant compliance
14 with filing requirements," Exhibit B-20. There we go.

15 (Avant Exhibit B-20 was previously
16 marked for identification.)

17 In the bottom right of this table, it states
18 "all required operations, reports were submitted in
19 compliance with all requirements." What was that
20 based upon?

21 A This was in a rebuttal slide generated in
22 counter to Apache's accusations that we were not in
23 compliance based on our C-104 RTs.

24 This is just stating that we have properly
25 submitted our service casing, spud notice, surface

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1 casing, intermediate casing, production casing, C-104
2 RTs, and C-104 NWS. That we are actively submitted --
3 submitting these required documents.

4 Q Now, the table there seems to indicate that
5 Avant is asserting they are in compliance. Is that
6 correct?

7 A Based on this table, yes.

8 Q Well, you're making that assertion, not the
9 table; correct?

10 A Correct.

11 Q Okay. What are you basing that statement
12 upon?

13 A Based on the submittal dates of the
14 documents or the reports that were submitted and the
15 two e-mail correspondence from the OCD.

16 Q By the e-mail correspondence with the OCD,
17 are you referring to page 8 and 9, the next two
18 immediate slides?

19 A The next two immediate slides, yes.

20 Q Can you direct my attention to where in
21 these communications the division has stated that
22 Avant is in compliance with their C-104s?

23 A On the second e-mail dated April 8, 2024, at
24 2:24 p.m., which is my page 11 on this document I'm
25 looking at. But yes, that -- the one that you see

1 there. It is my understanding based on the reply from
2 the OCD that says "Yes, the NW C-104s will suffice for
3 reporting at this time and we do not need anything
4 else."

5 Q And your interpretation of that statement is
6 to say the division has made a determination that
7 Avant is in compliance?

8 A It was my interpretation of that response
9 that the division did not request or require any
10 additional information at that time.

11 Q Now, that's not the same thing as saying
12 that Avant is in compliance, though; is it?

13 A Technically no.

14 MR. MCCLURE: I'm just quickly checking
15 to make sure my other questions are in Exhibit C and
16 not in Exhibit Bs. Thank you, Mr. Harper. I have no
17 further questions at this time.

18 Thank you, Mr. Hearing Examiner.

19 THE HEARING OFFICER: Okay. Thank you,
20 Mr. McClure.

21 Is there any redirect?

22 MS. HARDY: I do have a couple of
23 redirects.

24 THE HEARING OFFICER: Mr. Rankin, did
25 you say something?

1 MR. RANKIN: I didn't.

2 THE HEARING OFFICER: Oh, okay.

3 Ms. Hardy?

4 MS. HARDY: Thank you.

5 REDIRECT EXAMINATION

6 BY MS. HARDY:

7 Q Mr. Harper, I wanted to ask you about your
8 Exhibit B. It's your rebuttal Exhibit B-19. You're
9 right there. There it is. Thank you.

10 And, Mr. Harper, Mr. Rankin asked you a
11 number of questions about this Exhibit. I wanted to
12 ask you in your opinion are the reservoir
13 characteristics here in this specific area unique from
14 other areas?

15 A Yes.

16 Q And why is that?

17 A The Delaware Basin, and more specifically
18 the Bone Spring Formation in question, that being the
19 first, second, and Bone -- third Bone Spring sands,
20 are unconventional sands. This is an unconventional
21 reservoir, that being that these sands are typed low
22 porosity and low permeability.

23 You can see on this cross section from, you
24 know, seven -- or one to seven which of course is the
25 New Mexico portion of the Delaware Basin that there's

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1 a lot of variability in the first, second Bone Spring
2 sands both in thickness and overall petrophysical
3 responses, that being gamma ray, porosity, and
4 resistivity in this log.

5 So again, there is a lot of heterogeneity,
6 which is the high variability of these sands because
7 they are unconventional and tight by nature.

8 Being tight by nature, these rocks need to
9 be fracked and need to be developed at a much higher
10 spacing than four wells per section because in my
11 professional opinion, I do not believe that four
12 horizontal wells in these unconventional sands is
13 adequate to drain the reservoir effectively and will
14 subsequently leave waste.

15 I think six wells per section is a much more
16 effective way to develop and prevent waste in these
17 unconventional reservoirs.

18 Q And is that -- well, let me ask it this way:
19 The unconventional reservoirs are specific in this
20 area to this Grayling Dustbowl acreage. Is that
21 correct?

22 A Yes. Yes.

23 Q Okay. And so is that why comparisons to
24 other acreage that's further away doesn't really
25 provide a good basis for comparison?

1 A Correct. I -- I believe I mentioned
2 yesterday that comparing the Grayling area and the
3 first Bone Spring sand particular to the Ghost Rider
4 area by, you know -- shown by Apache would not be a
5 analogous comparison.

6 Q Mr. Harper, with respect to the compliance
7 slides and the questions that Mr. McClure just asked,
8 did Apache -- is it your understanding Apache alleged
9 in its hearing exhibits that Avant was out of
10 compliance with respect to its C-104 filings?

11 A Sorry. Give me one second. Yes.

12 Q And did you provide your Exhibit B-20, which
13 is the compliance C-104 chart, specifically to rebut
14 that accusation?

15 A Yes, ma'am.

16 Q And is it your understanding based on
17 Avant's e-mail communication with the division that
18 the division had indicated that Avant had met the
19 requirements it could meet with respect to the C-104s
20 at that time, pending final approval?

21 A Yes. That was my understanding.

22 Q So there was nothing else for Avant to do at
23 the point with respect to the C-104s?

24 A Based on the e-mail reply from the OCD at
25 that time stating that I -- we -- they do not need

1 anything else. No.

2 MS. HARDY: Those are all of my
3 redirect questions. Thank you.

4 THE HEARING OFFICER: Thank you.

5 Mr. Rankin, any cross-examination on
6 the redirect answers?

7 MR. RANKIN: Just a small topic that I
8 want to make sure I understood.

9 RE-CROSS-EXAMINATION

10 BY MR. RANKIN:

11 Q Mr. Harper, Ms. Hardy asked you in reference
12 to this Exhibit B-19 whether this area was unique. I
13 think was she talking -- your answer was with respect
14 to the area mapped out here on this inset map?

15 A I believe the first question was in response
16 to that inset map and then she specifically asked
17 about the Grayling area in particular.

18 Q Okay. So the Grayling area in particular,
19 which is in between Salt Fork and slightly above
20 Cutbow. Is that about right?

21 A It would be two miles due north of our
22 Cutbow unit.

23 Q Okay. And your comment I believe was that
24 wells that are farther away because of the
25 heterogeneity in the rock would not be analogous?

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1 A Can you repeat that question?

2 Q Was your takeaway -- I mean, the bottom line
3 I think from your testimony to Ms. Hardy was that if
4 you get too far away from the Grayling area, due to
5 the heterogeneity of the rock in the Bone Spring, the
6 area may not be analogous?

7 A Yes.

8 Q Is the Golden Tee analogous to the Grayling
9 area?

10 A No.

11 MR. RANKIN: Okay. No further
12 questions.

13 THE HEARING OFFICER: Follow up on that
14 redirect? Mr. McClure, any follow up on the redirect?

15 MR. MCCLURE: None, Mr. Hearing
16 Examiner.

17 THE HEARING OFFICER: Thank you.
18 Ms. Hardy, are we done with this
19 witness?

20 MS. HARDY: Yes. Thank you.

21 THE HEARING OFFICER: Thank you,
22 Mr. Harper. You may be excused.

23 THE WITNESS: Thank you.

24 THE HEARING OFFICER: Would you call
25 your third witness?

1 MS. HARDY: Yes. Mr. Examiner, Avant's
2 next witness is Mr. Shane Kelly.

3 THE HEARING OFFICER: And I remind you
4 that you're under oath.

5 WHEREUPON,

6 SHANE KELLY,

7 Called as a witness and having been previously sworn
8 to tell the truth, the whole truth and nothing but the
9 truth, was examined and testified as follows:

10 THE WITNESS: Yes.

11 THE HEARING OFFICER: Ms. Hardy?

12 MS. HARDY: Thank you. Just sharing my
13 screen so I can pull up the exhibits.

14 DIRECT EXAMINATION

15 BY MS. HARDY:

16 Q Mr. Kelly, you've provided your self-
17 affirmed statements, supporting exhibits, and rebuttal
18 exhibits; correct?

19 A [No audible response.]

20 Q And do you adopt those today here under
21 oath?

22 A [No audible response.]

23 Q Thank you. Mr. --

24 THE REPORTER: Can I just interrupt?
25 I'm not sure the witness' microphone's on there.

1 THE WITNESS: I apologize. Let me
2 start again.

3 MS. HARDY: Sure.

4 BY MS. HARDY:

5 Q Mr. Kelly, do you adopt today under oath
6 your sworn testimony that's been submitted along with
7 the supporting exhibits and your rebuttal exhibits?

8 A I do. Yes.

9 Q Thank you.

10 THE HEARING OFFICER: I'm sorry.
11 Before you continue, will you ask if there's any
12 corrections to any of them?

13 MS. HARDY: Yes.

14 BY MS. HARDY:

15 Q Do you have any corrections to your
16 testimony or exhibits?

17 A I do have one small correction on my
18 rebuttal slide C-18. Where it says cum oil production
19 per 5,000 foot lateral, that's actually supposed to be
20 7500 foot lateral as well as on the right chart. Both
21 these charts are normalized to 7500 feet, not 5,000.
22 That's it.

23 Q Okay. Thank you. I'd like to go through
24 your rebuttal exhibits. And I've pulled up here your
25 rebuttal Exhibit C-16.

1 (Avant Exhibit C-16 was previously
2 marked for identification.)

3 Can you explain what you were showing on
4 that exhibit?

5 A Yeah. This was in response to one of
6 Apache's slides in their exhibits, and I think we
7 cleared this up during their geologist's testimony.

8 But we have in fact drilled a lot more than
9 they were originally stating. To date we have 47
10 drilled and 55 wells currently being drilled with 46
11 additional ones that were acquired in a recent
12 acquisition last year, so we actually operate 151
13 drilled horizontals versus I believe it was 23 that
14 they were stating previously.

15 So I think that was cleared up before, so I
16 don't think I have too much else to say on this slide
17 at this time.

18 Q And then what are you showing on your
19 Exhibit C-17?

20 (Avant Exhibit C-17 was previously
21 marked for identification.)

22 A This was also in response to some timing
23 slides that Apache had put forth in their exhibits.
24 We just wanted to show our most recent drilling
25 activity to date. Obviously, AFEs, there are drilling

1 days and those AFEs are usually just estimates. Over
2 the most recent paths that we have spud, we have been
3 consistently under those AFEs.

4 We are showing Cutbow here which I do
5 realize is four string. Grayling will be three
6 string, so I do understand where that confusion came
7 in on that side. But we are aware that we will be
8 drilling Grayling three string, which just means that
9 we will most likely beat all of these times because
10 you are subtracting a sting of casing.

11 So this is just to show that we can drill
12 two mile laterals in this area in ten to -- ten to
13 twelve days easily knocking out a pad of three wells
14 in under a month, so we are extremely efficient in
15 this area with lots of practice over the recent
16 history. So I think that's all I had to say on this
17 slide.

18 Q So based on that information, is it your
19 testimony that Apache's slides and testimony regarding
20 Avant's drilling times were overstated based on what
21 you actually expect to occur?

22 A Correct. And they're also using past
23 completion history, and things in this area are not as
24 simple as other areas can be.

25 Midstream is a massive issue, one, on the

1 takeaway side and, two, on the water supply side. It
2 is very hard to supply water for multiple frac crews
3 in this area. You need a lot of water per day coming
4 from multiple parties.

5 Because we are in a unique position where we
6 have set up our own water business, we are going to
7 have unlimited access when we drill the Grayling to
8 produce water, meaning we can fit two frac crews on
9 this pad at one -- or on the Grayling section at one
10 time, greatly reducing frac time, whereas if a third-
11 party operator came in this area, they might be able
12 to only use one frac crew, doubling their time on
13 location.

14 So like I said, Avant is in a unique
15 situation in this area, this part of the basin.

16 Q Let's look at your slide C-18. Can you
17 explain what you're showing there?

18 (Avant Exhibit C-18 was previously
19 marked for identification.)

20 A Yeah. C-18, I'm showing our Golden Tee
21 area. I chose to look at Golden Tee around the
22 surrounding rock that we deemed most analogous to the
23 Golden Tee unit itself.

24 And those are the wells, the black lines on
25 the map. Those are all the wells that were included

1 in this dataset.

2 This is looking at our entire Golden Tee
3 section and the cum oil production per 7500-foot
4 lateral. And you can see compared to our competitors
5 in analogous rock, we have outperformed all of those
6 competitors. You see some big names there: EOG
7 Resources, PR, who has drilled over 100 wells in the
8 area and are very familiar with it.

9 We have still been able to outperform at our
10 spacing density, which we did five in the first Bone
11 and five in the second Bone here.

12 This was the first pad we drilled as a
13 company. We would have loved to drill the whole thing
14 at once. That's the goal, but we were just starting
15 out. We did not have the capital to go out and drill
16 ten or even five wells at once, so we did have to
17 start with four wells.

18 John, our geologist, and I determined that
19 the first Bone and second Bone were at risk of
20 depleting each other. To preserve the reserves in the
21 section, we went out and drilled those two formations
22 together in a four well pad.

23 As soon as we had enough money, we came
24 back, finished off those two sections. Because we did
25 not do them all at once, we decided to do five wells

1 per section instead of six, although we did permit for
2 six in this case. We did end up dropping one well in
3 the first and second.

4 By the time we came back to do the third, we
5 did have the money to do it all at once, and that's
6 why we stuck with the six well per section. And as
7 you can see, as a full unit, we have completely
8 outperformed most of our competitors in the area.

9 So whether we saw degradation in the third
10 Bone with six wells versus the five, that is a
11 possibility on a -- on a per-well basis, but on a per-
12 unit basis, we are -- we are pulling more reserves out
13 of the ground than if we were to do a five well
14 spacing pattern there, so --

15 And I just want to note I am not comparing
16 Golden Tee to Cutbow or Grayling. This is compared to
17 only wells in analogous rock near Golden Tee.

18 Q Let's look at Apache's rebuttal. And did
19 you have any comments on slide 36?

20 (Apache Exhibit 36 was previously
21 marked for identification.)

22 A No, I don't have any comments at this time
23 today.

24 Q And on Apache's rebuttal slide 37, there was
25 a fair amount of testimony about this yesterday. Did

1 you hear that testimony?

2 (Apache Exhibit 37 was previously
3 marked for identification.)

4 A Yes, I did.

5 Q Okay. And do you have concerns regarding
6 the information that Apache's including on this
7 exhibit?

8 A Yeah. I mean, deep concerns. This -- this
9 chart makes me chuckle every time I look at it, but I
10 could see this chart being accurate if you were
11 looking at a basin that you had no previous knowledge
12 of or had not operated in whatsoever and you were
13 trying to decline wells where you did not understand
14 the rock properties.

15 But as a certified expert in the Delaware
16 Basic, Lea County especially, I have more than enough
17 history and -- and data around me to decline these
18 curves accurately in six or twelve months.

19 If I didn't, I don't think Avant would be a
20 company today. It would be tough to operate our
21 business not knowing what our wells are going to make,
22 even in the first six months.

23 So I'm not sure -- obviously don't know the
24 people that wrote this article, but I doubt they've
25 drilled over 400 wells in the Lea County like I have,

1 so I'm in a more unique position to understand what
2 the rock is going to do versus whoever wrote this
3 article.

4 Q In your experience, do companies routinely
5 predict performance?

6 A I would hope so, otherwise it's pretty hard
7 to value your company. If you have to wait 12 months
8 to get even within 12 percent of what you think the
9 well is going to do, that would be a tough ask in our
10 industry to determine value of different assets.

11 Q And is that exactly what reservoir engineers
12 do?

13 A That is most of your job, figuring out how
14 much these wells are going to make over time and when.
15 So maybe whoever wrote this article is not a reservoir
16 engineer. I do not know. I do not -- I have not seen
17 this article before this exhibit.

18 Q Anything else on that slide?

19 A No.

20 Q Okay. What about Apache's slide 38?

21 (Apache Exhibit 38 was previously
22 marked for identification.)

23 A Yeah. Yeah. I agree with a lot of Dean's
24 concerns on this slide that he brought up yesterday.

25 It -- a lot of data just is contradicting

1 itself. Doesn't make a lot of sense here, especially
2 if you take your -- take a look at the right chart.
3 To me, it's -- this is saying you have a minus 4
4 percent degradation for 5 well spacing pattern versus
5 7 percent on a 4 well.

6 If this is Apache's exhibit, I would like to
7 ask why they're even proposing four wells versus five
8 wells in that case.

9 Doesn't make a ton of sense to me, but the
10 general theme of degradation over more wells in the
11 section. That's very true. That happens. That's
12 why we're drilling six wells and we're not drilling
13 eight wells. We feel like six is going to accurately
14 produce the reserves with minimal waste, so yeah.

15 It's an interesting, interesting slide here.
16 Probably should have put that in our exhibits.

17 Q And do you have a response to Apache's
18 rebuttal slide 39?

19 (Apache Exhibit 39 was previously
20 marked for identification.)

21 A Yeah. I think combined with my rebuttal
22 slide, you know, kind of trying to look at the same
23 thing. Was trying to look at like for like rock here,
24 Golden Tee versus three different pads in the third
25 Bone.

1 So the difference between this slide and --
2 and then my rebuttal slide is I brought in our entire
3 package as a unit, so brought in the first Bone,
4 second Bone, third Bone. This is just the third Bone.

5 You know, there was testimony yesterday that
6 EURs and type curves do not matter in this scenario
7 for Apache. They did not want to provide their own,
8 so I find that pretty bold as an expert reservoir
9 engineer when the most basic fundamentals of your job
10 are type curve analysis and EUR to time curve
11 analysis.

12 So I chose to put this in here because as an
13 expert witness in this basin, this is how I feel the
14 well is going to decline over time.

15 I do see our wells on a shallower decline
16 right now. That could be due to frac differences
17 between the units I had picked out and our own unit as
18 well as a little bit early time. As Apache stated in
19 one of their slides, we do pump more water on our frac
20 job. It does take us longer to take water off the
21 well so that we can start producing more oil.

22 So in my professional opinion, this slide is
23 accurate and I have no problem with it. That's all I
24 have on that one.

25 Q And do you have comments or a response to

1 Apache's rebuttal slide 40?

2 (Apache Exhibit 40 was previously
3 marked for identification.)

4 A Yeah. This is -- this is an interesting
5 slide. When I first looked at it, thought it was a
6 little odd that two of the wells are the same color
7 when they're trying to show clear degradation of
8 interior wells but one of the red wells on the top of
9 this chart, one of the best wells in the Cutbow unit,
10 is an interior well. So whether he meant to do that
11 or not, pretty sneaky to make them the same color.

12 But I can confirm one of the better wells
13 here is an interior well, telling me that our spacing
14 is not too tight yet and that we are getting good
15 development out of a six well per section spacing.

16 The other thing to note, there's a lot of
17 early time issues on the Cutbow, mainly due to
18 midstream. Cutbow was our second unit at Avant.
19 After we drilled the first two Cutbow -- or Golden Tee
20 pads, we were able to start developing Cutbow. We had
21 been working on midstream for multiple years.

22 A main problem and the same problem I'm sure
23 Apache's going to deal with, only having one unit in
24 an area is a very tough ask to get midstream to build
25 out their line to you. They don't want to go spend

1 the capital unless they have a larger commitment of
2 wells, so that capital makes sense for them.

3 So we were struggling to find a midstream
4 partner here on the gas and water side. Finally came
5 to agreements with Delek.

6 We were always a bit worried. They had told
7 us they could be squeezed on the gas side a little
8 bit, so we did not have the opportunity to develop a
9 full section at a time.

10 We chose to do three wells first to test the
11 six well spacing pattern. From there we would make a
12 decision on whether we want to continue that pattern
13 in the area going forward or if we would back down to
14 five.

15 We were promised things on our midstream
16 contracts that were not fulfilled. We were promised
17 over 45,000 barrels a day of water takeaway, so we
18 planned to bring all three wells on at once, rip them
19 open like we prefer to do, and instead they came back
20 and they gave us 7,000 barrels a day.

21 We immediately had to choke back our wells
22 to virtually nothing just to produce these for 60
23 days. So our production is incredibly muted.

24 We shortly decided since we were already
25 choked back, we were going to come in and drill the

1 next pad so that we didn't hit the wells while they
2 were at full steam. And that's why we developed those
3 and -- and the two pads.

4 We then found a new midstream partner. We
5 do have an exclusive contract with Northwind where we
6 have 50 million in committed volumes a day. They also
7 have a heavy penalty if they do not get to any of our
8 sections on time, so they will be forced to come to
9 Grayling when we give them a date.

10 And then also combine sour takeaway because
11 as we are aware in this area, the first Bone does come
12 with sour gas, so you need to have a solution to get
13 that gas down the pipeline.

14 Q I was pulling up actually your original
15 slides --

16 A Sure. It's just a couple more down here.

17 Q -- because I believe you address the
18 specific midstream issues.

19 A Correct. So this is our -- our gas solution
20 here. Like I said, we're -- we're an anchor customer
21 of Northwind's. We have commitments together and we
22 have been in talks about the Grayling unit for over a
23 year. They are already in progress of getting a line
24 up to Grayling.

25 They are currently working their line to

1 Cutbow to be a backup to Delek who has continuously
2 failed us on the midstream side, and they will be
3 there June 15th, so we are very close to connection
4 with them there.

5 And then on the next slide I believe is our
6 water. Same kind of situations. We kept getting
7 burned by water in the area, having trouble finding
8 supply water.

9 The four main operators operating up here
10 right now are PR, Matador, ourselves, and Mewbourne,
11 and a lot of this water's been committed to some of
12 the bigger companies because they have a ton of
13 acreage and a lot of activity going on, so we had to
14 come up with our own solution.

15 We've already got one 1.5-million-barrel
16 pond in service. Came in service May 1st. We've got
17 a second one planned for Q3, Q4, and that's going to
18 be just north of Grayling, so that will help service
19 that water as well.

20 MR. RANKIN: Mr. Examiner, I feel like
21 this is restating direct testimony. I'm not sure how
22 it's rebuttal.

23 THE HEARING OFFICER: Ms. Hardy?

24 MS. HARDY: I think it addresses -- I
25 was just illustrating the information more fully that

1 he has included in his rebuttal slides, so -- and I
2 think that yesterday Mr. Rankin's witnesses went into
3 a fair amount of detail on their underlying
4 information. But I can move on if you prefer.

5 THE HEARING OFFICER: Let me first
6 address the objection fully.

7 Mr. Rankin, I believe this witness was
8 called to not only provide rebuttal but to adopt his
9 exhibits which include his rebuttal and his original
10 exhibits, so in that respect I wouldn't grant the
11 objection.

12 However, I do feel that the answer is
13 going on past the question. So if you could in some
14 way confine the answer a little bit more to your
15 questions, that would I think keep us on track.

16 MS. HARDY: Sure. I will do that.

17 THE HEARING OFFICER: Thank you.

18 BY MS. HARDY:

19 Q Mr. Kelly, has Avant fully addressed the
20 midstream concerns that you had with Cutbow?

21 A Yes, we have on all three phases.

22 Q Okay. So you don't expect there to be any
23 issue at Grayling, and you've set out the reasons why
24 in your direct exhibits?

25 A Correct. Yes.

1 Q And did you have any other comments or
2 concerns about Apache's rebuttal testimony yesterday
3 or their exhibits?

4 A No. I was just making it clear why we had
5 to develop these in -- in smaller packages when in
6 fact we would have loved to develop this all at one
7 time.

8 It just -- it wasn't the -- it's just not
9 the way the world was at that point in time. There
10 was no option to do that. We would have put a lot of
11 money in the ground and not been able to produce. And
12 again, as a very small company, it would not have
13 been -- I wouldn't be sitting here today. Put it that
14 way.

15 MS. HARDY: Thank you. I think those
16 are all of my questions.

17 THE HEARING OFFICER: Okay.
18 Mr. Rankin, cross-examination?

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

20 CROSS-EXAMINATION

21 BY MR. RANKIN:

22 Q On your Exhibit C-18, Mr. Kelly -- and this
23 is the Golden Tee area -- these charts show all
24 benches in the Bone Spring. Is that correct?

25 A C-18? That's correct.

1 Q Okay. It doesn't break out by bench?

2 A No. We're looking at two different things
3 there. Oh, there we go. Okay.

4 Q Oh.

5 A Is this what you're referring to?

6 Q Sorry. I can -- is it okay if I drive?
7 That way I can -- because I know where I'm -- yeah. I
8 like to drive. How do I do that again? I made Dean
9 laugh. That's okay. It's good.

10 Okay. So sorry. Sharing C-18. Yeah. You
11 answered my question. This analysis is not broken out
12 by bench for the Bone Spring?

13 A Correct.

14 Q Okay. On your testimony in response to
15 Apache slides 37 and 38, I understand your point is
16 that reservoir engineers, their job is to make
17 predictions; right? Come up with assessments and
18 forecast future production; right?

19 A Based on the data around you and that you
20 have available, yes.

21 Q Yeah. But all those forecasts come with
22 some level of uncertainty; right?

23 A Correct.

24 Q And some of the uncertainty that you're
25 dealing with is evaluating how six well spacing will

1 perform relative to four well spacing or looser
2 spacing in this area. Agree?

3 A Agree.

4 Q And nevertheless, as I understand your EUR
5 curves are not including any uncertainty for effects
6 from degradation. Agree?

7 A For what? I'm sorry.

8 Q For effects from degradation, well
9 degradation. Agree?

10 A No, I do not agree.

11 Q How did you include uncertainty with respect
12 to potential well degradation as you shift from four
13 well spacing or looser spacing to six well spacing in
14 your EUR curves?

15 A In my type curve slide, for the three
16 individual type curves?

17 Q Yeah.

18 A That is based on other wells that I have
19 drilled across the basin and what kind of degradation
20 we've seen from wider spacing patterns to tighter
21 spacing patterns.

22 Q So in your type curves, you have included a
23 factor for well degradation as you increase spacing?

24 A Yes.

25 Q What's that factor?

1 A For 6 I usually use around a 10 percent hit,
2 but I also have to look at what kind of frac hits or
3 frac designs I'm dealing with in the immediate area,
4 which up in this part of the world can be quite
5 difficult. You have to cull through a lot of data.
6 There's a lot of older designs.

7 I'd say as a -- a rough guess, rough number
8 I should say is 10 percent, but it does vary based on
9 a lot of other factors.

10 Q So you use a -- in other words, for every
11 additional well, you decrease the per well production
12 by ten percent?

13 A When I'm going from my 5 well per section to
14 6, I see around a 10 percent drop in my type curve.
15 Yes.

16 Q Did you include a 10 percent deduction in
17 your type curve as you go from five well to six?

18 A Yes.

19 Q Did you include a degradation from four
20 wells to five wells?

21 A No. Not in this area. I haven't seen a lot
22 of degradation between four and five wells.

23 Q Are there very many sections spaced at five
24 well spacing in this area?

25 A Not in this area, no.

1 Q How many are you aware of?

2 A In this area?

3 Q Yeah.

4 A Only a couple. Not ones that I would
5 actually use in this immediate area, so I have taken
6 other areas and used that to come up with a type curve
7 in this area.

8 Q Okay. So you didn't use a -- you did not
9 deduct for degradation from four wells to five wells;
10 correct?

11 A Correct.

12 Q Did you apply this factor as a result of
13 increasing well density from four to six?

14 A Yes. I think I understand your question
15 correctly.

16 Q Yeah. So you applied a degradation factor
17 by increasing from four wells to six wells in your
18 type curves?

19 A Correct.

20 Q And that factor was what?

21 A Around 10 percent.

22 Q Ten percent. Okay. I'm going to come back
23 to that because I want to make sure I understand how
24 that was applied.

25 Looking at your exhibit C-5 in the original

1 set of exhibits.

2 (Avant Exhibit C-5 was previously
3 marked for identification.)

4 This as I understand the purpose of this
5 slide is a comparison of your Cutbow third Bone Spring
6 development to the offsetting Anaconda. Is that
7 correct?

8 A That's correct.

9 Q And to your knowledge, how many wells are
10 actually producing in that Anaconda unit that you've
11 highlighted?

12 A There are two wells producing and I believe
13 there are two permits. I think that's why the
14 laterals are skewed in that way.

15 Q Okay. So you're comparing your Cutbow six
16 well spacing to an offset that has essentially I guess
17 it would be at four well spacing but two wells have
18 been drilled and producing so they're unbounded;
19 right?

20 A Correct. Yeah. So in theory they should be
21 larger than four well bounded wells if they were
22 communicating.

23 Q So why did you choose the Anaconda here when
24 I think in Mr. Harper's offset activity exhibit, are
25 there not any other four well spacing for the third

1 Bone Spring in this area?

2 A No. Anaconda I believe was one of the
3 closest we could compare to.

4 Q Okay. That's right about where I wanted to
5 be. Okay. So we just reviewed your slide of the
6 Golden Tee where you looked at combined production for
7 all benches in the Bone Spring, and you're showing
8 that Avant had outperformed offsetting production in
9 that area. Agree?

10 A Agreed.

11 Q And this slide I think was intended to do
12 the same thing with respect to the Cutbow with a
13 broader area.

14 And you'll see here, Mr. Kelly, that the
15 inset map identifies all of the offset activity that
16 is being used to generate this chart. And we've
17 highlighted here the Cutbow wells, in particular the
18 third Bone Spring at six by spacing, which Avant is
19 asserting is the proper spacing for this acreage.

20 And you agree that as of today with current
21 production that the Avant third Bone Spring Cutbow
22 spacing is now producing below the average for all
23 wells in this area?

24 A This is a 12-township area. It's not
25 logical.

1 Q So your assertion is that this area is too
2 broad?

3 A Correct.

4 Q But at least as to this map, I mean, that's
5 an accurate depiction of the production as to this
6 area?

7 A Correct. Correct

8 Q Okay. And in terms of well spacing and in
9 the Dustbowl or Grayling area, the six well spacing
10 that you're proposing for first Bone Spring, second
11 Bone Spring would be an outlier?

12 A Correct.

13 Q You'd be stepping out in terms of the
14 spacing?

15 A Correct. Yeah.

16 Q Okay. And same thing with the third Bone
17 Spring?

18 A Correct.

19 Q Okay. Just have a couple questions on your
20 Exhibit C-13 because I understand that Avant here
21 installed an ESP?

22 (Avant Exhibit C-13 was previously
23 marked for identification.)

24 A That's correct.

25 Q And just for the benefit of the record, it's

1 like electronic -- remind me what it stands for, ESP?

2 A Electronic submersible pump.

3 Q So that's the form of artificial lift that
4 Avant is using for these Cutbow wells?

5 A That's correct.

6 Q Do you know what the artificial lift is, if
7 any, for the Diamondback wells that you're comparing
8 them to?

9 A Yeah. They're on ESPs.

10 Q They're on ESPs too?

11 A Yes.

12 Q How did you know that they're on ESPs?

13 A I physically saw them.

14 Q You did? Okay.

15 A Yeah. They're close to our unit. You can
16 see the -- the motor they have for the pump, so ...

17 Q Got it. Now, on this one in particular, how
18 did you come to choose the Diamondback wells for your
19 analog?

20 A Merely because they were directly north.
21 They were the closest wells possible. Really, they
22 should mimic us in reservoir properties. Similar
23 water cuts, we would suspect, so I felt like that was
24 the most logical comparison.

25 Q Okay. Rather than choose multiple? There's

1 a lot of first Bone Spring I think developments in the
2 immediate vicinity, but you chose only to use those
3 two wells rather than a broader array of wells within
4 the offset?

5 A I did. I could have used a bit broader.
6 The wells are either very old or very new with not a
7 lot of production. PR is getting pretty active in the
8 area on first Bone, but there's just not a ton of
9 public data.

10 The Earthstones have been on since '19, so I
11 could get an accurate depiction of what the decline
12 looked like so I could make my own decline based on
13 what kind of frac they had versus ours.

14 So I felt like those two wells were the most
15 logical solution to compare to at this time. As we
16 get more data on PR wells, I'd -- I'll probably shift
17 to those, as they have a similar frac design to what
18 we do.

19 Q All right. Now, I need to understand -- you
20 and I had a discussion a little while ago about that
21 you applied a 10 percent factor for degradation for an
22 increase of well density from four to six. Agree?

23 A That's correct.

24 Q And you did that for each of these type
25 curves Exhibit C-12, C-14, and C-15?

1 (Avant Exhibit C-12, Exhibit C-14, and
2 Exhibit C-15 were previously marked for
3 identification.)

4 A Correct. Yeah.

5 Q Okay. I need to walk through the math. I'm
6 not a mathematician, but I want to make sure I
7 understand it because as I understand, you calculated
8 an EUR curve for the first Bone Spring here, for
9 example, which was 152 million barrels. Is that
10 right?

11 A 752,000.

12 Q Thousand barrels. Not a double M.

13 A And I wish.

14 Q Yeah. Right, 72,000. Okay. So you take
15 that value and then you multiply that value by six for
16 six well development; correct?

17 A Yeah.

18 Q And you multiply that same value by four for
19 a four well development?

20 A That's correct.

21 Q So you're applying the same mathematics to
22 come up with an EUR, whether it's six wells or four
23 wells; correct?

24 A I see two different companies there as well.

25 Q So my question is you applied the same

1 mathematics to come up with your EUR for six wells and
2 four wells; correct?

3 A No.

4 Q So I think we just went through. So you
5 took 752,000 barrels, right, which is the number you
6 got from your type curve?

7 A Correct.

8 Q And you applied that same number to Avant's
9 proposed development of six wells --

10 A Correct.

11 Q -- to get that number of 4.5; right?

12 A Yeah.

13 Q And you applied that same calculation to
14 Apache's proposed development of four wells; correct?

15 A Correct.

16 Q Which gives them about three million; right?

17 A Yep.

18 Q But I don't see how that 10 percent
19 degradation factor was incorporated to decrease
20 Avant's total EUR.

21 A Wasn't. Just used the same one we used for
22 ours. I'm not Apache engineer. They can't even
23 figure out their own type curve. I'm not going to do
24 it for them.

25 Q I guess my point, though, is that I thought

1 I understood you say that you did apply a degradation
2 value to come up with your expected production for a
3 six well spacing.

4 A I did. That is the 752 you're seeing.

5 Q So you're applying a degradation against the
6 four well even though --

7 A We just use a like for like number. I don't
8 know what Apache's going to do. I don't know how
9 they're going to target exactly. I don't know how
10 they're going to frac, so I did not make an Apache
11 type curve. I simply just used my type curve number
12 and threw it on four wells a section.

13 In theory, their wells will be a little bit
14 bigger if they do everything correctly, but I don't
15 know Apache. I don't know if they're going to do
16 everything correctly.

17 Q Got it. Now --

18 THE HEARING OFFICER: Mr. Rankin?

19 MR. RANKIN: Yeah.

20 THE HEARING OFFICER: I'd like to take
21 a five-minute break.

22 MR. RANKIN: That's fine. That's fine.

23 THE HEARING OFFICER: I didn't want to
24 break your pace, but --

25 MR. RANKIN: It's really fast. I know.

1 THE HEARING OFFICER: I want to come
2 back on the record at 9:51 a.m. Thank you.

3 (Off the record.)

4 THE HEARING OFFICER: It is 10:54 a.m.
5 We are back on the record.

6 Mr. Rankin?

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

8 BY MR. RANKIN:

9 Q Mr. Kelly, we were just talking about the
10 factor that you applied to assess or to take into
11 consideration the degradation as a result of well
12 interaction, and I understood you to say that there's
13 a 10 percent degradation factor that you applied when
14 going from four well spacing to six well spacing;
15 correct?

16 A That's what I determined in this area.

17 Q In this area. Now, did you come up with a
18 similar well degradation factor -- well, let me ask
19 another series of questions first. I'll come back to
20 that.

21 Looking at your Exhibit C-14 -- well, I'll
22 start with C-12. For each of these type curve
23 exhibits, you included an inset map where you've
24 identified the analogs that were used to construct the
25 type curve. Is that correct?

1 A That's correct.

2 Q Okay. And so it's hard to see, but when you
3 zoom in, you've identified, you know, wells in that
4 inset area for each bench. In some cases they're
5 standalone wells; correct?

6 A That's correct.

7 Q And in some cases there's maybe three wells
8 per section; correct?

9 A Correct.

10 Q And some cases there's two wells per
11 section; correct?

12 A Correct.

13 Q And depending on the bench you may end up
14 with -- may have some that are four well per section
15 spacing as well; correct?

16 A That's correct.

17 Q Okay. Sorry. I'm making everybody sick.
18 So for third Bone Spring spacing, the only analog at
19 six -- sorry. For the third Bone Spring for six well
20 spacing, the only analog is the Cutbow. Is that
21 correct? The only analog for six well spacing is the
22 Cutbow in the third Bone Spring?

23 A Yeah. Yes. Correct.

24 Q But in addition to -- but all the analogs
25 that you used and identified in each of these exhibits

1 are identified on the inset map, and then those
2 correspond to the gray lines in the type curve;
3 correct?

4 A That's correct. Yeah.

5 Q Now, to construct this type curve, you used
6 a factor of 10 percent to account for degradation from
7 4 wells to 6. Did you also develop a degradation
8 factor to account for one well spacing to six well
9 spacing?

10 A No.

11 Q How about two well spacing to six well
12 spacing?

13 A I mean, I'm using the same as the four well,
14 is what I should say. I didn't change it based on
15 one, two, three, or four. I assume those are all
16 pretty much producing unbounded.

17 Q Okay. So you applied a 10 percent
18 degradation factor for all well spacing from one to
19 four. Is that correct?

20 A That's correct.

21 Q Okay. But we didn't know that anywhere on
22 these exhibits or your testimony; right? We wouldn't
23 have known how you did that calculation?

24 A That is correct.

25 Q Okay. So do you believe that by applying

1 that 10 percent factor to all those spacing analogs
2 that that makes -- let me rephrase that question.

3 That by applying a 10 percent factor, do you
4 believe it makes a one well per spacing standalone
5 analogous to your six well spacing proposal?

6 A So far we've been in line with the six wells
7 we're currently producing. We are within 5 percent of
8 my type curve.

9 Q That's your assertion for each of the analog
10 offsets for one well spacing, two well spacing, three
11 well spacing?

12 A Correct. Yeah.

13 Q And now within these insets, there are wells
14 that have been producing for less than a year?

15 A I don't think there's too many. I guess the
16 Cutbow second pad. Are you looking at the third Bone
17 specifically?

18 Q Well, let's start with the first and we'll
19 work our way down. Are you aware of any wells that
20 are used in your type curve analysis that have been
21 producing for less than one year?

22 A I am not aware. I will say I kick anything
23 out of my analysis that is four months and under of
24 public data. So there could be -- there could be
25 wells just under a year in here, yes, but I am -- I am

1 not 100 percent certain right now.

2 Q Why do you exclude wells that have been
3 producing for less than four months?

4 A Using public data, it's very hard to
5 decline. I think one of the engineers, maybe Roback
6 had mentioned it, but the first month can be
7 incredibly skewed, so it's kind of hard to decline on
8 public data.

9 On internal data, you can easily decline at
10 four months, but you have a lot more datapoints to
11 look at, whereas public you have four points and one
12 of them could be one day of data that was called a
13 month. So you -- I usually just kick out four months
14 for this type of analysis.

15 Q So four months' public data is not enough --
16 is not sufficient to do a decline curve analysis but
17 four months of in-house data where you've got more
18 datapoints in your view is sufficient to make a
19 prediction. And in your type curves, you go out to 58
20 years?

21 A They don't actually go out there. That's
22 the way the -- these are not run on an economic, so
23 it's just the last ten years are just run out pretty
24 flat. They're just shown so it's easier to see what
25 the actual final UR was, but my curves usually go out

1 around 42 to 45 years on an economic model.

2 Q Why did you choose to go out 58 years in
3 this case?

4 A Easier to see the data.

5 Q Okay. Is it data or interpretation?

6 A It's data. It's real. If you want to
7 produce oil at \$1,000 and you want to produce a barrel
8 a month, you could.

9 Q So on this graph here, for each of these,
10 while you incorporated 10 percent degradation factor
11 for all well spacing up to 4 between 1 through 4 well
12 spacing up to 6, right, you applied the same
13 degradation factor for all that different well
14 spacing, the math that you've applied here is the same
15 as between 4 wells and 6 wells. Agree?

16 A Yes. Agree.

17 Q Okay. And so, I mean, no matter where you
18 are, six wells is always going to have a bigger number
19 than four wells; right? Because you're always going
20 to be multiplying six instead of four to get a bigger
21 number; correct?

22 A In this case, yes.

23 Q Yeah. Now, why are you stopping at six? If
24 you're going to get a bigger reserve total, why not go
25 to seven?

1 A Because you're riding on the economics of a
2 single well. Degradation, it's not a linear pattern.
3 It's not another 10 percent from 6 to 7. I don't know
4 what it is. I haven't tested it in this area or even
5 close. I think the closest well that we would have
6 done that would have been 40 miles away.

7 But based on the data we're currently
8 getting out of Cutbow at six, we feel like that is the
9 right way to develop the unit. We are getting very
10 economic wells, and we are trying to prevent as much
11 waste as possible in the unit.

12 Four wells, we would be leaving a lot -- lot
13 behind. Whether degradation in your eyes is 10
14 percent or -- or even 15, you're still leaving a ton
15 of reserves behind for -- for economic wells at
16 current prices.

17 And I have to say a lot of the operators are
18 moving in that direction, and a lot of our -- the JOA
19 partners have decided to come with Avant because they
20 like our plan better, so multiple parties are saying
21 this is the right way to develop, not just Avant.

22 Q Looking at Apache's rebuttal, slide 36.
23 This shows a breakout over time of the well drilling
24 pattern within a 12-mile area of interest identified
25 in the inset map?

1 A Yes.

2 Q I don't -- so the six well spacing, I don't
3 see that many development patterns approaching six
4 well spacing. Doesn't appear to be a trend in this
5 area.

6 A I have to say that's correct.

7 Q Okay. Sorry. One moment. I got to get
8 back to where I was. You mentioned that the well
9 degradation is not a linear pattern; correct?

10 A No. Or correct. Sorry.

11 Q Okay. But you applied a linear factor from
12 one well spacing to four well spacing to account for
13 degradation. Agree?

14 A Agreed.

15 Q Okay. And you stated that you decided Avant
16 said not to go to seven wells because you're concerned
17 about the economics of adding an additional well from
18 six to seven?

19 A Correct.

20 Q Has that been tested anywhere? Have you
21 tested that yet?

22 A To the southeast. Like I said, probably 35,
23 40 miles away. Different rock.

24 Q And which development was that?

25 A We did seven near the Golden Tee when I was

1 at Centennial called the Airstream in the second Bone
2 Spring.

3 Q Okay. So through a different company, it
4 was tested. Not Avant?

5 A That's correct. Yeah.

6 Q Okay. And that was different rock?

7 A Right.

8 Q Not analogous rock?

9 A That's correct.

10 Q So you're not sure whether tighter spacing
11 even than six would be appropriate around the Grayling
12 area?

13 A Not yet. As more data comes in the Cutbow,
14 we'll be able to make that determination, but being as
15 one of the main operators up here, we're in a unique
16 position to develop all the acreage in this area and
17 in the best -- the best manner, so ...

18 Q But you're confident that the economic
19 decrease between four wells and five wells, five wells
20 and six wells still justifies drilling six wells?

21 A Yes, based on current data.

22 Q But you don't think it justified drilling a
23 seventh well?

24 A Like I said, not at this time. As we get
25 more data, I'll reevaluate.

1 Q Okay. Looking at your Exhibit C-3, I think
2 I understand the calculation, but I want to make sure
3 I got it right; okay?

4 (Avant Exhibit C-3 was previously
5 marked for identification.)

6 A Okay.

7 Q Looking at the bar chart here for Apache on
8 the far right where it has the value 6.6, you arrived
9 at that figure by adding the total of your estimated
10 recovery for the first Bone Spring two mile type curve
11 that you've identified here, 3 million barrels?

12 A That's correct. Yeah.

13 Q Okay. And same thing for the second Bone
14 Spring to get to the 6.6; right?

15 A That's correct.

16 Q Okay. And you did the same for Avant's
17 figure here?

18 A That's correct.

19 Q Okay. And you heard Mr. Harper testify that
20 the third Bone Spring can be developed independently
21 of the first and second. Do you agree?

22 A I would agree.

23 Q And that if Apache were to come back and
24 separately develop the third Bone Spring at a later
25 time, that would not result in stranding of reserves

1 or waste?

2 A I don't believe it would. I agree.

3 Q Okay. On this slide here, C-7, my
4 understanding is Avant's position is that proper
5 development of this acreage would be to develop each
6 bench entirely?

7 (Avant Exhibit C-7 was previously
8 marked for identification.)

9 A Yeah. That's correct.

10 Q But here's you're looking at a per-well
11 basis for AFE cost; correct?

12 A That's correct.

13 Q Wouldn't it be more appropriate, apples to
14 apples, to compare each operator's proposed
15 development on a per-bench basis?

16 A Yeah. There's a lot of ways you can look at
17 data.

18 Q Okay. In other words, I mean, you know,
19 Avant's going to develop its entire bench and Apache's
20 proposing to develop each bench entirely, so the
21 utility of looking at a per-well cost is diminished?

22 A You can easily get to a full-development
23 cost with a per-well cost as well, though.

24 Q Now, the other -- this slide excludes
25 Avant's facility costs?

1 A No. Facility cost is in there. It's that
2 top darker gray portion of the bar chart.

3 Q Okay. So that 1.5 includes the -- is it an
4 allocated value of the 27 million for Apache's
5 facilities?

6 A Yes. Should be. Twenty-seven million on
7 Apache's facilities?

8 Q I'm sorry.

9 A That was -- yeah.

10 Q Avant's proposed facilities. Thank you for
11 correcting me.

12 A Yeah. You got me there for a second. The
13 1.5 -- I'm not sure where did the 27 million come
14 from.

15 Q I believe that is from the testimony on the
16 AFE cost for Avant's facilities.

17 A I'm not aware. I did not see that.

18 Q Okay. So what is that 1.5 in the dark gray?

19 A Yeah. That's the standard number we usually
20 use per well to be plumbed into a CTB. So we take our
21 CTB cost and divide it out by however many wells we're
22 going to put into that CTB.

23 For this purpose, there should be 18 wells
24 going into a CBT and we AFEd them at a -- each 1.4 or
25 1.5. So that should get you to 27 million.

1 Q I'll have to find where that is. I don't
2 have it handy.

3 A But as we show, we've been coming well under
4 AFE as of late.

5 Q So yeah. 1.5 I guess times --

6 A 18 is 27 million. Yes.

7 Q Yeah.

8 A I just don't recall seeing the 27 million in
9 the testimony.

10 Q Got it. I'm almost there, Mr. Kelly. I'm
11 sure you're happy to hear that.

12 You mentioned that -- and I can't remember
13 which development it was. I apologize. Let me see if
14 I can get my notes. I think it was the Golden Tee
15 that Avant had some capital issues. Its preference
16 would have been to drill each bench entirely?

17 A That's correct.

18 Q But Avant at the time had capital issues and
19 was unable to do so?

20 A That's correct. That was our first pad, so
21 we started off with -- with four wells on the first
22 Bone and the second Bone.

23 Q And is capital an issue here drilling all
24 these proposed 18 wells within the timeframes of the
25 pooling order?

1 A No, sir. Not anymore.

2 Q Last topic I want to touch on because it's
3 important is A-17.

4 (Avant Exhibit A-17 was previously
5 marked for identification.)

6 On Avant's Exhibit A-17, it identifies the
7 proposed spud dates for each of the Grayling wells on
8 the right column of that chart. Do you see that?

9 A Yes. Those are estimated rough spud dates
10 at this time.

11 Q Can you review for us what Avant's proposed
12 sequence, drilling and completion sequence would be
13 for the full development?

14 A Sure. We're currently looking to drill the
15 601 through 606H virtually as soon as possible, as
16 soon as orders come in and permits are back on those
17 six wells, which were the -- when those come back in,
18 we're plan on moving to that, those six wells,
19 immediately.

20 We were going to drill it with two rigs.
21 Should take us around 30 days to get all six wells.
22 And then we plan on fracking all six wells immediately
23 after drilling and bringing those online.

24 Like you said, we're not concerned about the
25 third Bone interfering with the second and first. We

1 have already seen that at Cutbow. We see -- we have
2 seen no interference, so after that we plan on coming
3 in and developing the second Bone and first Bone most
4 likely together as 12 wells all at once.

5 We will either use two or four rigs to knock
6 it out quickly. We like to keep our cycle time pretty
7 fast to get capital in and out of the ground, so we
8 estimate we'll have it all done well within the year
9 pooling order.

10 It's an important unit to us as a company.
11 We have a good interest in here, high NRI due to the
12 lease sale, so we're going to try to develop it as
13 soon as possible.

14 MR. RANKIN: Okay. I have no further
15 questions. Mr. Kelly, thank you.

16 THE WITNESS: Thank you.

17 THE HEARING OFFICER: Mr. McClure?

18 MR. MCCLURE: Thank you, Mr. Hearing
19 Examiner.

20 CROSS-EXAMINATION

21 BY MR. MCCLURE:

22 Q Mr. Kelly, seems you'd indicated as such
23 earlier, but to confirm, do you believe it is most
24 ideal to complete all the wells in a bench together?

25 A Yeah, Dean, I do. I think it's incredibly

1 important, especially as you are down spacing to -- to
2 six wells a section because those fracs do support
3 each other.

4 You build up a lot of pressure within the
5 formation and it actually helps build a lot of
6 complexity near your well more, creating better
7 declines than if you were to do them at separate
8 times.

9 So it is my professional opinion that it is
10 the best use of resources to do a full bench at one
11 time.

12 Q Okay. Thank you. If I can direct your
13 attention to Apache's rebuttal exhibit, page 14 of 14.
14 This is their slide 40.

15 A Yes.

16 Q I believe you spoke to this somewhat
17 earlier, but just to confirm, can you describe the
18 reason that it appears that the benches were -- or
19 specifically the third Bone Spring was drilled out in
20 two different packages?

21 A Yeah. Sure. Mainly being one of the first
22 movers in this area with a larger package, there's a
23 lot of very old midstream pipeline in the area, and we
24 were not confident that they would be able to take our
25 wells if we were to bring six on at one time.

1 They were telling us even with the three
2 that it was going to be tight on the gas side, and we
3 were trying to prevent all flaring and as well as any
4 kind of trucking from pad, so we made the tough
5 decision to do three to start off and get our spacing
6 test in with those three wells.

7 And thankfully we did because we were
8 immediately curtailed due to the extreme midstream
9 issues in this area that still exist to this day.
10 It's going to be very tough for a new company to come
11 in and produce eight well development at a single time
12 when the -- the midstream pipe is just not up to date.

13 Q If I can direct your attention -- jumping to
14 another exhibit.

15 A Yep. No problem.

16 Q Avant's exhibit page 168 of 344. That's
17 your Exhibit C-9.

18 (Avant Exhibit C-9 was previously
19 marked for identification.)

20 Referenced here is -- well, the third bullet
21 point down, if I can direct your attention to that?

22 A Yes.

23 Q Do you believe in this bullet point I guess
24 kind of keying off what your last response was
25 regarding a significant third-party investment needed

1 in order to increase flow assurance and prevent waste.
2 Do you believe that third-party investment has now
3 been done?

4 A Correct. We have them done and they are
5 currently working their way to Grayling as we speak.
6 They are aware that we are looking to operate that
7 unit, and since they are on the way to Cutbow already,
8 it's a -- it's a quick jump up to -- to Grayling for
9 them. So easy decision money-wise for the midstream
10 company.

11 And they're under contract that they have to
12 reach all of our units in this AMI, so anything on
13 this map, they are required to build to and take our
14 gas.

15 Q When you reference the third-party
16 investment in this third bullet point, what
17 specifically were you referring to as far as what
18 would they need to build out?

19 A This map on the right kind of shows their
20 projected system with the different dates that they're
21 planning on being there, so it's really that capital
22 investment in that pipeline.

23 As it is on their end, I am not privy to
24 that information on how much they're actually going to
25 spend, but it is, as you can see by the map, a very

1 sizeable pipeline build, so it's a heavy commitment
2 from them.

3 Q So would it be accurate to say that what you
4 were referring to here was connecting additional
5 batteries and sales meters, then? Is that correct?

6 A That is correct. Yes. A lot of -- there
7 are a lot of midstream companies that are forcing
8 companies to build to them, whereas they've committed
9 to build to us.

10 Q So is the lack of takeaway due to connection
11 to individual batteries rather than larger midstream
12 pipelines taking gas away from this area to refineries
13 and such?

14 A No. There's still a -- a large lack of --
15 of big pipe to move enough gas out of this part of the
16 basin, and midstream companies are -- are unwilling to
17 build a system like Northwind is without a
18 considerable AMI with a company that has enough
19 acreage to, you know, make use of that pipe.

20 Apache only having one unit in the Dustbowl,
21 it's going to be a tough ask to get pipe up in that
22 area in the time that they need it based on their TA.
23 So it's going to be an uphill battle. That's for
24 sure.

25 Q So I guess in regards to pipeline capacity,

1 bringing production from upstream to refineries and
2 such, you are not aware of any infrastructure that's
3 getting built or has just been completed. Is that
4 correct?

5 A I am not aware of any. No, sir. Besides
6 Northwind who is doing work for us, I am not aware.

7 Q Is it correct that Avant's Cutbow unit maxed
8 out the takeaway capacity?

9 A We did on the line that we were on. We --
10 we maxed it out. We had to find alternative options
11 for our water immediately. So we are actually
12 delivering water to multiple parties just to get it on
13 pipe.

14 And gas, we are still heavily constrained by
15 our first midstream provider, which is why Northwind's
16 is connecting in June. So that will alleviate our
17 Cutbow unit.

18 Q Okay. I see. So currently you're not using
19 Northwind. Northwind is going to be a new midstream
20 that's going to start taking away your gas. Is that
21 correct?

22 A That is correct. We are connected to them
23 at two of our other units down to the south and Cutbow
24 will be connected in June. That will be our
25 northernmost connection to date.

1 Q Do you have reason to believe that Northwind
2 will allow you a larger volume of sales than your
3 current takeaway?

4 A Yeah. We have a contract in place, and
5 we -- we have firm capacity with the company and we
6 have not hit that number yet. We're nowhere near it,
7 so we have guaranteed space on their line, so we will
8 have no issues bringing on new units in this area
9 anytime soon.

10 Q Mr. Kelly, if I can direct your attention to
11 page 50 of 344 of Avant's exhibits. This is your spud
12 date table.

13 A Yes, sir.

14 Q You believe these spud dates to be accurate;
15 correct?

16 A Correct.

17 Q As far as you can estimate, I mean?

18 A Correct. Pending approval, we'd like to
19 move them up, if possible, but this is our best
20 estimate for now.

21 Q If I can direct your attention to page 166
22 of 344. This is Exhibit C-7 of Avant's exhibits. Do
23 you see that second bullet point there?

24 A Yes.

25 Q Just to confirm, Avant does intend to drill

1 these wells with a three-string casing design. Is
2 that correct?

3 A That is correct.

4 MR. MCCLURE: Okay. Thank you. Looks
5 like my other questions have already been answered.
6 Thank you, Mr. Kelly.

7 Thank you, Mr. Hearing Examiner. I
8 have no further questions at this time.

9 MR. CHAKALIAN: Ms. Hardy, redirect?

10 MS. HARDY: Just a couple.

11 REDIRECT EXAMINATION

12 BY MS. HARDY:

13 Q Mr. Kelly, Mr. Rankin asked you a number of
14 questions about whether Apache could come back to
15 develop a third Bone Spring later. Do you recall
16 those questions?

17 A Yes.

18 Q Has Apache proposed any third Bone Spring
19 wells at this time?

20 A Not at this time. No.

21 Q And Avant has included third Bone Spring
22 wells in its application. Is that right?

23 A That is correct.

24 Q We can look -- I can share my screen here --
25 back at your slide C-18, your rebuttal slide. Is the

1 purpose of this slide to illustrate that greater than
2 four well per section spacing is the preferred
3 development in this area?

4 A That's correct. We have -- it was probably
5 four about ten years ago and it's evolved to five, and
6 we had been pushing to six. And I see a lot of
7 operators probably following suit.

8 Q Based on your experience, review, and
9 analysis of all of the reservoir engineering evidence
10 presented in this case including the rebuttal, in your
11 opinion, is six well spacing the best way to preserve
12 and produce the underlying reserves in this area?

13 A Yes. As a professional opinion, that is
14 what I believe to be the correct way to develop this
15 acreage.

16 Q And in your opinion is Avant's proposed
17 spacing and development pattern the best way to
18 prevent waste to protect correlative rights?

19 A Yes, it is.

20 MS. HARDY: I don't have any other
21 questions. Thank you.

22 THE HEARING OFFICER: Mr. Rankin, any
23 cross on that point?

24 MR. RANKIN: No.

25 THE HEARING OFFICER: Mr. McClure, any

1 cross on that point?

2 MR. MCCLURE: No, Mr. Examiner.

3 THE HEARING OFFICER: Ms. Hardy, does
4 that conclude your case in chief and your rebuttal
5 case?

6 MS. HARDY: Yes, it does. Thank you.

7 THE HEARING OFFICER: Okay. Very good.
8 Do either party have reason why we should not conclude
9 the evidentiary portion of this hearing?

10 MS. HARDY: I do not, Mr. Examiner.

11 MR. RANKIN: I can't think of any.

12 THE HEARING OFFICER: Good. The
13 evidentiary record in this matter is closed. Let's
14 discuss post-hearing procedure. Do the parties have
15 any desire to file post-hearing submissions?

16 Ms. Hardy?

17 MS. HARDY: Yes. I think that would be
18 helpful, Mr. Examiner. I think we would like to
19 submit a written closing and proposed findings and
20 conclusions. That would be helpful for the division.

21 THE HEARING OFFICER: Okay.

22 Mr. Rankin?

23 MR. RANKIN: I love taking on more
24 work, Mr. Examiner, so -- but I do think it would be
25 helpful for the division. I think the parties can

1 distill the issues and present the division some
2 discrete findings that will help them with their
3 analysis and assessment. Yeah.

4 THE HEARING OFFICER: So then,
5 Mr. Rankin, how much time would you need to submit a
6 closing argument and proposed findings and
7 conclusions?

8 MR. RANKIN: Mr. Examiner, I would like
9 to have the transcript. I think my understanding is
10 that generally the transcript is available within
11 about two weeks of the hearing, so that would put us
12 in the middle of June roughly. And then I think
13 that's a tough time. There's a lot going on.

14 I think three weeks maybe would be okay
15 to get that done. I think with three weeks, we should
16 be able to prepare a reasonable closing and findings.

17 THE HEARING OFFICER: Okay. So July 7?

18 MR. RANKIN: Terrible time, isn't it?
19 I would hate to impose that on me or -- maybe can we
20 do --

21 What do you think, Dana? Do you want
22 to do the week after that?

23 MS. HARDY: So we were looking at --
24 yes. I think the week after that would be
25 comfortable.

1 THE HEARING OFFICER: Okay. So you
2 want a month from when the transcript is filed?

3 MR. RANKIN: Sounds find right now.

4 MS. HARDY: Yes.

5 THE HEARING OFFICER: Let me check with
6 Mr. McClure.

7 Mr. McClure?

8 MR. MCCLURE: Yeah. I have no
9 preference in the matter.

10 THE HEARING OFFICER: Mr. McClure --

11 MR. MCCLURE: Is that what you were
12 asking? I'm sorry.

13 THE HEARING OFFICER: In a way. Let me
14 rephrase the question.

15 So basically, I suspect the transcript
16 will be available around June 13, Mr. Cogswell?

17 THE REPORTER: That's correct.
18 Yesterday's transcript will be delivered on June 12th
19 and today's will be delivered on June 13th.

20 THE HEARING OFFICER: Okay. Thank you.

21 Originally, the proposed three-week
22 timetable would have taken to July 4th, which was why
23 I suggested the July 7, but it sounds like the parties
24 would prefer July 11.

25 MR. RANKIN: Yeah.

1 MS. HARDY: That works.

2 THE HEARING OFFICER: So, Mr. McClure,
3 would it be helpful for the division to have closing
4 arguments and proposed findings of fact and
5 conclusions of loss submitted on or before July 11?

6 MR. MCCLURE: I mean, July 11 should be
7 fine. We won't be able to, you know, issue any orders
8 until after we've had a chance to review that, but I
9 don't know if the division has a specific timeline on
10 when we need to have one issued.

11 So if it's fine with the parties, I
12 don't see where it would be any issue with the
13 division to have it done on July 11th.

14 THE HEARING OFFICER: Okay. So what
15 I'm hearing, Mr. McClure, is that by filing what I
16 already outlined by July 11, it won't slow the
17 division down in any way?

18 MR. MCCLURE: Conceivably, the division
19 could issue an order earlier than that, but I wouldn't
20 necessarily foresee that, so I don't believe it would.
21 No.

22 THE HEARING OFFICER: Let me ask a
23 legal question to counsel. Is it your understanding
24 that the division is in any way bound by these post-
25 hearing submissions?

1 MR. RANKIN: Mr. Examiner, no. I don't
2 think so. No.

3 I know timing is an issue here,
4 obviously. Both parties are eager. However, we're
5 still waiting for BLM permits, so it's not like there
6 is BLM permits available.

7 And even if there were, they still have
8 to be submitted to the division for approval. So
9 we're waiting for that and historically, BLM approvals
10 have been slow in coming.

11 So I think -- you know, I don't want to
12 delay the decision by the division at all, but it
13 sounds to me like July 11th would nevertheless allow
14 the division to review submissions from the parties,
15 take those into consideration without delaying a
16 decision.

17 But if the division is able to make a
18 determination, then I don't think that there's any
19 reason that they shouldn't, given the timeframe
20 concerns about timing.

21 THE HEARING OFFICER: Ms. Hardy?

22 MS. HARDY: I agree.

23 THE HEARING OFFICER: Mr. McClure, as
24 you heard, the transcript will take two weeks and the
25 parties want a month to file their post-hearing

1 submissions.

2 If the division makes a decision and
3 issues an order before July 11, would it notify the
4 parties so that the attorneys don't continue to work
5 on post-hearing submissions?

6 MR. MCCLURE: Yes. That is correct.
7 That is in our procedures to do.

8 THE HEARING OFFICER: Okay. Okay. Is
9 there anything else from the parties?

10 MS. HARDY: Not from Avant. Thank you.

11 MR. RANKIN: Nothing further,
12 Mr. Examiner. Thank you.

13 THE HEARING OFFICER: All right.
14 Mr. Cogswell, when you file these transcript, I think
15 they go to Ms. Tschantz. Is that right?

16 THE REPORTER: That's correct.

17 THE HEARING OFFICER: Okay. And,
18 Ms. Tschantz, do you advise the parties once you
19 receive the transcript?

20 THE CLERK: I don't typically, but I
21 can do it in this case.

22 THE HEARING OFFICER: I'm sorry. I
23 didn't hear you.

24 THE CLERK: I do not typically notify
25 the parties, but I can in this case.

1 THE HEARING OFFICER: I just wondered
2 how the parties know when the transcript is available.

3 THE CLERK: They usually check the
4 imaging themselves.

5 MR. RANKIN: Mr. Examiner, in the past
6 where we've had timing of submissions based off of the
7 transcript, which hasn't been that often, but the
8 division has taken the kind step of notifying the
9 parties when the transcripts are available.

10 THE HEARING OFFICER: Ms. Tschantz,
11 will you calendar a reminder for June --

12 THE CLERK: Twelfth and thirteenth?

13 THE HEARING OFFICER: Thank you.

14 THE CLERK: Yes, I will.

15 THE HEARING OFFICER: So that you will
16 notify the parties? And then, what, you upload the
17 transcript to the filing system so it's basically free
18 for the parties to use?

19 THE CLERK: That's correct.

20 THE HEARING OFFICER: I see. Okay.
21 All right. And then will you also calendar a reminder
22 for the deadline of July 11 for the post-hearing
23 submissions?

24 THE CLERK: Yes.

25 THE HEARING OFFICER: All right.

1 Perfect.

2 Mr. McClure, is there anything further?

3 MR. MCCLURE: Yes, Mr. Hearing
4 Examiner. Do we have a schedule for the applicants to
5 submit their amended exhibits by? I don't recall if
6 we've discussed that yet.

7 THE HEARING OFFICER: Thank you for
8 bringing that subject up, Mr. McClure.

9 So let's go over, Ms. Hardy.

10 Now, Mr. Rankin, I don't believe we've
11 asked you to file.

12 MR. RANKIN: There are two issues that
13 were both related. We had to update our pool code in
14 our checklist and the C-102s. So those two items
15 needed to be corrected on our end.

16 THE HEARING OFFICER: The reason I
17 didn't bring that up as to an amended exhibit packet
18 because I didn't think the C-102s and the checklist
19 were part of the exhibit packet, but are they?

20 MR. RANKIN: The C-102s are.

21 THE HEARING OFFICER: Okay. Perfect.
22 So you will issuing an amended hearing exhibit packet,
23 then? Okay. Would you include a cover letter to
24 explain why you're amending?

25 MR. RANKIN: We will.

1 THE HEARING OFFICER: Okay. Very good.
2 And when will you be able to do that?

3 MR. RANKIN: As soon as I get the
4 materials from Apache, so I think if not by Friday,
5 we'll shoot for Monday, and I think we should be able
6 to get that done by Monday.

7 THE HEARING OFFICER: Monday. Okay.

8 Mr. McClure, Monday for Apache so far,
9 which, of course, is June the 3rd.

10 Ms. Hardy, when will you be able to
11 amend what I show here is paragraph 3 of your rebuttal
12 exhibit A-28 as we discussed, the first bullet point?
13 And then you also have Exhibit A-23 summary missing
14 slides. I think you also had -- was it also that your
15 exhibits had something covering part of them or is
16 that not this case?

17 MS. HARDY: I don't think so.

18 THE HEARING OFFICER: Not this case.
19 Okay. That must have been earlier case. Thank you.
20 And second page of A-23, I think?

21 MS. HARDY: Correct.

22 THE HEARING OFFICER: When will you be
23 able to have those?

24 MS. HARDY: We can submit those on
25 Monday as well.

1 THE HEARING OFFICER: Monday as well.

2 So, Mr. McClure, I hear June 3rd for a
3 deadline for both parties.

4 MR. MCCLURE: Very good. Mr. Hearing
5 Examiner, just to confirm, the corrections made to
6 affidavits and such here at hearing, the parties do
7 not need to submit an amended exhibit for that. Is
8 that correct?

9 THE HEARING OFFICER: It was corrected
10 on the record.

11 However, Ms. Hardy, I mean, if you're
12 submitting an amended packet, how do you feel about
13 incorporating the corrections that were brought out
14 during your direct?

15 MS. HARDY: I think that would be
16 probably a good idea. I think -- well, we can
17 certainly do it on the slide that Mr. Kelly referenced
18 with the incorrect heading, the numbers. I don't
19 recall the slide off the top of my head, but --

20 THE HEARING OFFICER: Okay. Are you
21 talking about the Apache -- I remember that there was
22 a disagreement over someone's slide where it talks
23 about the different parts of the section. It didn't
24 correspond to the -- was that your slide?

25 MS. HARDY: No. That was Apache's

1 slide.

2 THE HEARING OFFICER: That was Apache's
3 slide.

4 Do you want to correct that,
5 Mr. Rankin?

6 MR. RANKIN: I think are you
7 referencing how Apache had erroneously identified the
8 number of wells that Avant had drilled and were
9 operating? Is that the slide?

10 THE HEARING OFFICER: That's not the
11 correction I was thinking of. Do you remember the
12 slide that had the sections colored so that it showed
13 the east half of a section without that northeast
14 corridor in one color? I think it was section 6. No,
15 it wasn't section 6. Maybe it was 11 or something
16 like that.

17 And then there was another part of that
18 section on the west side. It was the west half of the
19 west half. Do you remember that?

20 MR. RANKIN: I think --

21 MS. HARDY: It was Mr. Johnson's plat.

22 THE HEARING OFFICER: There we go. And
23 that had an incorrect description on the right upper
24 table. And one of Avant's witnesses brought it up, if
25 I'm not mistaken. Does that sound fair?

1 MS. HARDY: I think I questioned him
2 about it on cross.

3 THE HEARING OFFICER: And do you know
4 what slide number that was, Mr. Rankin?

5 MR. RANKIN: I believe it's slide 7.

6 THE HEARING OFFICER: All right. Good.
7 Can we confirm that, if possible?

8 MR. RANKIN: Yeah. It's slide 7.

9 THE HEARING OFFICER: Okay. Great. I
10 just remember that one because we got stuck on that
11 for a little while.

12 MR. RANKIN: I'll confer with
13 Mr. Johnson. I think we can make that -- correct what
14 needs to be corrected on the legal description.

15 THE HEARING OFFICER: Perfect. That
16 was the only one I remember that needed correction,
17 unless you want to correct any other slides.

18 MR. RANKIN: I think other than that,
19 the record will reflect any changes or modifications.

20 THE HEARING OFFICER: And then,
21 Ms. Hardy, which other correction do you feel you'd
22 want to make in your exhibits or your rebuttals?

23 MS. HARDY: I think I can -- the slide
24 I was referring to just a moment ago is C-18. We can
25 correct the heading on those tables.

1 THE HEARING OFFICER: Okay. Perfect.

2 MS. HARDY: Other than that, I feel
3 like our corrections were covered in the --

4 THE HEARING OFFICER: Will you just
5 include that in your cover letter --

6 MS. HARDY: Yes.

7 THE HEARING OFFICER: -- so that it's
8 obvious to the division's technical examiners what is
9 being changed?

10 MS. HARDY: Yes.

11 THE HEARING OFFICER: So when you
12 resubmit -- now, that's your rebuttal exhibit. Is it
13 not?

14 MS. HARDY: Yes.

15 THE HEARING OFFICER: So you'll just be
16 resubmitting a -- are you going to resubmit the entire
17 packet or just the rebuttal packet?

18 MS. HARDY: Well, the Exhibit A-23
19 where we need to submit the missing slide, that's from
20 our original exhibits. I think so.

21 THE HEARING OFFICER: So it sounds like
22 both of your packets will be resubmitted?

23 MS. HARDY: Yes.

24 THE HEARING OFFICER: Fine.

25 But, Mr. Rankin, you only have one

1 packet that needs to be resubmitted?

2 MR. RANKIN: Correct.

3 THE HEARING OFFICER: Just so I
4 understand what needs to be done. Is there anything
5 else from the parties?

6 MS. HARDY: I don't believe so.

7 MR. RANKIN: Nothing from me.

8 THE HEARING OFFICER: All right.

9 Mr. Cogswell, we're off the record.

10 (Whereupon, at 10:45 a.m., the
11 proceeding was concluded.)

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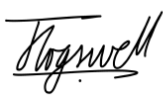
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CERTIFICATE

I, JAMES COGSWELL, the officer before whom the foregoing proceedings were taken, do hereby certify that any witness(es) in the foregoing proceedings, prior to testifying, were duly sworn; that the proceedings were recorded by me and thereafter reduced to typewriting by a qualified transcriptionist; that said digital audio recording of said proceedings are a true and accurate record to the best of my knowledge, skills, and ability; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this was taken; and, further, that I am not a relative or employee of any counsel or attorney employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.



JAMES COGSWELL
Notary Public in and for the
State of New Mexico

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CERTIFICATE OF TRANSCRIBER

I, JENNA STERN, do hereby certify that this transcript was prepared from the digital audio recording of the foregoing proceeding, that said transcript is a true and accurate record of the proceedings to the best of my knowledge, skills, and ability; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this was taken; and, further, that I am not a relative or employee of any counsel or attorney employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.



JENNA STERN

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