No. 137, Original

IN THE SUPREME COURT OF THE UNITED STATES

VOLUME 25 OF 25 VOLUMES

TRANSCRIPT OF TRIAL PROCEEDINGS

STATE OF MONTANA

Plaintiff,

v.

STATE OF WYOMING

and

STATE OF NORTH DAKOTA

Defendants.

BEFORE THE HONORABLE BARTON H. THOMPSON, JR. Special Master Stanford, California

James F. Battin United States Courthouse 2601 2nd Avenue North Billings, Montana 59101 8:39, Wednesday, December 4, 2013

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Proceedings recorded by machine shorthand Transcript produced by computer-assisted transcription

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1 WEDNESDAY, DECEMBER 4, 2013, 8:39 A.M. SPECIAL MASTER: Okay. And everyone can be 2 So why don't we actually start out by getting 3 a sense of where we're going to go today, and then we 4 can continue Mr. Hinckley's examination. 5 6 So, Mr. Draper. MR. DRAPER: Your Honor, as I envision today, 7 we would address your questions to the witness; I would 8 follow with any follow-up; there would be redirect; and 9 10 then as I understand it, Wyoming would like to do closing arguments. We don't really think it's the most 11 efficient use of time, but we're glad to participate. 12 13 And we will have a short closing statement as a result. 14 And I think that should do it. 15 SPECIAL MASTER: Okay. So you do not 16 anticipate, then, calling any rebuttal witnesses? MR. DRAPER: In terms of rebuttal, the answer 17 is no unless something is raised here in the final 18 19 testimony of Mr. Hinckley. And in particular, the one 20 that I'm thinking of is that Mr. Book is able to 21 address the question that arose yesterday if it turns 2.2 out that Mr. Hinckley is not able to do that. 23 that's the one thing that I have in mind at this point 24 is a possibility. 25 SPECIAL MASTER: Okay.

Page 5844

```
1
              MR. KASTE:
                          He is --
              SPECIAL MASTER:
                               Thank you. And I think
2.
   that's fair.
 3
4
              MR. KASTE: Your Honor, he is. And you
5
   should probably start with that one.
                                          That sounds great
            I do think a closing argument would be
6
   to me.
7
   valuable, and then a short discussion about the future
   schedule and what would be helpful to you in terms of
   briefing and findings and conclusions.
9
10
              SPECIAL MASTER:
                               Okay.
              MR. DRAPER: Yes, Your Honor, we think that
11
   really the most helpful for you is going to be our
12
13
   posttrial briefs. And once we've submitted those to
14
   you, it may be helpful to have a day of argument in
15
   Stanford to address any final questions raised by the
16
   parties or by yourself.
              SPECIAL MASTER: Particularly if it's minus
17
18
   11 degrees here.
19
              MR. DRAPER: Yes.
20
                          I stand by my statement that I
              MR. KASTE:
   never want to go to Stanford.
21
2.2
              SPECIAL MASTER: Okay.
                                      That sounds great.
23
   So then why don't I start out by asking my various
24
   questions. And then, Mr. Draper, you'll have an
25
   opportunity to do any additional cross that you want,
```

```
1
    followed by Mr. Kaste with any further direct.
 2
                     BERN HINCKLEY (CONT.),
   having been first duly sworn, testified as follows:
 3
                          EXAMINATION
 4
   BY SPECIAL MASTER:
 5
              So let me just walk through with you,
         Ο.
 6
 7
   Mr. Hinckley, the various parts of your testimony that
   you went over yesterday. And, again, the reason is, as
   you know from sitting here for several weeks now, my
 9
    questions are both to clarify points that may be a
10
    little bit less clear to me, also to make sure the
11
    record is as complete for the Court as possible, and
12
13
    also occasionally to probe here and there on particular
14
   points.
              So -- and I'm just going to go through to
15
   make sure that, in fact, I'm getting all of my various
16
17
    questions.
              So my first question actually follows up on
18
   my questions yesterday on the limit as to what you can
19
    actually testify on. But I noticed on page 3 -- and as
20
21
    I said, primarily I'm just going to be going
2.2
    numerically through your exhibit -- through your expert
23
    report step by step.
24
              So the first one's on page 3. And you'll see
    there under heading 1, you say that "Book's concept of
25
```

```
1
    'full' is inconsistent with the 1950 capacity of the
    reservoir, with the 1950 level of storage contracts,
 2
    and with the water right."
 3
              And just a prefatory comment, I think
 4
    ultimately a question, of course, is to whether or not
 5
   Mr. Book's concept of full is consistent or
 6
 7
    inconsistent with the water rights that Montana might
   have is a question of question of law.
 8
              But having said that, when I looked at your
 9
    Subsection C at pages 4 to 5, which is where you
10
    discuss the water rights, I never actually saw any
11
   place there where you pointed to a particular aspect of
12
13
    the water right that you thought were inconsistent with
14
    what Mr. Book had in his expert report.
15
              So is there a particular aspect of this
    section here that I should be looking at and thinking
16
    about that question from your perspective?
17
                     In the sense, it's looking for
18
         Α.
              Yeah.
    something that I wasn't able to find. So harken back
19
    to our discussion yesterday, not that I was trying to
20
21
    play lawyer, but one does need to look at the water
2.2
    rights to have sense of what is a relevant argument to
23
   bring forward. So one has to at least study the rights
24
    to the extent of trying to make the technical analysis
    useful.
25
```

BERN HINCKLEY - December 4, 2013 Examination Cont. by the Special Master $\left(\frac{1}{2}\right)^{1/2}$

1 In this case, what Mr. Book did was the obvious thing of simply peg the injury to Montana 2 pre-'50 uses at the physical capacity of the reservoir. 3 Tacitly, although, I don't know that he ever said that 4 5 is the right. When I go back and look at the abstracts 6 which have changed over of the period from '82 to as 7 recently as last fall trying to see if there's a clear 8 expression of what is the right for Tonque River 9 Reservoir, the closest one can come -- well, the most 10 recent incarnation of the right that's being proposed 11 for adjudication is this unlimited storage delivery 12 13 requirement of 60,000 acre-feet. 14 So I worked through in Section C what I thought the implications of that might be with respect 15 to how much water that translates into by way of a call 16 against upstream juniors, and then left it at that. 17 So, no, I didn't -- this is what I think the right is. 18 My perception, from a layman's point of view, is that 19 the right is kind of amorphous. 20 21 Ο. Okay. So that's helpful. And I think that's 2.2 consistent with what you have in your particular report here. First of all, as I understood what you were 23 saying here was that you found it difficult to figure 24 out exactly what the right was when you went back and 25

1 actually looked at a variety of documents. And then, second of all, as you point out, 2 one of the things that you looked at was what are the 3 numerical implications of various types of 4 interpretations of those rights. 5 And I should, by the way, compliment both you 6 7 and Mr. Book in providing encyclopedic amount of information on the operations and uses of water in the 9 Tonque River area. Okay. 10 The next question which I had is on your testimony with respect to the -- oh, one other question 11 on page 3. This is at the very bottom of page 3. And 12 13 again, I just want to clarify here. You say in the 14 years 2001, 2002 -- well, now that you started that --15 let me actually rephrase things. 16 At the bottom of page 3 you talk about what the peak storage was in four years: 2001, 2002, 2004, 17 and 2006. And as you discussed with Mr. Kaste 18 yesterday, you then, at the top of page 4, say that the 19 "reservoir storage was volumetrically sufficient to 20 21 satisfy the contract volume set in 1950." 2.2 And so as I understand what you're saying here is if you look at this purely as a matter of 23 volume, that there was more than 30,000 acre-feet of --24 or 32,000 acre-feet of water available in all of those 25

four years?

2

6

7

9

10

1.4

24

25

- A. That's correct.
- Q. Okay. And so that does not take into
 account, if it's relevant, any of that water that would
 belong to the Northern Cheyenne?
 - A. No. No. The comparative I'm using here is the level of contracts that were established at the time of the compact. That was the 32,000. So that's why I picked that as my benchmark and compared several operations to that benchmark.
- Q. Okay. And that's what I thought you were saying here. But, again, I just wanted to clarify on that particular point.
 - A. That's exactly right.
- Then if we turn to page 7, this is where you 15 Ο. discuss the various irrigation, stock, and municipal 16 rights downstream of the Tongue River Reservoir. 17 you discussed with Mr. Kaste yesterday the fact that, 18 as I understand what you were saying, that the amount 19 of water that would be needed to satisfy and to meet 20 the stock water rights downstream in terms of actual 21 2.2 releases from the reservoir does not vary by the number of cattle involved. 23
 - A. Well, it varies a very tiny amount based on the cattle involved. If you recall, the McBeath memo

BERN HINCKLEY - December 4, 2013 Examination Cont. by the Special Master $\left(\frac{1}{2}\right)^{1/2}$

```
put a number to how many cattle he thought were there,
   I believe, and it came out to .03 CFS, if I recall.
2
                                                          So
   if I had ten times that many, it's .3, and if there
 3
   were hundred times that many, it would be 3, which
4
   comes out of the 50, which is the carrier water.
5
              So my point was that -- what I extracted from
6
7
   the McBeath memo was the 50 CFS that it takes to get
   water down to meet whatever the demand is from cattle,
   and that that calculation, as he presented it, is quite
9
    insensitive to the number of stock rights. But that's
10
   pertinent to -- because the actual consumption is such
11
   a tiny, tiny part of the total of the 50 CFS.
12
13
              So this is where I get a little bit confused,
14
   and so this is where you can help me. So your reliance
    is on the McBeath memo; correct?
15
16
         Α.
              Yes.
                    I relied on his -- as he expressed it,
   the engineering judgment to say 50 CFS was a sufficient
17
18
   flow to carry stock rights.
19
              And he went through a fairly careful analysis
         Ο.
    it seems, relatively detailed, to figure out, well,
20
   this cattle here is the number of CFS that's actually
21
2.2
   needed to meet the consumptive use of the livestock and
23
   comes up with a very specific number. And then he
   comes up with, okay, 50 is the number that you need to
24
   get it down there.
25
```

BERN HINCKLEY - December 4, 2013 Examination Cont. by the Special Master $\left(\frac{1}{2}\right)^{1/2}$

So why did he -- first of all, if you have
any sense of, why would you bother to go through that
type of analysis on the amount for the livestock if
ultimately it's a number like 50 is going to meet .034

CFS or 3.4 CFS?

- A. Well, on one hand, I think he was being methodical. But if I remember the memo correctly, he also then extracts an acre-feet of consumption for the cattle. 20 acre-feet or something.
 - Q. Yes, it's 29.

2.2

A. So the number of cattle matters to the consumptive use, 'cause theirs is the only consumptive use. The rest of it is just flowing on down the stream. So, you know, one interpretation, that's what the beneficial use is, the very small .03 CFS which becomes the 40 acre-feet, or whatever it was.

So my assumption would be that he was interested in both the flow that it takes to meet the right as well as what the ultimate volume it would take to meet the right is. And the volume is based entirely on how much water is extracted from the system by the cattle. That's the very small number. That would be a reason why he would care about the number of cattle for that little piece.

Q. So the amount of flow that you need in order

1 to get water to a particular point does not depend on 2 how much water you actually need to get there?

2.2

A. Well, it would if that use -- say there was a 10-CFS demand that you were trying to meet. Then you would have to figure out, what does it take to get the water there? And what does it take to actually meet that need?

But in this case, that need, the consumptive use is so tiny that it's inconceivable to me that if I double, triple, quadruple the consumptive demand it would change the carrier demand.

So it's proportionate, is why this particular demand is such a tiny piece that I think we can reflect the number of rights, for example.

- Q. All right. I mean, I think I understand your basic point. But I'm still trying to understand when you have a relatively small volume like that, okay, how do you determine what you actually need in order to get that amount of water down to the point of use?
- A. Well, I assume in this case that it's independent of the need, and he was looking at the flow conditions in the river, the length of the channel, conveyance losses. I don't know if he considered ice. We discussed that. He wasn't explicit in all the things he considered in what is the appropriate amount

to get down there. If I was delivering that into a sealed pipe 2 that was kept above freezing, I would put .03 CFS into 3 the pipe. He's delivering it through however many 4 miles of open channel, so had to consider what the 5 implications of that were as a conveyance system and 6 how far it deviated from a closed pipe. And that's 7 where the 50 CFS comes from, is my interpretation of his memo. So there would be a variety of different 10 Ο. factors, then, that go into determining what that flow 11 rate is necessary to get a small amount, as you point 12 13 out, of CFS down to the confluence with the 14 Yellowstone? 15 Certainly. And I would expect that 50 CFS number to be completely unique to that particular 16 situation. Were this river somewhere else or a shorter 17 river or was a tortuous river, it would be a different 18 19 number. 20 Okay. And we've talked about some of the Ο. 21 factors, and so if I can better understand it. Some of 2.2

23

24

25

BERN HINCKLEY - December 4, 2013 Examination Cont. by the Special Master $\left(\frac{1}{2}\right)^{2}$

```
particularly sensitive to the actual amount of water
    that you have to get down there. But other things I
 2.
    would think like, for example, the loss of water along
 3
    the river would be sensitive to the amount of water
 4
    that you have to get down there.
 5
              Oh, in the sense of -- yeah, if you were
         Α.
 6
 7
    trying to transport 100 CFS to the end, it would suffer
   more losses than 50 CFS.
              So if this number is not sensitive to -- and,
 9
    again, I realize we're dealing with a small amount that
10
    actually has to get down there. So if it's not
11
    sensitive to that, how would you -- what would it be --
12
13
    and I know we're sort of speculating now because we
14
   don't have Mr. McBeath here.
              What would not be sensitive to the ultimate
15
16
    amount you have to get down there?
              I'm not sure we're casting the question quite
17
         Α.
18
    right yet.
19
              Let me rephrase it a different way. If you
    know you have to get a small amount of water down to
20
    the end of the stream --
21
2.2
         Α.
              Okay.
              -- as a matter of winter flows, there's some
23
24
    factors that you would expect would be dependent upon
```

how much you have to get down to the bottom of the

25

```
stream.
             That would be, for example, if you have water
    that you're losing for one reason, evaporation, if it's
2
   a losing stream and you're losing water out of it, all
 3
   of that you would think would be sensitive to the
4
   amount of water that you have to get down to the base.
5
              And so my question is what factors would you
6
7
   consider -- this is a hypothetical, nothing to do with
   the Tonque. What factors would you consider that
8
   wouldn't be sensitive to the amount of water that you
9
10
   had to get down there?
              Well, let's -- so let's think of it as a
11
         Α.
   conveyance-loss question in any river system you want
12
13
   to work on. When one is looking at conveyance losses,
14
   one looks at seepage losses out of the river channel,
15
   evaporation from the water surface. Evapotranspiration
   from the stream side vegetation would be the principal
16
   components of loss.
17
              Now, the ice is a different condition with
18
   which I haven't ever dealt. But it makes intuitive
19
20
   sense that there would be some relationship between the
   amount of water and how the ice would form. If I had
21
2.2
    zero flow, presumably there would be no ice form
   because there would be no water to form ice.
23
              And then as one dialed up the water, I'm
24
   envisioning there would be some optimum flow for making
25
```

ice. And beyond that, it would be contrary to making more ice. You'd have plenty of flow to keep the river 2. clear. 3 So somewhere in that analysis of how much 4 water do I have to release here to get this much water 5 here is not unreasonable to me that ice would be part 7 of that discussion along with the more conventional pieces of evaporation, evapotranspiration, seepage 9 losses. 10 Now, as long as the amount that I'm trying to deliver is quite small, then the amount of water it 11 takes to keep the channel open is going to be 12 insensitive to what that small number is. If I'm 13 14 trying to deliver 200 CFS, obviously, I'm going to have 15 to release 200 plus however much it takes to insure that the whole 200 gets to the end. And in that larger 16 river, things like evaporation and ET are going to be 17 larger from the larger river surface. 18 19 Often that's expressed in a percent per mile, for example, as conveyance loss. So I think what's 20 special about this one is we're kind of off the hook in 21 2.2 that the delivery requirement is so tiny that it really 23 ricochets very little into the corpus of how much water has to flow down the river. 24 This has been helpful to me. 25 Q. In some cases,

- 1 I'm just thinking through some of these issues as we go 2 along.
- So then, again, just so that I can understand better, on page 10 you talk about Figure 5b, which is your calculation of -- or it's your model monthly contents of the Tongue River Reservoir, in this case an assumption that there would be a bypass of 75 CFS. And I just wanted to make sure I understood.
- If you are using the 69,400 acre-foot 1950 capacity, then there are two years in which, under the 75-CFS bypass, it would not completely fill; is that correct?
- 13 A. That's correct.
- Q. And it's just a little bit hard to read the chart. It looks to me as if those are 2002 and 2004?
- 16 A. Yes.
- Q. Okay. And I'm also curious, on the chart itself on Figure 5b, is -- are the hash marks the beginning and end of the water year?
- A. Yes. As the legend indicates, those are water-year increments, and then the label is placed in the middle of the year. The years separate themselves out nicely because every spring you see the peak, and those low spots are going to be in September, October typically.

```
Thanks. And then also notice it would
 1
         Q.
              Okay.
    fill to at least 66,000 acre-feet in all years.
 2
    There's nothing -- the 66,000 figure was simply the
 3
    figure that, when you look to see the lowest points to
 4
    which it filled, it's 66,000; is that correct?
 5
         Α.
              That's correct.
 6
              There's no special meaning to 66,000 other
 7
         Q.
    than that?
 8
              Just slide the ruler down to fix that 2002
 9
         Α.
10
   peak.
              Okay. Then on the next page, you say -- this
11
         Q.
    is the bottom of the first paragraph up there.
12
13
    say, "These results indicate that the reservoir would
14
    have been entirely drained in 2004, 2005, and 2006 had
    a 175-CFS winter bypass been coupled with historical
15
    releases of storage."
16
              So two questions. The first is, when you say
17
    "coupled with historical releases of storage," are you
18
19
    talking about the actual releases of storage in those
    years, or are you talking about something different?
20
21
         Α.
              No.
                   In those years. The modeling that
2.2
    generated all three of the figures, 5a, b, and c,
    didn't attempt to say whether they released
23
    appropriately or not. We simply took what they did
24
    that year and superimposed it on our volume accounting.
25
```

BERN HINCKLEY - December 4, 2013 Examination Cont. by the Special Master $\left(\frac{1}{2}\right)^{1/2}$

- Q. Okay. Now, when you say "historical releases of storage," are you talking about releases of storage once the various water users called for their storage?
 - A. No. That's probably not as well stated as it should be. We simply took the historical releases from the reservoir, whatever they were. So what we did is we stopped any special accounting on the 1st of May and said, whatever happens after the 1st -- we will impose on the model starting the 1st of May whatever actually happened. And if there was a hundred thousand acre-feet that ran out of the bottom of the reservoir for whatever reasons, then we ran hundred thousand acre-feet out of the model.
 - Q. Okay.

2.2

- A. So that it really isn't coupled -- certainly isn't coupled to any specific storage orders or even storage natural flow, is probably a better word there. It would have been just the historic outflows from the reservoir.
- Q. Okay. So this is helpful in my understanding of your analysis. So what you did was you imposed a 175-CFS bypass that began on October 1st and ran through April 30th?
- 24 A. Correct.
- 25 Q. Okay. And --

```
A. And all three of the bypasses were set up in that same way, as you just said it, October 30.
```

- Q. Okay. And then what you did was any water that flowed out of the Tongue River Reservoir after that was considered a release of storage?
- Was -- well, considered an outflow from the 6 Α. 7 reservoir. That's why I said a better term here would have been that whatever came out of the reservoir stating May 1 historically we took out of the model, so 9 that we were not getting into whether that was done 10 correctly or incorrectly or storage or natural flow or 11 whatever. We assumed, for the sake of this model, that 12 13 whatever happened historically, May 1 to 14 September 30th, was correct. It is what it is.
 - Q. So, again, that's May 1 to September 30. The actual outflows are what you mean by historical releases of storage?
- 18 A. Yes. That would have been a better way to 19 say it.
- Q. Let me clarify on that. Are you simply looking at the amount of water which is coming out of the reservoir at that point?
- 23 A. Yes.

3

4

5

15

16

17

Q. Are you taking into account water that is coming over the state line?

```
Α.
                  This would be just the water that came
  out of reservoir. Now, typically, somewhere after
  May 1 that's going to include everything coming across
  the state line plus whatever augmentation they want to
4
  add with the reservoir itself.
```

1

2

3

5

6

7

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12

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14

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16

17

18

19

20

21

2.2

23

24

25

- So if one wanted to actually figure out how Ο. much water was being released from storage, then what you would have to do is to take the outflow numbers that you used here and subtract the state line flows?
- Α. Yeah. I'm smiling because it gets more complicated than that because you've got the evaporative losses in the reservoir.

Mr. Book provided us a table where he attempted to reconcile that. But there are, in detail, some interesting issues in terms of evaporation and inflows for the reservoir from its own catchment.

So it has other inflows, albeit quite small, than the flow at the state line. So one sees aberrations in the attempt to reconcile the volume in the reservoir as measured by the stage and that the strict accounting, as you're envisioning it, of the only water into the box at state line and the only water out is the gauge below the dam. So, yeah, when one can do that; we did not.

Okay. But, again, so if I understand this, Q.

what you did -- when you're talking here about the
historical releases of storage, then there what you did
was you simply looked at the gauge numbers for what was
flowing out of the reservoir in that period?

A. I think that's right.

2.2

- Q. Okay. And as you point out, if you actually were trying to figure out exactly how things operated, you would need to take into account evaporation. But there's no specific accounting for the evaporation here. In other words, you don't take some evaporation numbers and put those in this part of the model either?
- A. No, there's no explicit accounting of that. Whatever that is is built into whatever they chose to release from the reservoir.
- Q. Right. Understood. Okay. And then I need to ask, even though I feel a little uncomfortable about this because it refers to a deposition of Mr. Hayes -- and, of course, I've not seen that deposition, and that probably is the clearest understanding of exactly what was said here.

You say here, in the middle of the page,
"Even under 75-CFS bypass, the reservoir would have
achieved substantially more storage than was found to
be adequate to meet irrigation demands during the
reduced capacity period from 1978 to 1999."

```
1
              Now, as I interpret that, there was a
    discussion during Mr. Hayes' deposition of whether or
 2
   not the local ranchers were able to get along with the
 3
    water that they had during that reduced period.
 4
    that correct?
 5
              Or -- I mean, I find it sort of somewhat
 6
 7
   difficult, to be honest, to know exactly what that
   means. And, as I say, the best thing would probably be
 8
    the deposition itself. But what did Mr. Hayes say then
 9
10
    that you're using as part of your testimony here?
              Well, I don't recall the exact words either.
11
         Α.
    But the sense of it was everybody was fine before the
12
13
    enlargement.
                  It seems to me that came up in several
14
   points. The first commissioner was appointed in 2001.
              Why is that? We didn't need one before that.
15
    Were you adequately supplied before 2001? The answer
16
    is in the affirmative.
17
18
              So, again, I can't quote the exact language,
   but the clear statement that I took from the deposition
19
    was, we didn't have a water supply problem prior to
20
21
    2001.
          And that would apply to this period when the
2.2
    reservoir was not filled to its capacity for whatever
23
    reasons, suggesting, I think, pretty strongly, that
24
    whatever that storage was, it was adequate to get the
    job done.
25
```

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2.2

Q. Okay. Thanks. If you turn to the top of page 12, you have a statement here which is, "Because a storage right is inherently based on future use, there can be no immediate injury to that right due to diversions by upstream juniors. Only if the storage right subsequently fails to fill will an impact from such diversion be realized."

And the reason I want to focus on this for a second is I could imagine situations where that could be an issue. And it also seems to run counter to what my, sort of, automatic lay assumption would be, which is that if you have a reservoir that hasn't filled and it looks like it might not fill at a time when you were making decisions regarding what you should plant, that that would actually have an impact on it even if later in the year the reservoir actually fills.

A. I think the key phrase in your question is "if you thought it wouldn't fill." And regulation of reservoir rights are inherently imprecise in that way, because let's pause and look at the opposite extreme where monstrous snowpack -- clearly that reservoir is going to fill before the demand season arrives.

Yes, it is senior to some upstream right, but it would be senseless to deprive that upstream right of its use simply because the reservoir wasn't filled.

And on paper it's the senior right that isn't satisfied yet, so you better fill it up.

2.2

Α.

Right.

So a regulator faced with that situation has to make that difficult decision of, well, are they going to fill or aren't they? And I think we heard Mr. Tyrrell describe a situation where he denied a call expecting it to fill in the case of inland lakes. And he was sweating bullets as we got down to the last day of the month and it just barely filled. And he was exonerated.

But that's an inherently difficult situation to know whether to honor the call, is the terminology used in Wyoming, based on whether it's going to fill or not, with everyone understanding that if it does fill, then it would have been injurious to those junior users unnecessarily to cut them off to fill sooner.

- Q. So I understand entirely the point that if you know there's going to be -- you know there's going to be water to fill, and so the question is simply amount of timing; that just because there's a junior who is using some water early in the season doesn't mean you're injured if, nonetheless, you're going to fill up and you'll have all the water that you need?
 - Q. But I want to make sure you're not saying

```
if -- and let's ignore for a moment the question of the
   bypass. Okay? -- that if you have a reservoir that is
2
   right now running much lower than it has in the past in
3
   terms of its filling up and doesn't look like it's
4
   going to get much better based on what you know in
5
   terms of snowpack and the like and there's some juniors
6
   upstream who are taking water, that that wouldn't be --
7
   that that couldn't be a potential injury because it
8
   would influence how much water you actually think
9
   you're going to be able to rely upon.
10
```

A. If I'm understanding your question correctly, you've caused the opposite extreme where we know it's not going to fill, in which case it is in priority as per its water right starting, in a traditional water year context, October 1, and anybody junior to that right would and should be regulated for that right.

11

12

13

14

15

16

17

18

19

20

21

2.2

23

24

25

- Q. What about something in the middle, where it's, but we don't know about the future right now, you're going to be making some planning decisions?
- A. Well, that puts a challenge to the regulatory authority as to how they perceive that to go forward. Now, in some cases we heard a lot of talk in this about, say, the North Platte system. In that case, the parties have all sat down and developed a forecasting procedure. So they have all bought into the notion of

```
if da-da-da-da on February 1, then we will accept
    that it's a situation meriting regulation.
 2
              Now, subsequent months may prove them right
 3
    or wrong, but they have all agreed at the outset that
 4
    these are the criteria we will use to make that very
 5
   difficult decision of are we going to fill or not? So
 6
    I don't know that there's a solution to that.
 7
                                                   It's a
    case-specific and situation-specific decision.
 8
 9
              Okay. So that's helpful. And let me again
10
    just clarify and make sure you're not saying something
    totally different. You're not saying that people
11
    that -- farmers and ranchers, water users, don't have
12
13
    to make decisions early in -- or at some point in a
14
    water season prior to the reservoirs filling about what
15
    they might need to plant?
              Oh, so what decisions flow from that
16
         Α.
    anticipation or whether they are going to fill or not,
17
18
    yeah, that again depends on the particular situation.
    The reason that the program is set up as it is on this
19
    North Platte example that I've given you is to honor
20
21
    the fact that planting decisions, seed ordering,
2.2
    fertilizer, the whole summer's irrigation program can
23
    depend critically on what the anticipated water supply
24
    is.
              But that, too, is case specific.
25
                                                Alfalfa
```

```
farmers typically have a great deal more flexibility in
   how they manage their water supply than, say, say sugar
2
   beet farmer. Beets are a very labor- and chemical- and
3
   seed-intensive crop that needs to fully irrigated to
4
   make any money at all. So one would not want to plant
5
   sugar beets unless they were sure they had a water
6
7
   supply. An alfalfa operation has more flexibility in
   that it can suffer the impact of a less-than-ideal
8
9
   water supply.
10
              So it depends entirely on what the irrigation
   operation is being served consists of as to how
11
   critical those decisions are and what the timeline for
12
13
   making those decisions is.
14
              Okay.
                    Thanks. Okay. Then the next section
         Ο.
15
    is with respect to Montana's direct-flow demands.
    think I have only two sets of -- I think I have one set
16
   of questions here. The questions all deal with the
17
    issue of return flows. And so let me just go through
18
    them. And some of them, again, are just clarification.
19
              So at the top of page 20 you're talking about
20
21
   Mr. Book's methodology. And as I understand what --
2.2
   your description of it, it assumes that 4 percent
   returns in that particular month of that diversion,
23
    96 percent returns later. And that's spread out over
24
   basically a two-year -- slightly longer than two-year
25
```

```
1
   period of time. And if you look over that entire
   two-year period of time and differentiate between the
2
   May-to-September period and the October-to-April
3
   period, 55 percent falls, in one or another year, into
4
   the May-to-September period?
5
                   Outside --
              No.
         Α.
6
7
         Q.
              Outside the May-to-September period?
              Yes. Otherwise you said that exactly right.
8
         Α.
9
         Ο.
              Okay. Okay. And in your analysis, and in
10
   the one analysis you have on page 21, as you discussed
   with Mr. Draper yesterday, you assumed that everything
11
   returns in the same month as the diversion; is that
12
13
   correct?
14
         Α.
              Yes.
15
         Ο.
              Yeah. And there -- to your knowledge,
    there's never been a study that has suggested that that
16
    is, in fact, the case; right?
17
              On the Tongue River, you mean?
18
         Α.
              Yeah, in the Montana area of the Tongue
19
         Ο.
            Is there a study that says --
20
   River.
21
              I'm aware of no specific studies of the
2.2
    timing of return flows. Perhaps with the exception of
    that interesting story Mr. Muggli described for us
23
   where the return flows were very large and very rapid.
24
              Now, I offered in this report a -- what I
25
```

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```
called a reality check in the sense of let's look at
   the winter flows, and we can, by that method, see how
2
   much would be lagged into the winter because we can put
3
   a finger on it. So that's probably as close as I can
4
   come to a quantitative analysis of whether that
5
   actually happens or not, which is why I attempted it
6
7
   here in the report.
              Right. No, I understand that. I followed
8
9
   that whole analysis that you have at the top of
10
   page 21.
              But now yesterday, when you were talking to
11
   Mr. Draper about the analysis, if I remember, one of
12
13
   the things you brought up was the oxbow characters of a
14
   lot of the land.
15
              And is the importance of the oxbow simply the
   fact that distances to the river at any particular
16
   point are closer? Or if there is something more than
17
   that or different than that, could you explain again
18
   why it's important that the land's on oxbows?
19
         Α.
              Okay. The argument is purely geometric.
20
                                                         The
   so-called Glover or AWAS -- it goes by various
21
2.2
   different names, Jenkins, Schroeder; one sees different
   names attached to it from different authors'
23
   technique -- they are all the same basically, which is
24
   that the river is straight and the well is at a point
25
```

distance from that.

2.2

And the way Mr. Brown modeled it was using that conventional program. And instead of a well, he would have the field would sit here; the center of the field would be considered an injection point; and then we would run the numbers to see how long it takes water to get from that injection point to this river.

Now, obviously, if this river is wrapped around that point, it gets there much more quickly.

- Q. So basically, if I can think about it, if you have a straight line here and the side of it, then you might have one sort of directly perpendicular line that you can measure. But to the degree the water runs in different directions, it takes longer to get to the river. But if you're in oxbow, then you have a lot more short distances to which you can travel?
 - A. Yeah, that's fair.
- Q. Okay. And you also said -- if I remember correctly, you also talked about your assumption of one month being reasonable because of the fact that -- and then you started talking about the actual -- I thought the actual amount of the return flow that was likely to occur. And I'm afraid that I didn't follow that portion of your testimony clearly.
 - A. I'm happy to take another go through that.

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```
1
              And it varies somewhat on what exactly it is
    that the Book model is intended to represent. So maybe
 2.
    it's helpful to picture the situation in 1950 when the
 3
    diversions were being made more commonly by open
 4
    ditches and fairly inefficient systems. And we've
 5
   heard a lot about the improvements and efficiency that
 6
 7
   have occurred over the years.
              So that's the model that the Book numbers are
 8
   built around, is relatively inefficient diversions.
 9
    think I threw out the number 30 percent, 25 percent
10
    being the difference between what the Book model
11
    diverts from the river and how much is actually used up
12
13
    at the crop. Now that difference has to get lagged
14
   back into the river. As the efficiency increases, we
    simply take that much less -- the crop demand stays the
15
    same; we take that much less out of the river.
16
              So my point is that taking less out of the
17
    river is the same thing as taking the old amount out of
18
19
    the river but giving it back immediately so that I --
    that isn't working?
20
21
         Ο.
              Still. It might be impossible to actually
2.2
    explain it to me in a way I understand, but you might
23
    want to try.
              Let's make it one ditch, one field. So the
24
         Α.
    river is running down. I take a hundred units out of
25
```

```
the river and it runs down the ditch onto the field.
   The crop uses up 50 units. That leaves me 50 of return
2
   flow, which has to make its way back to the river.
3
              Now, if that made its way back to the river
4
   quickly, which is kind of the way I've modeled this,
5
   the river would see that just the same as if I only
6
   took 50 out in the first place, used the 50 up, and
7
   didn't give anything back.
              So I can duplicate the effect of higher
9
10
   efficiency by simply taking the extra water, giving it
   right back to the river as though it had never been
11
   diverted.
12
13
         Q.
              Okay. I now --
14
              Think of it from the river's point view in a
         Α.
15
   mass balance.
16
         Q.
              Okay. I understand that point now.
              So let me also ask: Going back to page 20
17
   for a moment, you also mention, that last paragraph or
18
    the last full paragraph, the last line you say, "In
19
    light of other research on the Tongue, including Book's
20
21
   own work in Wyoming, " and it wasn't clear to me -- I
2.2
   didn't see any reference -- by what you mean by Book's
23
   own work in Wyoming.
              Well, if you'll recall --
24
         Α.
              Are you talking about his work in this
25
         Q.
```

```
particular case?
              Oh, yeah. For his expert report where he
2
   then looked at the return flows from his post-'50
3
   storage, and he assigned those a set of return flow
4
   factors in order to assess when that water became
5
   available for state line flows. So that's all I'm
   referring to here, is that in the Wyoming context,
7
   Mr. Book adopted a first month return fraction, just to
   use that first month as our indicator of, I think,
9
10
    34 percent. 30 percent it was?
11
         Q.
              That's --
12
              Yeah, 30 percent.
         Α.
13
         O.
              Okay.
              And I was simply noting the difference
14
         Α.
15
   between that and the 4 percent that was used in
   Montana.
16
              Okay. I noticed that the GeoResearch
17
         Ο.
   modeling that you refer to at the very beginning of the
18
19
   paragraph also assigns a higher return flow in Wyoming
20
   than in Montana. So I guess my question is --
21
         Α.
              Right.
                      Why is that?
2.2
                   I think I sort of understand the reason.
23
   But do you have any reason to believe that, in fact,
   Wyoming and Montana have the same return flow rates?
24
              No, I don't think I was holding him to being
25
         Α.
```

```
the same. My notion here was not 4. So whether the
   correct number is 35, 40, 50, it's over here.
2
   that's the basis of my suggesting that we can see, just
3
   from that stark contrast, that the 4 percent is quite
4
   stingy.
5
              So your concern with the numbers was not that
         Ο.
6
7
   Mr. Book used higher number for Wyoming, but simply
   that you believed that the ratio between those two
   suggests that Montana is too low?
9
10
         Α.
              Well, I guess I would express it more that in
   other apparently similar areas, return flow factors
11
   much higher than that are routinely applied, including
12
13
   being applied by Mr. Book in an area that is not hugely
14
   dissimilar. So correct number, we would have reason to
15
   believe, is somewhere in the 35, 40, 50 range rather
   than the 4.
16
              Maybe that's the same thing you just said,
17
   but the point is the contrast between, is 4 the right
18
19
   number? I'm suggesting we know that 4 is not the right
   number by its comparison to numbers that have been used
20
   elsewhere.
21
2.2
              Okay. Let's turn, then, to the next section
23
   of your expert report, which deals with the
   CBM-Associated Ground Water Development. And as you
24
```

pointed out yesterday, if you use the BLM model and

```
factor in the amount of groundwater that is produced
    from CBM wells that finds its way back into the river
 2
    system, obviously the questions that you address at
 3
   pages 27 through 31 are quite relevant.
 4
              And so -- and yet I find this is one of the
 5
    areas where it's hard for me to figure out exactly what
 6
 7
    to do with the data. So let me actually just sort of
    walk through a variety of questions.
              The first one is with respect to Figure 10.
 9
    And a variety of people have talked about the reduction
10
    in the amount of CBM production which has occurred in
11
    Wyoming and, to some degree, in Montana, during the
12
13
    last, say, 15 years with things peaking in the 2000s
14
    and beginning to come down. And so, you know, I don't
15
    find that particularly controversial. One of the
    things you have here is a sort of parallel peaks a
16
    couple of years apart, which is interesting.
17
18
              My question is did you do any type of
    analysis as to why this happens? Or why -- let me
19
    rephrase that. Why this has happened?
20
21
         Α.
              No.
                   What?
                          The peakiness of it or
2.2
    displacement?
23
         Q.
              Well, the peakiness of it.
              Well, it's the nature of the resource.
24
         Α.
    decreases the pressure in the coal, coalbed methane
25
```

```
1
    seam, and that begins the production of natural gas.
    And that production is most pronounced when the
 2
   pressure is first relieved.
 3
              So let's look at a pop bottle. When you
 4
    first pop the cap off, it fizzes like crazy, and the
 5
    fizz rapidly declines. That's what you're seeing here.
 6
              So back to my question. Did you do an
 7
         Q.
    analysis of why these particular figures occur in the
 8
    way they do? Because, you know, there are other
 9
    factors that presumably could be relevant here, such as
10
    price of natural gas, regulation. And so my only
11
    question is, really -- because I can speculate also as
12
13
    to why there's some particular peakiness -- is did you
14
    do any analysis of that or was this just the numbers?
15
         Α.
              These are just the numbers. The fact that
    the peaks seem to be similar within the various basins
16
    suggest that all of those factors tend to affect
17
18
   production in similar ways. But you're absolutely
    right. The price of natural gas particularly and
19
    probably will drive these things lower quicker than,
20
21
    say, some of these more early developed basins like the
2.2
    Little Powder, which was not facing that desperate
    competition from other natural gas.
23
              So, no, there's no dissection of these.
24
                                                       What
    I thought was useful was the historical parallels that
25
```

```
we see, which are almost obviously coupled with the
   production characteristics of the resource itself, this
2.
   tendency to have a rush that then declines, so the life
 3
   of a CBM well is not long.
4
5
              Right. Right. Okay. That's helpful.
         Ο.
   of the things -- and counsel can point this out to me
6
7
   if there's actual figures out there. But my guess is
   there are figures here and there; I just need to pull
9
   them together.
10
              As to poor CBM production, during the years
   in question, the percentage methods of disposal,
11
    looking at all the various different types categories,
12
13
    is there anything in your report that I can look at and
14
   say, okay, you know, you do have a figure of -- I think
15
   it's here -- 10 percent of the produced water -- or the
   BLM assumes that 10 percent of the produced water would
16
   be injected. But I don't see any figure to say, well,
17
   this amount was reinjected, and this amount was put
18
   into reservoirs that were lined, and this percentage
19
   was put in reservoirs that were not lined.
20
21
              So I guess my first question -- and I think
2.2
   I've been pretty careful. I assume there's no chart
23
    that shows that in your testimony. I'm not suggesting
   that there's any other testimony that gives me that.
24
              You are absolutely right. There is no such
25
         Α.
```

l | chart in my materials.

2.2

- Q. Okay. And is that because you didn't try to put together that or because you just can't get the data?
 - A. No to the former. We tried to put that together. It's a very difficult thing to assemble in a coherent place. The records are in different locations within the DEQ and the State Engineer agencies. No one is explicitly tracking the infiltration rates.

The linings are put in in response to problems, is my understanding. They aren't required, so there isn't a big list of lined reservoirs and unlined reservoirs. One could potentially develop that by looking at individual permits and perhaps looking at the as-built diagrams of those for thousands and thousands of these.

There have been attempts made by the DEQ office in Sheridan to develop some pie charts of just what you're talking about, this percent and this percent. And then, of course, it changes, not just year to year, but almost day to day.

So, yes, we attempted to put our finger on what it is. That's a very large undertaking compounded if you were to say what it was in past years. So those data just are not readily available in any kind of a

```
coherent form. Theoretically, it could be done, but even DEQ internally has been unable to come up with much.
```

2.2

- Q. So that I'm clear: And the fact that I don't find that type of information on -- in any of the reports suggested to me that either the data was really hard to get or no one really liked the numbers and so no one wanted to actually report what the numbers were.
- A. No, we looked for that, and I suspect others have also. And the conclusion was that if you were going to develop such a chart, you would really be starting from scratch, as in one by one by one assembling it.
- Q. And so just so that I understand: So Wyoming DEQ, it might have records as to when something is lined and when something is not lined, but it would probably be in association with an individual permit; it's not as if people actually keep track of those numbers?
- A. That's correct. And the injection portion, for example, is handled under the Underground Injection Control program, UIC, which is a whole separate bunch of folks within the Department of Environmental Quality. So it's also fractured within the agency.
 - Q. Okay. So then let me ask a number of

```
questions on page 29. So here's where you start
    talking about a variety of personal communications.
 2
                                                          So
    you had personal communications with Jason Thomas
 3
    regarding what WDEQ means by an impoundment designed to
 4
    fully contain effluent. So who is Mr. Thomas?
 5
              In my notes I can tell you his exact title
         Α.
 6
 7
    and phone number, and those notes were shared with
   Montana in discovery.
              He's one of the DEO project managers that
 9
10
    permits these impoundments. Because all of the
    discharges of CBM water are considered outfalls,
11
    whether they're to a stream or to an impoundment, you
12
13
    have to have some sort of permit through DEQ and the
14
    WIPDES program. That's the agency or the program with
15
    which Mr. Thomas is associated. So he was the logical
    one to ask, what do you guys mean when you write this
16
    must be a full containment impoundment? And Mr. Thomas
17
    shared with me their definition of fully containment --
18
19
    full containment.
20
              Okay. And one of the things that it's a
         Ο.
    little bit hard for me to sort of fully evaluate here,
21
2.2
    is, so what data are we actually talking about here?
23
    So does WDEQ keep a list of some types of impoundments?
    It doesn't keep apparently track of what you told me a
24
    moment ago as to whether or not impoundments are lined,
25
```

```
but it separates impoundments into other types of
   categories where it does keep data?
2.
              Your testimony is that Mr. Book misunderstood
 3
   what DEQ said, but that suggests that DEQ gave some
4
    type of data. And I haven't seen what that is.
5
              Okay. Mr. Larson.
         Α.
6
7
         Q.
              I'm sorry. Mr. Larson.
              And sorry. Mr. Book.
8
              Okay. In the backup materials supplied by
9
10
   Mr. Larson in the report were spreadsheets that he
   obtained from Wyoming Department of Environmental
11
   Quality. On those spreadsheets, impoundments were
12
13
    identified as full containment or not. And he assumed,
14
   as far as we can tell -- and I think that was explored
   in deposition -- based on no more than those words in
15
    that spreadsheet, assumed "full containment" means no
16
    infiltration. That's the assumption that I've
17
18
   convinced myself was just unwarranted. It just doesn't
19
   mean that.
20
              And that's because Mr. Thomas --
         Ο.
21
        Α.
             Mr. Thomas told me, so I have seen that in --
2.2
   well, in their permit documents. In retrospect, more
   of those should have been brought forward.
23
   expectation was that when that obvious terminological
24
   ambiguity was brought to Mr. Larson's attention, that
25
```

```
it would have carried the day. So I didn't go to great
   pains to bring in documentation of this fact, nor was
 2.
   Mr. Thomas identified as a witness in the case.
 3
    assume that decision flowed from that same expectation.
 4
              Okay. And who is Kathy Shreve? The bottom.
 5
         Ο.
              Kathy Shreve, if I'm remembering right, she's
         Α.
 6
 7
    one of the database -- the keepers of the database at
    DEQ. And specifically, I think we talked to her about
 8
 9
    the Underground Injection program. Again, I'd have to
10
    go to my notes to get everybody in just the right
    place. But we worked with Kathy Shreve on other
11
    projects related to DEQ discharge permits and
12
13
    specifically the Understanding Injection Control
14
   program.
              Okay. And how did she determine that
15
         Ο.
    80 percent of operators used impoundments?
16
              Their databases aren't in very good shape.
17
         Α.
    And the one that Mr. Larson -- was delivered to
18
    Mr. Larson was not in very good shape in terms of
19
    clear, consistent presentations. They do maintain
20
21
    lists of whether the water is a discharge to the
2.2
    surface or whether it goes into an impoundment.
    she extracted from her database the number of
23
    80 percent goes into an impoundment of some sort.
24
                     And then it says "most of which were
25
         Q.
              Okay.
```

1 | not lined."

4

5

6

7

8

9

10

11

12

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14

15

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17

18

- 2 A. That would have been her representation to 3 me.
 - Q. But that's not according to you and the database?
 - A. She may have said that just from her experience with the individual files rather than it being in the database. That information exists in file drawers, individual files by permit. When I talk about the database is how much of that has been extracted into some kind of a comprehensive database. It's not an entirely pretty situation.
 - Q. And what about -- who is Don Fischer?
 - A. Don Fischer is an employee of Department of Environmental Quality in Sheridan, who, if I'm remembering correctly, has some ancillary role in the permitting and monitoring of the compliance with their discharge permits.

Permitting is done out of Cheyenne office.

Some of these programs and compliance is monitored from the Sheridan office. So he was the gentlemen that I understood to have on-site familiarity with the nature of these impoundments. So just another source within DEQ that had been suggested to me as somebody who had real experience with how these things look on the

ground. And what was the basis of his opinion in 2 90 percent of the impoundment water infiltrates? 3 Just his own observations working with the 4 I didn't probe as to why he thought 90. And I 5 think he offered 90 as a large number, nearly 100 percent. He would not have said 90 as in the 7 difference between 85 and 95. I was eliciting from him a qualitative assessment of what he thought was 9 probably going on with these impoundments. 10 But let's understand that all of these 11 conversations with DEQ, they were clear, and it's 12 13 consistent with their permitting representations, they 14 don't track the percent of the infiltration. 15 Ο. Right. Well, I'm asking them, what do you think? 16 You've been out there looking at these things and 17 18 working with these guys for years and years. your sense of it? And that's where something like the 19 90 percent comes from. 20 21 Ο. But he had not done any study of infiltration, had he? 2.2 Well, he had not done any focused document 23 study of infiltration. He had -- like Mr. Schroeder, 24 he had looked at a lot of these ponds and just 25

```
generally observed their characteristics, and this is
   the conclusion that that experience brought him to.
2
              But, no, it was not done in any formal
 3
   documented way like the study we saw from Mr. Wheaton,
4
   for example. That was one of the few where somebody
5
   has actually gone out and tried to put a number to it.
7
         Q.
              And I hate to sort of harp on this, but, you
   know, I can understand somebody perhaps having an
8
   estimate of the amount of impoundments that were lined,
9
   okay, the question we were dealing with a moment ago.
10
   But this is the amount of water that actually
11
    infiltrates. And so, again, he hasn't done a actual
12
13
   study of infiltration, had he, to your knowledge?
14
              Well, in my mind, there would be a spectrum
15
   of if I had a pond that I saw a fair amount of water
   going into, the pond never seemed to fill up, I would
16
   conclude that there was massive infiltration from that
17
   pond. Now, that wouldn't qualify as a study or
18
   something documented or -- but it would be a reasonable
19
    interpretation of what one saw.
20
              So I am not uncomfortable, absent of a
21
2.2
   carefully designed study and a well-populated database,
23
   from drawing upon the resources that are available to
   me to try get a handle on what this number is.
24
              And I readily concede, as I said earlier in
25
```

```
the testimony, it's not a very well-constrained number.
   So we try and get the best estimate that we can based
2
   on the permitting requirements, which do not include
3
   anything intended to inhibit infiltration.
4
5
         Q.
              Okay.
              And then the best we can do is to interview
         Α.
6
7
   those who have had opportunity to observe the water
   balance, the actual actions of these facilities.
              Yeah. And as I understand, just to be fair
9
10
   to you on this, you don't use the 90 percent figure, do
11
   you?
12
         Α.
              No.
13
         Ο.
              No.
                   You use the range between the
14
    43 percent, which, as I understand it, is taking the
15
   original BLM percentages, their assumed percentages,
   and then -- let me just ask on that.
16
              What did you actually vary there in order to
17
18
   get the 43 percent?
19
              That was done simply by proportioning the
         Α.
   anticipated disposition of CBM water in that particular
20
   scenario at a something like -- I think I may have
21
2.2
   remembered this differently yesterday, but we ought to
   look it up if it mattered -- but 45 percent for a
23
   discharge, 35 percent infiltration impoundment,
24
   10 percent containment impoundments, 10 percent
25
```

Table 4-3 of 2002. injection. And you're actually pretty good in terms of 2 remembering the numbers. It's actually on page 10 of 3 4 Exhibit M10. Okay. So then I just -- both Mr. Larson and 5 Α. I came to the same conclusion, the correct one, I hope, 6 7 that there had been nowhere near that percentage of direct discharge to the surface. And that had been a controversial aspect of CBM development since the 9 10 get-go. He took the -- what is the number for surface 11 12 discharge? 13 Well, so -- and this is where it's sort of 14 relevant. So the way in which the -- and I'd be happy to hand this to you and you can look at it. Let me 15 read it for the record. 16 So for the upper Tongue River, the water 17 handling methods were -- it originally assumed 18 19 35 percent surface discharge, 45 into infiltration impoundments, 10 percent into containment impoundments, 20 21 0 percent on land application, and then 10 percent in 2.2 injection. So I'll hand you the table if you want to take a look. 23 24 Α. Okay. That's --So my question is simply, when you then took 25 Q.

```
that table and modified it to get the 43 percent
    recharge rates, what numbers did you change?
 2
              I simply took the 35 percent surface
 3
         Α.
    discharge, which we agree was 0. Now, what Mr. Book --
 4
   Mr. Larson, rather, did was to take the 33 percent
 5
    total that we see over here in Column 10 of Table 4-3
 6
 7
    in the 2002 BLM report 33. That's we started.
                                                    The
    35 percent of surface discharge didn't happen.
 8
    simply threw it away like it went into the atmosphere
 9
10
    or something.
              I thought that was inappropriate. They must
11
    have done something with that water. So I simply
12
13
    redistributed it proportionately among the remaining
14
    options -- infiltration impoundment, containment
    impoundment, and injection -- and let the numbers flow
15
    through. And that turns the 33 into a 43. So I was
16
    trying to do as little -- compromising whatever input
17
18
    there was behind that table by simply reproportioning
    this one piece in the same proportions they had
19
20
    projected.
              Now, I think we need bear in mind that the
21
2.2
    authors of these reports didn't have perfect data to
    work with either. So somehow their percentages acquire
23
    a gravity that's really no greater than some of the
24
    numbers that we've come up with. We don't know what
25
```

```
all they had behind that. But in 2002, that was all entirely speculative.

O. No, right. And so I appreciate -- or
```

- understand what you were trying to do here. And I just wanted to make sure I understood exactly what numbers you had changed for purposes of getting the 43 percent. So you've answered that question.
- So you used 43 percent at one end of your range, and then 60 percent of the other end of your range is from the -- is it AECOM?
- 11 A. AECOM.

- 12 Q. From the 2009 study. So I understand how you 13 developed your range.
 - I also understand, you know, Mr. Larson's argument and a variety of the other testimony that's in here. The only thing that concerns me, and the reason I was really focusing on that 90 percent figure, is that there's this relatively careful material, and then there are a lot of other numbers sort of thrown in here. And one of them is that 90 percent figure.
- And, again, you don't know how he came up with that 90 percent number?
 - A. Just from his experience. He was simply integrating his observations over the years. My interest in putting it in was, as we were talking about

```
the return flows factors, let's gather up all the
    information we can and see if it's consistent.
 2.
              Now, in my mind, had Mr. Fischer said, oh,
 3
    there's none of that leaks at all, I would have been
 4
    somewhat more leery of those numbers in the 50,
 5
    60 percent range.
 6
              Now, the fact that he said 90 percent and
 7
   Mr. Schroeder tells us how very few of these are lined,
 8
    I think that's all ancillary evidence that is
 9
    supportive of the kinds of numbers that we see coming
10
    out of more careful studies, like the AECOM work.
11
              So I offer that simply as corroborative
12
13
    background information.
1.4
              Okay.
         Ο.
15
              Not as dispositive by any means.
              And I appreciate why you say you're providing
16
         Ο.
    these numbers. But number one, it strikes me there's a
17
    difference between, on the one hand, lining and, on the
18
    other hand, infiltration.
19
              So, again, I have to ask, with respect to
20
21
    Mr. Fischer, do you know how many reservoirs he had
2.2
    even looked at over time to see exactly how much water
    was being lost out of them?
23
              I do not.
2.4
         Α.
```

25

Q.

Okay. And to your knowledge he didn't do any

infiltration study? Infiltration studies of --2 Yeah, study to see actually how much water 3 Ο. gets out of one of these reservoirs. 4 And that does happen less often than we might 5 like, and some of those are quoted in the report here, 6 like the one that Mr. Wheaton testified to. I didn't 7 quote him. But the -- say, his partner's study, the AECOM studies that saw the mounding under the 9 reservoirs. We do have data that are quoted in the 10 report where the effects of infiltration were, in fact, 11 documented on specific reservoirs. 12 13 But if you're suggesting that there might 14 be -- ideally would be every reservoir has a set of 15 monitoring that might be associated with it, that might be nice, but it doesn't happen. So we have the data 16 that we have. And I think it all points us towards a 17 range, as I identified it here, now 43. I don't 18 believe that needs to be 43.00. Somewhere in the 19 40-to-60 range would be an appropriate way to address 20 21 the modeling in the absence of a detailed study of each 2.2 piece. As I think I indicated in my direct 23 24 testimony, from a sensitivity point of view, this factor looms large. And we're, one, engaged in a 25

```
longer study. It would be a very obvious one where the
   modeling would say, this is an important factor that's
 2
   poorly constrained; we need to constrain it. And that
 3
    wasn't done for these studies.
 4
              And I'm sorry. You mentioned -- was it a
 5
         Ο.
    Wheaton study a moment ago?
 6
 7
         Α.
              Referring to the John Wheaton study we saw
    through the testimony.
 8
 9
         Q.
              Okay.
10
         Α.
              I neglected to put that in as a reference.
                     Thanks. This is a mistake. You
11
         Q.
              Okay.
    actually give me more time, and I ask questions.
12
13
              MR. KASTE:
                          I would prefer at the end of the
14
    case you understood what you were doing.
15
              SPECIAL MASTER: You know, I've not resisted
    asking a question that I thought was important.
16
                                                      And
    it's valuable, particularly with both yours and
17
   Mr. Book's testimony where, again, there's a wealth of
18
    data, to have the opportunity to ask a few more
19
    questions. But I've kept the court reporter longer
20
21
    than I would normally do.
              So why don't we take a ten-minute break.
2.2
    I have probably about 10 or 15 minutes of questions
23
    left. And after that we will finish up.
2.4
                        (Recess taken 10:00 to 10:13
25
```

1 a.m., December 4, 2013) BY SPECIAL MASTER: 2. Okay. So before we leave CBM, I have two 3 Ο. other questions. The first one deals with Figure 11 4 and includes the direct discharges. Yes, Figure 11, 5 which is at Wyoming 43062. 6 7 Α. Okay. And I just have two small questions here. 8 as I understand it, the months of direct discharge that 9 you take into account in your final table are the 10 discharges for the months of May and September of 2004? 11 12 Α. Yes. 13 Q. And so two questions. First of all, are the 14 numbers indicated here, are these amounts that were 15 permitted for those periods, or are these actual measure discharges reported back to DEQ? 16 The latter. These are the -- the operator 17 Α. reports to DEO under these discharge permits. 18 19 Okay. And the second question is these were Ο. discharges that took place for the whole month. 20 21 basically you get to 12:01 a.m. -- I'm a little bit 2.2 exaggerating here -- but you turn on your discharges on 23 May 1st and then on May 30th you turn it off, since these are CFS. 24 I'd have to go back to my original 25 Α. Yeah.

```
database.
               I may have converted those from acre-feet.
   I'm not remembering what the actual reporting
2
   requirements are. These are going through a meter, and
 3
   they're simply reading the meter like an odometer on
4
   the first of the month every month and sending the data
5
   in.
6
7
              So, again, I'd have to go back and look at
   the form in which I received those. But my expectation
8
   is that those were in some volume for the month, 'cause
9
   that's how those permits are written. And I've
10
   converted them to CFS.
11
              So you think you started with acre-feet,
12
13
   converted to CFS, and then converted back to acre-feet?
14
    'Cause that's what you report at the end.
15
              Oh, at the end. Yeah, we'd have to go back
   and track through that. My memory of the reporting
16
   I've done under WIPDES permits has been volumetric.
17
              I have no idea whether it's going to be
18
   relevant, but if you could check your notes at some
19
   point and let me know?
20
21
         Α.
              So our question is whether the native format
2.2
   of those was average CFS or acre-feet?
              Acre-feet. And if it was CFS, whether there
23
         Ο.
24
   was a time period or --
```

25

Α.

Well, it would have been an average CFS for

- the month. I mean, the -- there's no possibility that it's a CFS as of, you know, an instant in time. 2 That wouldn't make any sense from a permitting point of 3 view. 4 5
 - Yeah, okay. Q.

8

9

10

11

12

13

14

15

16

17

18

19

- Unless they said at noon on the 4th of each Α. 6 7 month.
 - If you could just report back as to exactly Ο. what the data said for those two, that would be useful.
 - And then the other question on the Okay. CBM-associated groundwater production is paragraph 4 that's at the bottom of page 30 and the top of page 31, and if Mr. Kaste took you through that portion of your expert testimony, then I must have drifted away for a second because I don't recall it.
 - Α. Let me catch up. Where are we?
 - Bottom of page 30 and top of page 31 in a Ο. section which reads, "The BLM model used by Larson ignores a portion of the CBM-associated groundwater production in Montana."
- 21 And I ask about this only because it's short, 2.2 but I didn't understand it.
- 23 I think -- I suspect Mr. Kaste skipped through it because it isn't a critical point. So let 24 me attempt to -- what I was getting at there was simply 25

```
to point out that the BLM model didn't include all of
   the potential CBM -- all of the CBM production in
2.
   Montana. So there's this small faction of CBM
 3
   production not included in the model.
4
5
              To me, that's symptomatic of the larger sense
   in which the model really wasn't attempting to gather
6
7
   up every CBM well in that corner of the basin, and it
   would make a tiny difference if they had.
              Okay. Okay. That's helpful. That actually
9
10
   does help me understand that section. Okay.
              The only other thing then I want to talk
11
   about is Table 6 on page 33, in which you summarize the
12
   various adjustments that Mr. Fritz makes and then that
13
14
   you make to the Fritz-adjusted Book numbers. So why
15
   don't I start out with the question that you looked at
   overnight, which is the import returns.
16
              And the question was whether or not those
17
   return flows were during the nonirrigation season.
18
19
              And it was a very good question. And I can
         Α.
   report success, I think, in tracking it down and would
20
21
   offer the following corrections to this report as a
2.2
   result.
             May I just walk through those?
23
         Ο.
              Yeah.
              I think it would be -- and we can talk about
2.4
         Α.
         But I think it would be appropriate to delete
25
   why.
```

Matrix D on page 33. There's A, B, C, and D. Right. And the only change on D is the 2 Ο. import returns? 3 Α. Let's just strike D. 4 Q. Okay. 5 On the previous page, the bottom paragraph Α. 6 discusses Table 6d, and that paragraph should just be 7 struck as well. 9 Q. Okay. 10 Α. The last full paragraph on page 32 and on page 31, going backwards on you, the paragraph labeled 11 No. 2 similarly should simply be struck. 12 The reason for that -- for those deletions is 13 14 precisely as the question suggested, that in the fairly complex series of calculations and assumptions between 15 Mr. Book and Mr. Fritz and when that came time for me 16 to take the handoff, I misunderstood, miscommunicated 17 with Mr. Fritz in terms of just when those Kearney Lake 18 depletions hit the stream. 19 20 So consistent with the way I've handled the 21 post-'50 storage, the Wagner-Fivemile, those Kearney Lake return flows should have been zeroed out as well, 2.2 which is what was done on Matrix C on page 33 and then 23 the discussion on page 32 addressing itself to 24

Section C.

```
1
              So we're just backing up the addition I had
   made incorrectly to accommodate the Kearney Lake return
2.
    flows.
 3
         Ο.
              Thereby eliminating Mr. Kaste's opportunity
4
    to demand water back from Montana?
5
              MR. KASTE:
                          It was a demand for payment of
6
7
   beer, and I'm very disappointed by that.
              MR. WECHSLER: I'll still buy you a beer.
8
              SPECIAL MASTER: So let me -- so that
9
    actually eliminated some of the questions I had.
10
                                                       So I
    think I only have two other questions.
11
    BY SPECIAL MASTER:
12
              So first of all, in Table C, as I understand
13
14
    it, the changes that you've made there are, again, the
15
    takeout of post-1950 storage and the Wagner-Fivemile
    for the reasons that you discussed yesterday; and then
16
    on the evaporation side, what you did there was that
17
    you removed the portion of the evaporation depletion
18
19
    that occurred outside of the irrigation season; is that
20
    correct?
21
         Α.
              That's correct.
2.2
         Q.
              Okay.
23
              And that's why it's a relatively small
         Α.
   number.
2.4
                      So I think that answers my question.
25
         Q.
              Right.
```

```
1
   So you removed it, then, for the period, again,
   October 1 through the end of April; is that --
2.
              That's correct.
 3
         Α.
         Ο.
              Okay. And the way in which you did that
 4
   was -- how did you calculate the amount you needed to
5
   remove?
6
7
         Α.
              I just took that right off Mr. Book's
   evaporation tables and surface areas. Those are listed
8
   as monthly values. I just threw away the winter
9
10
   months.
              Okay. That's what I thought. And then the
11
         Q.
   second question is we talked about that minus 30 that
12
13
   you have under CBM effects for 2004. And, again,
   that's reflecting the direct discharges for May and
14
15
   September that we were talking about a moment ago; is
   that correct?
16
              That's correct.
17
         Α.
              And so let me ask the question, and then you
18
         Ο.
   can help me on this. So if I ultimately were to
19
20
   conclude -- more importantly if the Supreme Court
   ultimately concluded that, in fact, that there is
21
    insufficient evidence here under the CBM model to
2.2
   conclude that, in fact, that there was water that was
23
   produced to the injury of Montana, my question is
24
   whether or not there is any statistical reason why you
25
```

would then also say, oh, in addition to that, by the way, for 2004, we're going to take this additional minus 30 off.

And the reason I ask that is that if you take the table that was in Dr. Schreüder's testimony -- and here, I can actually hand you the page. So this is page 19 of Dr. Schreüder's testimony. And this is basically the table at which he looks at various assumptions as to what the return flow was, and he looks at what Mr. Larson assumed 25 percent and he looked at the 43 percent.

A. 45 percent.

2.2

Q. 45 percent, sorry, and 60 percent. If I remember what he says there, is that, you know, some of these numbers are negative. You know, if you take some of -- particularly Mr. Larson's, they are positive; but they are all within the actual amount of water, which gets lost in the model anyway, which is 100 acre-feet.

And so, you know, particularly, for example, if you take your 45 percent numbers for 2004, and you add in 30, you're still within that sort of margin -- what I think of in that particular context, sort of margin of error.

So what's the justification statistically for saying, oh, we're going to take this into account

differently? Well, I think you could apply the same 2 Α. general question to any of these depletions if they are 3 all plus or minus, which they certainly are, what is on 4 the threshold of significance? I didn't look at it 5 that way, rather tried to find the numbers as closely 6 as we can where we can isolate them. 7 So I think the correct way to think of the 8 CBM direct discharge is as though it were a pipeline 9 from some other source. 10 So the Larson/Dr. Schreüder discussion, the 11 BLM 2002 model that they used, has this fuzziness to it 12 that leads to Dr. Schreüder's identification of 13 14 indistinguishable from zero. So that's the best we could do with that source of water. 15 Now, separate from that, we have this 16 discretely measured input that we do know the answer 17 to. So I see it as a separate issue, in a sense. 18 Here's a pipe that's coming out of the hill and it's 19 flowing water and it's reported monthly by its 20 21 operator. So I know that number quite precisely. 2.2 So I'm simply not extending that envelope of uncertainty associated with the groundwater discharge 23 to this discrete surface water discharge which we do 24

know precisely.

- 1 Q. But in this particular case, the reason why the CBM groundwater is relevant is because it's return 2. flow from the amount that's pumped out. And if I 3 understand what Dr. Schreüder is saying there, it could 4 be 100, one way or the other?
 - Well, the piece that he's saying could go a Α. hundred one way or another is the groundwater input to the river.
 - O. Yeah.

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

2.2

23

24

- That could be this or that. Who knows? Α. Не didn't say anything about the surface water input into the river, which neither he nor Larson addressed. And we have precise data on that through the operators.
- So, again, I'm just not tarring the discrete number that we do know with some precision with the same brush that applies to this groundwater base flow that's coming into the Tongue River simply because they happen to both be associated with CBM.
 - Right, right, right. Ο.
- See them as two separate issues. And we're Α. trying to be as precise as we can with each piece of the puzzle.
- Okay. I understand what you're saying. me just ask it a different way. The original model included estimates of direct flow back into the river

1 system? Α. Yes, it did. 2 Okay. But you've now taken that out and 3 Ο. said, well, we know this number. And, therefore -- and 4 we know this number, and I think you'd probably add in, 5 we know this number, and it's going directly back into 6 7 the river. So there's no sort of modeling that's needed on that aspect. That's exactly right. That number is 9 10 independent of the modeling and any of the assumptions and the uncertainties and storage coefficients and 11 layering. All of that is the uncertainty associated 12 13 with the groundwater input or depletion of the Tongue 14 River. This number, which is the direct surface 15 discharge, is simply water that was viewed out of the 16 ground and put into the perennial stream. And we know 17 18 it precisely. 19 So I see those as two quite different elements, like the numbers that have been generated for 20 21 the impact of post-'50 irrigation, for example. 2.2 There's another element that has an error bar associated with it certainly. And we bring it through 23 2.4 as best we can. Okay. But -- and so I think I understand 25 Q.

```
your point entirely. But just so I'm also clear, it
   was part of the original -- there was an estimate of
2.
   the direct discharge as part of the original CBM model?
 3
              The matrix that we were looking at a moment
4
   ago had a number for that. Now, how that translated
5
   through to the Tongue River, I don't recall. I didn't
6
7
   track that. And it would have been quite speculative.
              So how, ultimately, the 2002 BLM model
8
   handled the direct discharge, I don't remember the --
9
   as Dr. Schreüder testified -- I think he was absolutely
10
   right -- the focus of that model was impacts on ground
11
   water levels and quality of discharge.
12
13
              So when I was reviewing that model when it
14
   first came out, there just was no concern about what it
15
   was saying in terms of augmentation or depletion of
   flows of the Tongue River. So it had an element of
16
   surface discharge. Where it routed that, I don't
17
   recall.
18
19
         Ο.
              Okay.
                     Thanks.
              SPECIAL MASTER: I think, then, those are all
20
21
   of my questions.
2.2
              So Mr. Draper, do you want, like, two
23
   minutes -- or I guess first question is: Do you have
24
   any more questions?
              MR. DRAPER: As you assumed, Your Honor, I do
25
```

BERN HINCKLEY - December 4, 2013 Recross-Examination by Mr. Draper

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have a few. A couple minutes would be helpful.
              SPECIAL MASTER:
                              Okay. That would be great.
 2
                         (Discussion held off the
 3
                        record.)
 4
 5
              SPECIAL MASTER: Okay. Mr. Draper.
              MR. DRAPER: Thank you, Your Honor.
 6
 7
                      RECROSS-EXAMINATION
    BY MR. DRAPER:
 8
              Good morning, Mr. Hinckley.
 9
         Ο.
10
         Α.
              Good morning.
              You were talking with the Special Master
11
         Ο.
    about Table 6 on page 33 of your report, which is
12
    Exhibit W3.
13
14
         Α.
              Okay.
              Now, you've asked that Table D -- or the
15
         Ο.
    section of Table 6 that is labeled D be removed from
16
    your exhibit; is that right?
17
              That's correct.
18
         Α.
19
              And so your final figures as to the effects
         Ο.
20
    of the activities that you recognized in Wyoming as
21
    affecting Montana pre-'50 rights are the ones that are
2.2
    then at the bottom of Part C of your Table 6; is that
23
    right?
              Yeah. I would just add one small
2.4
         Α.
    qualification. Those would be the impacts to flows
25
```

entering the state of Montana. There's still some issue, as I outlined in the text, between how those 2 would relate to contemporaneous direct-flow demand 3 deficits in Montana. 4 5 So I'm with you to the extent this is my best estimate of what happened in Wyoming. What the impacts 6 7 on Montana were is ambiguous by virtue of the absence of any seasonal differentiation. So in going from Part D to Part C of your 9 Table 6 for your final conclusions for this 10 11 information, you've changed a set of negative numbers to a set of positive numbers; correct? 12 13 Α. That's correct. 14 And a positive number means a positive effect O. 15 on state line flows? Means a depletion, a decrease in the flows 16 Α. entering the state of Montana. 17 18 And to put it in more layman's language, that means instead of your final conclusion being that 19 you've provided more water to Montana than it deserves 20 21 under the compact, there's actually these figures that 2.2 show that, with an opposite sign, that there was, in 23 your opinion, some depletions of flows at the state line? 2.4

25

Α.

I think I've been told I'm not allowed to

BERN HINCKLEY - December 4, 2013 Recross-Examination by Mr. Draper

1 opine on what is deserved under the compact.

- Q. Very good.
- A. But the sign of the small impact of Wyoming post-'50 activity has changed, in my opinion, from the small negative to the small positive.
 - Q. And in Table 6C, you've discussed the CBM effects in the last line that show up as a negative 30 acre-feet in 2004; correct?
 - A. Yes.

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- 10 Q. And that's effluent water, isn't it?
- 11 A. That's discharge water. "Effluent" would be 12 another name for it, yeah.
 - Q. So that has whatever water quality degradation that occurs in the CBM process associated with it; isn't that right?
 - A. My understanding of that point is it's coming out of a water treatment plant. So, yes, to your question, with the understanding that there's a lot goes on between it coming out of the ground and it going into the river.
 - Q. Turning back a couple pages in your report, at the bottom of page 30, you have a section labeled with the number 4 that the Special Master asked you about where you say, "The BLM model used by Larson ignores a portion of the CBM-associated groundwater

production in Montana." 2 First of all, why should Mr. Larson have included CBM pumping in Montana in his analysis? 3 I didn't offer .4 as a criticism of 4 Mr. Larson's work; I offered it as an observation on 5 the expansiveness of the BLM model upon which he 6 7 depended. Isn't it true that he removed the wells that 8 were already in the model in the state of Montana? 9 He offered a dissection of the Montana 10 Α. portion of the CBM production from the Wyoming portion 11 of the CBM production. In this case, the Montana piece 12 13 that he was dealing with was slightly less than the 14 whole Montana piece. 15 Ο. And wouldn't you agree it was appropriate to remove CBM pumping in Montana from an analysis of the 16 effects of Wyoming pumping on the Tongue River? 17 18 Α. It was. 19 Ο. So this is, as you say -- as you've 20 clarified, this is not a criticism of Mr. Larson? I think this is more a comment on the 21 Α. No. 2.2 model which he used. And I suppose collaterally that would be a criticism of his, dependent on that model. 23 But it's certainly a very fine point. 24

25

Q.

But the fact he made that change is not a

problem as far as you're concerned?

- Α. His numbers would have come out in tiny ways 2 different had he had a model that included those. 3 you'll recall, there was some discussion of what the 4 impact of Montana depletions were on Wyoming and how 5 that's calculated in terms of how the substraction was 6 made. Dr. Schreüder went through that. 7
- So, again, we're talking some very fine 8 But it would have made a small numerical 9 difference to Mr. Larson's use of the model had it 10 included these. 11
- And you have not made an analysis of any such 12 Ο. 13 difference?
 - Δ I have not.

1.4

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2.0

- Ο. Now, you in your references to return flows and the different methodologies used by you and Mr. Book with regard to the rapidity of returns to the stream, you discussed the testimony of Mr. Muggli -isn't that right? -- where he had done an ad hoc test with his diversion?
- Yeah. I think we all heard that tale. 21 Α. 2.2 it was relevant to the question the Special Master 23 asked me, and that's where that came in.
- And isn't it very possible that increases 24 Ο. that he saw in flow was simply discharge of bank

storage?

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- A. You would have to go back and see the details as he presented them. I don't know.
 - Q. If it were just a release of bank storage, that wouldn't say anything about return flows from water applied to crops, would it?
 - A. Well, it would in the sense that the bank is the aquifer in which the crops are being watered. So one could use the release of bank storage as a way to get at local transitivities, for example. So the two are not unrelated.
- Q. But they're certainly not necessarily connected?
 - A. "They" being the return flow from the irrigated fields and the bank storage?
- 16 O. Yes.
- A. Yes, they are related. That bank, whatever you want to call the bank, is part of the material through which those return flows have to pass.
- Q. So your point was if it was bank storage,
 that that had some implication for the rapidity of the
 return flows of fields that were at some other
 locations?
- A. I'm suggesting that bank storage could provide one some information that would be relevant to

```
the issue of the transitivity of the aguifer.
    whether there was any bank storage involved in that
 2
    experiment or not, I certainly don't recall him saying
 3
    anything about the stage of the river. One might be
 4
    able to back that out of the records knowing the dates
 5
    or something.
 6
 7
              SPECIAL MASTER: Mr. Draper, before you go on
    to another question, just so I'm sure I understood the
 8
 9
    last exchange, could you just explain what bank storage
10
    is?
11
              THE WITNESS:
                            Sure.
                                   The -- as the stage of a
    river -- which means the elevation of water surface --
12
13
    as it rises, then it's able to push water out into its
14
    banks. So in a sense there's a groundwater reservoir
15
    that goes along the river. And as the river level
16
    drops, that water is going to, you know, relax back
    into the stream.
17
              So bank storage, it can be a large issue in a
18
19
    river where the stage is changing dramatically. And
    the adjacent aquifer is quite permeable and quite
20
21
    large. You can store a fair amount of water off to the
2.2
    sides, if you will. And as the water drops back down,
23
    it will drain in. So it goes back and forth, in and
24
    out of bank storage with the stage of river.
25
              SPECIAL MASTER:
                               Okay.
                                      Thank you.
```

BY MR. DRAPER: Mr. Hinckley, the Master queried you about 2 Ο. the people that you had spoken to at the water quality 3 department with regard the degree of infiltration from 4 CBM; correct? 5 Α. Yes. 6 7 Q. I'd like to show you again the Exhibit M564 that we discussed briefly yesterday. 8 MR. KASTE: I think this is outside the scope 9 10 of your examination to which he is supposed to be 11 responding. If we're going to go back through all the 12 junk we went through yesterday on cross-examination, 13 we're never going to get done here. 14 SPECIAL MASTER: So there hasn't actually 15 been a question yet. And I'll confess, I forgot exactly what the exhibit discusses. So... 16 MR. DRAPER: Let me just address that. 17 18 SPECIAL MASTER: Let's just hear the question, and I'll permit at least one. 19 20 BY MR. DRAPER: 21 0. So the Special Master asked you about the 2.2 people you contacted at the WDEQ with respect to the 23 part of your report on infiltration of CBM returns; isn't that right? 24

That's correct.

25

Α.

1 Q. Okay. And he also queried you with respect to the existence of studies of that infiltration, 2 didn't he? 3 Α. He did. 4 And looking at M564, which we identified 5 Ο. yesterday on the record, if you turn to page 6-22, this 6 federally sponsored study, just below the middle of the 7 page below those bullets, actually reports on such a 8 9 study, doesn't it? 10 Α. You want me to read this page? 11 Q. That particular paragraph, yes, please. SPECIAL MASTER: Yeah, because I know 12 13 Mr. Kaste is going to object right now. 14 You know, although I'm actually fascinated by 15 what's inside of that, at the moment I don't think the foundation has been laid. I don't think we're likely 16 to do it. So the document is not going to come in. 17 18 I certainly think you can ask him whether or not he's aware, you know, whether -- I think you can 19 ask him, for example, whether or not he contacted other 20 21 organizations. I think you could ask, you know, what 2.2 type of research he actually did to try to find out the information. But I don't think we can get this 23 document into the evidence by asking him direct 24

questions about it.

```
1
              MR. DRAPER: Well, it's simply a
    cross-examination exhibit, Your Honor, addressing the
 2
    care with which the witness investigated the
 3
    information available to support his claim that there
 4
    were large amounts of infiltration.
 5
              MR. KASTE: And I think this was asked and
 6
 7
    answered yesterday. We're replowing the same ground
 8
   here.
              SPECIAL MASTER: And, again, what I want to
 9
10
    try to avoid is testimony about the contents of this
    document itself. And so I'm perfectly happy to have a
11
    couple of questions, 'cause I don't think it's going to
12
13
    take very long, about what Mr. Hinckley's investigation
14
    was. But, unfortunately, we can't go into the details
    of this document.
15
16
              MR. DRAPER: Okay. Thank you very much, Your
   Honor. I will keep that in mind.
17
18
   BY MR. DRAPER:
19
              Mr. Hinckley, this indicates that there was
         Ο.
    some federal investigation that went into a handbook
20
21
    that was prepared for the federal government; isn't
2.2
    that right?
23
              I have no idea. Is there something that
         Α.
24
    leads you to that conclusion?
              Just the front cover.
25
         Q.
```

do a search that located this study; isn't that right?

- A. You want me to read what it says?

 Q. No, thank you. My question is: You did not
 - A. That's correct.
 - Q. And this study did include materials specifically relevant to the geographical area that we're talking about here; is that right?
 - A. Did it? I don't know that. If you'd like me to read something in it, I could do so.
- 10 Q. No, I don't think that's necessary.
- MR. DRAPER: I think that's all the questions
- 12 | I'll need to ask him on that, Your Honor.
- 13 | SPECIAL MASTER: Okay. Thank you,
- 14 | Mr. Draper.

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- 15 BY MR. DRAPER:
- Q. Another area you discussed with the Special
 Master was the fact that there had been conversion, to
 a certain extent at any rate, to sprinkler systems from
 gravity-flood irrigation in the Tongue River Basin in
- 20 | Montana; correct?
- 21 A. Yes.
- Q. And that to the extent that that had taken place, it was a justification for assuming more rapid returns to the stream from irrigation; is that right?
 - A. Yeah, I'd characterize it as that having more

```
1 rapid returns produces a similar hydrologic effect as
2 an explicit accommodation of the change in efficiency.
```

- Q. And doesn't that rest upon the assumption that you have, in effect, reduced the diversions in Montana?
- A. Yes. Efficiency defined as the difference between the ratio of diversions to crop needs. I'm assuming as efficiency goes up, crop needs stay the same, diversion goes down, just from the algebra.
- Q. First of all, as a formal matter, the water right has not been reduced in terms of what's possible and legal to divert; correct?
 - A. I think that is correct.

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- Q. And as long as the -- I think we heard from the Master and the Court on this. As long as the diversion amount is not exceeded, that conversion can be made; correct?
- A. As far as I know. I don't mean to interpret Montana water law, but that seems sensible. And I don't believe I've represented the water rights have been changed to accommodate the changing efficiencies.
 - Q. And whether the conversion to sprinklers results in less diversions is not something you know as a general matter; isn't that right?
 - A. Reduced relative to previous diversions or

```
relative to water rights?
              Relative to previous diversions.
2
              I have made no study of that. That certainly
 3
         Α.
   would be our expectation and one of the reasons that a
4
   farmer would convert to a sprinkler.
5
              But the amount of return flows and,
6
         Ο.
7
   therefore, their timing would not necessarily change
   because of that, would it?
              Oh, I think the timing and volume of return
9
   flows will change as a result of converting from
10
11
   gravity to sprinkler, yes.
12
              But to the extent that water is actually
13
   diverted, it will necessarily either be used by the
14
   crop or returned to the stream; isn't that right?
15
        Α.
              Yes.
16
        0.
              Okay.
              MR. DRAPER: If I could have just one second,
17
   Your Honor.
18
19
              SPECIAL MASTER: You certainly may,
   Mr. Draper.
20
21
              MR. DRAPER: That will do it. Thank you very
2.2
   much, Your Honor.
23
              SPECIAL MASTER: Okay. Thank you.
              Mr. Kaste.
24
25
```

1 REDIRECT EXAMINATION BY MR. KASTE: 2. I'll be brief. First of all, with regard to 3 Ο. the study you were just talking about with Mr. Draper, 4 did Mr. Larson cite that study in his report? 5 Not that I'm aware of. Α. 6 7 Q. Huh, okay. Now, this is the thing I got right. Let's look at Figure 5a. Now, you were 8 actually talking with the Special Master about this in 9 the course of the narrative portion of your report. 10 And I think it was very confusing when you talked about 11 the historic reservoir releases, and I think the way 12 13 your testimony came across is that your figures here 14 include both the releases from storage and the direct 15 flow. And I want to clear that up. When we look at these figures, do they 16 include in that May 1-through-September 30th period 17 just the releases from storage, or do they include 18 19 releases from storage and direct-flow diversions, in a sense dropping the reservoir more than one would 20 21 anticipate? 2.2

A. Well, your question is correct. I may have made a bit of a hash of that. There are several things going on here. The figures are, as labeled, Tongue River Reservoir modeled monthly contents. So what the

23

24

1 figure reflects is the change in the volume of the 2 vessel.

2.2

- Q. And is the same true for the piece of text you were discussing with the Special Master when you talked about historic releases from storage?
- A. So the piece of text is found at the top of page 11, end of the first paragraph. The sentence reads, "These results indicate that the reservoir would have been entirely drained in 2004, 2005, 2006 had a 175 CFS winter bypass been coupled with historical releases of storage."

The statement is correct as written. And the discussion we had, I'm afraid I was addressing a related issue of how we handled the model over the irrigation period. And the point I was trying to make was that we no longer adjusted the rate of storage after May 1, as previous to that we had set it at 75 or 50 or 175 CFS depending on the scenario.

Once we hit May 1 we had no way of distinguishing releases for the downstream senior rights represented by the stock rights, but rather we recognize the possibility that releases -- or bypasses of natural flow might have been made in response to downstream irrigation demands which we didn't have any way to quantify.

```
1
              So my point was that starting May 1, we let
   the historical operations of the reservoir rule rather
2.
   than holding it to the constraints that we had imposed
 3
   on it from October to the end of April.
4
              So, again, I didn't say that very well the
5
   first time through. But the point is that we no longer
6
   constrained how the reservoir was operated relative to
7
   its historical operation starting May 1. So bypasses
   were made as bypasses historically were made. Releases
9
   were made as releases historically were made.
10
              And what you're looking at during the period
11
         Q.
   of irrigation season, both in the text and your
12
13
   figures, is the change in the storage contents of the
14
   reservoir, and that gets you to your starting point for
15
   the next winter season to which you then apply that,
   depending on which figure we look at, the
16
   particularized bypass to see what effect that would
17
   have on the changing content; right?
18
19
         Α.
              That's correct.
              MR. KASTE: Did that make sense to you?
20
                                                        Do
21
   you understand?
2.2
              SPECIAL MASTER: It makes sense to me.
23
   now I'm actually confused as to why you thought I was
   confused.
2.4
                          'Cause I am certain that he said
25
              MR. KASTE:
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```
on the stand that those numbers on the downslope, as
   water is coming out, included both the storage and
2
   direct flow, which would lead to a dramatic drop in the
 3
   graph which is unwarranted. And I hoped that -- or I
4
   thought that that was confusing when I heard it.
5
   it sounded completely backwards of the way I thought it
6
7
   was.
              And I just want to make sure that that is
8
   clear, that those charts are reflective of change in
9
10
   storage contents, and then that that change is limited
   to over the course of the winter season, the bypasses
11
    that he modeled, and the irrigation season the actual
12
13
   change in content.
14
              SPECIAL MASTER: Let me see if I can
15
   understand then. When you talk about the historical
   releases of storage from the reservoir, in the sentence
16
   on page 11, what you're talking about is -- for
17
   example, in a given month, if you have the reservoir
18
    level drop from X feet to Y feet, the amount of storage
19
   that would have been in that slice of the reservoir is
20
21
   what you mean by the historical release?
              THE WITNESS: Yes.
2.2
                                  The word "release" and
23
    "bypass" and "outflow" tend to get confused.
   outflow is all the water that comes out the bottom of
24
   the reservoir; release to be that portion of the
25
```

```
outflow that came from decreasing the storage; and then
   bypass being the portion of the outflow that came
2
   through the reservoir from up above.
 3
              SPECIAL MASTER:
                               Right.
4
              THE WITNESS: What I've done is tried to
5
   honor the historical imminution and contents of the
6
   reservoir for each summer month.
7
              SPECIAL MASTER: But let me put it
8
   differently. If you -- there's two different
9
10
   numbers -- and, again, I do think it's useful to make
   sure we're talking about exactly the right numbers.
11
              One number is the actual releases from the
12
13
   reservoir which you could measure from, you know, the
14
   gauge. The second would be looking at what the change
   in elevation of the reservoir is and what that means
15
   about how much water -- how much less water is actually
16
   stored in the reservoir now than was last month.
17
              What I understand you're saying is that when
18
   you refer to the historical releases of storage, what
19
   you're talking about is the latter figure rather than
20
   the former?
21
2.2
              THE WITNESS: Now I'm lost between your
23
   former and -- one more time.
24
              MR. KASTE:
                          The answer is yes, Bern.
                                                     Just
          I think you can figure this out if you look at
25
   yes.
```

```
the label on your figures which talks about modeled
   monthly contents.
2
   BY MR. KASTE:
 3
              Is that a fair way to hone in on this as to
4
   what you're describing?
5
              Right. I think these are correctly labeled
         Α.
6
7
   that we honored the historical change in contents.
              SPECIAL MASTER: Okay. So this is -- again,
8
9
   this is helpful to see whether or not it is ultimately
10
   relevant.
11
              MR. KASTE: See why I thought it was
   confusing?
12
13
              SPECIAL MASTER: Yeah.
                                      But on this
14
   particular point, one of the reasons I went into it is
15
   because it didn't specifically refer to the table here.
   So, again, when you say historical release of storage,
16
   you're talking about the change in the contents of the
17
   reservoir, not simply the total amount of water flowing
18
   out the northern end of the reservoir?
19
20
                            That's right.
              THE WITNESS:
21
              SPECIAL MASTER: Okay. Okay. And, again,
2.2
   what you're saying here is that if you use the 175-CFS
23
   winter bypass for that October 1-to-April 30 measure
   and then you use the historical releases of storage,
24
   then the reservoir goes dry in those years.
25
```

```
1
              THE WITNESS:
                            Yes.
                                  The point of the
    sentence, beyond the numerics, was simply that the
 2
    175-CFS nominal winter bypass requirement could not
 3
   have been met in these years. Obviously, it was not
 4
   met in these years, demonstrating to us that it is, in
 5
    fact, a somewhat discretionary aspect of reservoir
 6
 7
   management.
              SPECIAL MASTER: Right. And when you say
 8
 9
   dry, you mean even the Northern Cheyenne Tribe's water
10
    would disappear in those years?
              THE WITNESS: Yeah. There was no distinction
11
   here between the tribes, and I think 5c should show
12
13
    that as the 175-CFS bypass hits rock bottom.
14
              SPECIAL MASTER: Understood. Okay. Thanks.
15
   BY MR. KASTE:
16
         Ο.
              All right. One more thing. I'd like you to
    look at page 32 of your report. Now, you explained to
17
    all of us why it makes sense to eliminate -- I'm
18
    calling it the D portion of the information conveyed on
19
    page 33 -- in light of the timing of those import
20
21
    returns from Kearney Lake. And so you have a positive
2.2
    number down at the bottom of C; right?
23
         Α.
              Correct.
              So what I'd like to do is have you look at
24
         Ο.
    the second-to-last paragraph, the one preceding the
25
```

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last paragraph that you said should be removed as well.
   And it says -- I'll read it maybe, 'cause I can go
2
   slower. "At such small flows" -- is that a reference
 3
   back to your Table C?
4
              Yes, it is, and the CFS equivalents that
5
         Α.
    immediately precede the paragraph you're looking at.
6
7
         Q.
              So as you're talking about Table 6c, I guess
   is the right way to describe it, then your report says,
8
    "The practical benefit to a pre-1950 appropriation in
9
   Montana, if a call for priority regulation were to have
10
   taken place, cannot be determined without investigation
11
   of the specifics of such a call; e.g., date, location,
12
13
   conveyance losses, travel time, et cetera."
              Did I read that right?
14
15
        Α.
              Yes.
              And is that true? Is the fact that we have
16
         Ο.
    these little numbers here at the end of the day, does
17
    that really mean anything in terms of knowing that
18
   somebody somewhere in Montana got injured by these few
19
20
   minor activities in Wyoming? Have we made that
   connection?
21
2.2
                   I think the closest we've come is to say
23
   here are depletions to state line flows during the
   irrigation season, May 1 to September 30th. So there's
24
   no more connection to specific activities in Montana
25
```

1 | than that.

2

3

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- Q. And these values that you have in Table 6C carry through the problem, and I think Mr. Fritz identified with Mr. Book's report, was that they're annual values, except to the extent you've reduced evaporation for the irrigation season; is that right?
- 7 A. Yeah, but I think with my adjustments these 8 are seasonal values.
 - Q. They're not tied to the particularized call dates, are they?
- 11 A. No.
- Q. So these numbers are wrong? As a matter of fact, they're wrong?
 - MR. DRAPER: Your Honor, Mr. Kaste has been asking a series of very leading questions here where the witness is just called upon to answer yes or no to his long soliloquies, and I object to that form of the question.
- 19 BY MR. KASTE:
- Q. I'll change my questions from "These numbers are wrong, aren't they?" to "Are these numbers wrong?"
- A. The statement I presented to address that is the last paragraph above the conversion CFS, the Book estimates included in Table 6, 6C with the
- 25 understanding that they're likely overstated. So it

```
seems to me unlikely that there would be an exact
correspondence between these seasonal totals and a
direct-flow demand deficit in Montana. And certainly
that difference is going to be in the direction of
these being too large.
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- Q. Mr. Draper used the phrase with you in discussing the results on Table 6C as this is your best estimate of what depletions occurred from Wyoming, got down to Montana. And we've heard a lot of different numbers in this case.
- Do you have confidence in any of them that they reflect the reality of the situation?
- A. Well, any of us could refine these numbers endlessly. So there's an error bound on any of these. And there are large assumptions and measurement errors of various sizes associated with these numbers. So all I can tell you is -- we know they're wrong because I'm -- I'm doing my best to field. The real numbers are almost certainly different from the specific numbers.
- Q. As per usual, I didn't understand most of what you said. Was the answer to my question no?
 - A. Tell me the question again.
- Q. Do you have confidence in any of the numbers you've heard during the course of this case that

```
represent the reality of the situation?
              They don't precisely represent the reality of
 2
         Α.
    the situation.
 3
              MR. KASTE: I don't have any further
 4
 5
    questions.
              SPECIAL MASTER: Okay. Mr. Hinckley, you are
 6
    free to step down from the stand. And it looks like
 7
   your normal seat is still over there.
              So, Mr. Kaste.
 9
10
              MR. KASTE: Yes, sir.
              SPECIAL MASTER: Does the defense rest at
11
    this point?
12
13
              MR. KASTE: The defense rests.
14
              SPECIAL MASTER: Okay. Thank you. So what I
15
    would suggest is we take a break and then come back.
    As I say, any closing argument that either side would
16
    like to make would be welcome at that point. And it
17
18
    looks to me as if we'll have enough time, certainly
    this afternoon -- and I'll make sure we do -- to talk
19
20
    about the next steps.
21
              So, again, thank you very much. And we will
2.2
   be back in -- we can even take a 15-minute break right
23
   now.
                        (Recess taken 11:11 to 11:29
24
                        a.m., December 4, 2013)
25
```

```
1
              SPECIAL MASTER: Everybody can be seated.
              MR. KASTE: You asked Mr. Hinckley a
2
3
   question --
4
              SPECIAL MASTER: Oh, that's correct.
5
              MR. KASTE: -- to follow up on a break, and
   he did. So with everybody's permission, Mr. Hinckley
6
7
   can report to you how values of direct discharges are
   recorded on the DEO records.
9
              SPECIAL MASTER: Okay. I appreciate that.
10
   Thank you, I was going to ask you later. So I'm glad
11
   you've gotten to it.
12
              THE WITNESS: Okay. The short answer, I
13
   called back to the office and brought up the actual
14
   spreadsheet. So the spreadsheet we received from the
15
   Wyoming Department of Environmental Quality, which was
   provided in the relied-upon documents submitted with my
16
17
   expert report, was entitled "Tonque CBM Direct
   Discharge Outfalls.xls."
18
19
              The units that were reported to us from the
20
   DEQ database was in MGD, million gallons a day. And we
21
   converted those to CFS for the Figure 11 and then on
2.2
    into acre-feet for the table.
              SPECIAL MASTER: So it does sort of raise the
23
24
   question I guess I asked earlier, which is how I sort
   of got into this to begin with -- I actually checked
25
```

```
the calculations, and they were correct -- if you
    assume that, in fact, you turn this thing on and it
 2
    just spews the stuff out 24 hours a day for that period
 3
 4
    of time.
 5
              THE WITNESS: So we started with an average
   MGD for the month, is what was reported to us as
 6
 7
    reported by the operator DEQ. We don't know whether
    that actually happened as I envisioned it:
 8
    switch, run steady, or all happened on one day. But we
 9
10
    ran the average over the month and we made the unit
    conversion from there.
11
12
              SPECIAL MASTER: Okay.
                                      Thank you.
13
              So we've come to the end of this portion of
14
    the proceedings. And as I mentioned yesterday and as
15
    we'll discuss later, there will be another opportunity,
    obviously, to argue this case in detail in the
16
    posttrial briefs. And we've had a lot of evidence.
17
    And we've had a lot of evidence on a lot of different
18
    issues. So I don't expect that, you know, in the next,
19
    say, hour of the proceedings, that we're going to be
20
21
    able to cover everything.
2.2
              But I do believe that closing arguments are
    traditional. They are -- actually, I think there's a
```

good reason for it. It's an opportunity for you to

basically summarize things when things are fresh in

23

24

```
somebody's memory. And I will start going back over
    the record before I actually get the posttrial briefs.
2.
              And so this is also an opportunity to, if
 3
   there are particular things to point out that you think
4
   I should be looking at, this is an opportunity to do
5
   that also.
6
7
              So these don't need to be long, because,
   again, you're going to have another opportunity. But I
8
    just want to make sure that both sides did have an
9
10
   opportunity to summarize things at this stage. And in
   addition to that, if there are particular things you'd
11
   like point out to me that you think I really should
12
13
   focus on, then, you know, I'd be happy to take that
14
   guidance at this particular stage.
15
              So, Mr. Draper, I assume, by the way, that
16
   North Dakota does not plan to present any type of
17
   closing argument?
18
              MS. VERLEGER: We do not plan a closing
19
   argument.
20
              SPECIAL MASTER: Okay. Thank you.
21
              So, Mr. Draper.
2.2
              MR. DRAPER: Your Honor, we will, as I
23
   mentioned earlier, present a short closing argument.
24
   There is, as you say, quite a bit of material in the
   record at this point, and I think it will benefit from
25
```

```
the briefing and perhaps argument once you've had that,
   briefed with care by the parties. But we will present
2.
   a short closing at this time. And Mr. Wechsler will do
 3
4
   that.
                                      Thank you.
5
              SPECIAL MASTER:
                               Okay.
                       CLOSING STATEMENT
6
7
              MR. WECHSLER: Thank you, Your Honor. And we
   weren't anticipating closing argument. So, like
8
   President Lincoln, who you referenced, we haven't had
9
   time to do a very short closing argument, but I'll do
10
   my best to be brief. And I'm going to focus really on
11
   the evidence in the case, which I think makes a
12
13
   compelling case that there were violations by Wyoming
14
   of the Yellowstone River Compact.
              So I'll start with what we consider to be the
15
   main elements of the claim. And that is, as you have
16
   described it, sufficient notice was provided to Wyoming
17
18
   that Montana had pre-compact rights that were going
19
   unsatisfied and that at that time, there was
   post-compact uses in Wyoming.
20
21
              So starting with the notice issue, now in
2.2
   previous rulings you've held that '04 and '06 were
23
   not -- were years where notice was no longer an issue.
   So I'll start with 1981.
2.4
              And we know that prior to this, the trial,
25
```

```
Wyoming had strenuously argued, in fact presented
    evidence in two different motions, indicating that
 2.
    there was no call prior to 2004.
 3
              After the close of discovery, after the
 4
    expert reports had been submitted by Montana, we were
 5
    then provided the documents that ultimately became
 6
    Exhibit 136, which were the notes from the discussions
 7
   between Mr. Fritz and Mr. Christopulos. And I think
 9
    those very clearly show that there were conversations,
    a series of conversations between Mr. Fritz and
10
    Mr. Christopulos, which Mr. Fritz testified to, that
11
12
    there was a call made in that year, 1981.
13
              Now, at that time Montana was told, no, we're
14
   not going to honor that call. And that, since 1981, is
15
    a position that Wyoming has maintained.
16
              It's also important to note that, despite
    Wyoming's claim that a call, a verbal call, would
17
    generate a mountain of paper, including interoffice
18
19
    memorandums, letters to the governor, correspondence
```

I think it's also telling that the -- in 1981, there was no reference in the annual compact meeting of that call whatsoever. In fact, we don't see

amongst the states, in fact, the only piece of paper

that we have that indicates there was a call in 1981

are those notes that were produced after discovery.

20

21

2.2

23

24

```
a reference until 1982. And Mr. Moy testified the
   reason we do see that in 1982 is because he
2
   specifically made a point of raising that issue.
3
              Moving through the '80s, we did see an
4
   exchange of letters between the governors, under which
5
   I think Wyoming quite clearly said that the only
6
7
   allocation under the compact is Article V.C,
   essentially, we're not recognized under the pre-compact
   protection for Montana. And, again, that is a position
9
   that Wyoming has maintained throughout this time and,
10
   in fact, up until the point of this lawsuit, we learned
11
12
   from Mr. Tyrrell and others.
13
              Moving to 1987 to 1989, we saw that
14
   throughout this period in the 1980s, Montana made
15
   significant efforts to attempt to develop a methodology
   for administering the compact. And Mr. Moy testified,
16
   who was the only one that has testified that was
17
   involved in those efforts, that the reason for that was
18
19
   Montana was concerned that it wasn't getting its share
   of water, including its pre-1950 share of water.
20
21
              And we saw that in a very early memo.
                                                      Ι
2.2
   believe it was 1982 that Mr. Moy sent to Mr. Fritz
   saying, yes, there is a basis for calling Montana's --
23
   making a call for Montana's pre-1950 rights.
24
                                                   That
   continued throughout the '80s, again, unsuccessfully,
25
```

largely because Wyoming was unwilling to recognize protection from Montana's pre-1950 rights. 2 You then get to the '87, '88, '89 period 3 where Mr. Moy, again, clearly testified that he 4 informed Wyoming officials that Montana was short of 5 water, that there were pre-1950 rights not being 6 7 satisfied in Montana, and that Wyoming had to take some action in order to make sure that water got to Montana. 9 Again, those were ignored by Wyoming. 10 know that those happened in '87, '88, and '89, as Mr. Moy testified, because they were very water short 11 12 years, and also because by 1989, there was a document 13 about the history of the compact that Mr. Moy testified 14 that he wrote that -- that at the end of the period 15 that he had been making a series of notifications to Wyoming. And, ultimately, he got so frustrated that he 16 had to step away from the Yellowstone River Compact 17 18 for, essentially, i a period of almost ten years. 19 he didn't get involved again until 2000. 20 Which takes me to the next period of notice. 21 So now moving into the early drought years of the 2.2 2000s, both Mr. Moy and Mr. Stults testified that they 23 received a series of communications with water users, including Mr. Hayes, Mr. Muggli, and others, and 24 they -- that prompted them to have discussions with 25

1 | Wyoming. And we have seen documents in the record that 2 | reflect those discussions with the irrigators.

2.2

Again, Mr. Moy and Mr. Stults clearly indicated that they informed Wyoming that they were -- that Montana was short of water to satisfy its pre-1950 rights and that they were expecting more water to be coming from Wyoming and that they both testified that they very clearly made those communications and that they believed those communications were understood by the Wyoming officials.

So what does Wyoming say? Well, essentially what we heard from the testimony of Wyoming officials -- and it sort of has evolved over this case. But what we heard from Mr. Whitaker, Mr. Fassett, and Ms. Lowry, and those three in particular, was, yes, it's true Montana told us there were shortages in Montana; they did tell us they were short of water; they did tell us there were pre-1950 rights not being satisfied in Montana, and that included the Tongue River Reservoir and the T & Y Canal, which they were aware were pre-1950 rights.

So by the end of the trial, the Wyoming position had morphed essentially into, well, you didn't make the right kind of call; you didn't ask for the right thing; while you may have told us that you had

```
pre-1950 rights that were short, you also needed to
   tell us, in a particular form, that we needed to
2.
   curtail certain rights in Wyoming.
3
              So it begs the question of, well, what's the
4
   right standard? What do we measure a call or notice
5
   by?
6
              Now, prior to the trial, you did provide some
7
   guidance on that. And my reading of those rulings is
8
   that the notice simply needed to inform Wyoming that
9
   the Montana pre-1950 rights were unsatisfied, that that
10
   notice did not need to take a particular form, be in
11
   writing, be made from any particular person.
12
13
              We also have other sources that we can look
14
   to to see what might be the standard by which we're
15
   measuring. One would be the compact. We know the
   compact was silent on the call or notification
16
   question. And so the second logical place is to look
17
   to the Yellowstone River Compact Commission.
18
19
              Now, in 1982, when Mr. Moy raised this issue,
    in fact, they identified what ought to be done.
20
                                                     And
   this is from J32, and it's a quote:
21
2.2
              "Montana voiced its concern that during
    low-flow years, Wyoming needs to regulate its post-1950
23
   water rights more carefully so that Montana can use its
24
   pre-1950 water. Montana, in turn, must notify Wyoming
25
```

that it is not able to obtain its pre-'50 water." So there was only notification, not you have 2 to curtail specific rights, not that it has to be in 3 4 writing or any of these things. 5 We can also look to the testimony of the water commissioners from Wyoming as to what do they 6 7 consider to be a call? We heard from Mr. Boyd, Mr. LoGuidice, Mr. Knapp, and Mr. Schroeder. And universally, they all testified that a call occurs when 9 10 a senior downstream user gives notice that he is short of water. Now, even by the testimony of Wyoming 11 witnesses in this case, that was done in those years, 12 13 in 1987 through 1989, the early 2000s. 14 So moving to the next element, which Okav. 15 is Montana's pre-1950 rights were unsatisfied. I first want to point out that the system in Montana is not a 16 complicated one. This is not extremely complex 17 18 plumbing that you have in Montana. You have the Tongue 19 River. At the very top of the Tongue, meaning the south end upstream in Montana, right basically at the 20 21 state line, you've got a reservoir, which is one of the 2.2 prominent features. You then have the Tongue River 23 continuing down. At the very bottom is the T & Y

irrigation canal, which is a large pre-1950 right,

second oldest on the river in Montana, and also the

24

largest direct-flow right in Montana.

2.2

And there are very few tributaries, and those tributaries rarely have water. And I'm not aware that there is really any irrigation going on in those. And, in fact, we didn't hear about any irrigation occurring in any tributary in Montana.

So the pre-1950 shortages in Montana can be divided into both storage and then direct flow. So looking first at storage, the Tongue River Reservoir was built in 1938. It filled by the mid-1940s. As Dr. Littlefield testified, the drafters of the compact were aware of the Tongue River Reservoir when they entered into the compact.

Under Montana law and practice, as testified to by Mr. Smith and others, the right was fully perfected at the time they built the reservoir, filled the reservoir, and then just offered that water for sale, which was done in 1937, and filled sometime, as I said, in the 1940s. And that, then, is the measure of the water right up to the full yield of that reservoir.

Montana's law is not unusual. Mr. Tyrrell testified that in Wyoming, a storage right is fully perfected when a reservoir is built. And so where -- in this instance, Wyoming bears the burden of showing that Montana's treatment of water rights is not

```
consistent with the doctrine of appropriation, which
   will be difficult for them to show given they do the
2.
   same thing in Montana. So the pre-1950 use --
3
              SPECIAL MASTER:
                               Did you mean Wyoming?
4
              MR. WECHSLER: Wyoming, I did.
5
                                              Thank you.
              The pre-1950 use, then, is the full annual
6
7
   yield, the capacity prior to the compact.
              It's uncontested that the Tonque River
8
9
   Reservoir did not fill in the years at issue, 2001, '2,
    '4, and '6, at least the years at issue for damages
10
   purposes.
11
12
              Now, Wyoming has concocted an argument having
13
   to do with 32,000 because that was the original number
14
   of contracts that were sold. But as we have seen from
15
   the Tongue River Water Users' Association and the
   documents that what the users contracted for was to
16
   purchase all of the water from the reservoir up to the
17
18
   firm annual yield of that reservoir. And at that time,
19
    that was considered to be 32,000 acre-feet.
20
              The -- moving then to the shortages of direct
21
   flow rights in Montana, Montana's flow rights are
2.2
   separate and distinct from the Tongue River Reservoir.
   And so it's not fair in the way that Wyoming has
23
   attempted to characterize it as saying, well, don't
24
25
   worry about the direct flow because you've got the
```

```
reservoir; both of them were short, and they shouldn't
   be equated as the same. There are 77 pre-1950
2.
   direct-flow water rights in Montana. Again, as I
 3
4
   mentioned the largest is at the bottom.
5
              Now, Montana created a demand model
   essentially to be able to aid in determining when is it
6
7
   that Montana is short? When those 77 pre-1950 water
   rights are not satisfied. And we very much stand by
    that model. And we believe that it was conservative.
9
10
              It shows that in all but three years since
   1961, there was insufficient flow to satisfy the
11
12
   direct-flow pre-1950 rights in Montana. Wyoming has
13
   essentially focused much of their case having to do
14
   with the direct-flow rights on that demand model.
15
   That's really been their target. Many of their
   arguments about return flows and contemporaneous demand
16
   are aimed at that demand model. As I said, we
17
18
   certainly stand by that. The results can be seen in
   Table 5 of Exhibit M5.
19
20
              But it's not necessary for the purposes of
21
    2001, 2002, 2004, and 2006 to rely on the demand model,
2.2
   because in this case, we have had witness after witness
   from Montana come up to the stand and indicate that in
23
24
   those years, the only two rights that were receiving
25
   water were the Nance right and part of the T & Y, not
```

even all of the T & Y; and the remainder of the pre-1950 rights -- and, again, we heard from somewhere around ten Montana irrigators -- the remainder of them were required to use stored water.

2.

2.2

So it really cannot seriously be argued that there was sufficient flow entering the state to satisfy Montana's pre-1950 rights. There were times, we've seen in the record, that the water at the state line got to as low as 11 CFS, I believe, which I think we can all agree would not even satisfy the T & Y right. And that's setting aside the other 75 pre-1950 rights in Montana.

Now, the next thing to recognize is that during those years that damages were calculated,
Montana was short essentially the whole year. Now,
there were times in the winter where Montana was not
storing, having to do with the 45,000 level. But other
than that, the reservoir did not store in the spring
fill period, which is the historic fill period for it,
the measure of its water right. And continuing after
that, the direct-flow rights were not satisfied. And
so throughout that entire period, Montana was short of
water.

We've also heard from the Montana irrigators and officials that this caused significant harm in

```
Montana.
              There were irrigators that had to shut down
    irrigation. They had to irrigate less acreage.
2.
   were less productive with the acres that they did
 3
4
   irrigate. They had to sell cattle. They had to
   acquire hay and other feed from other sources, all of
5
   which caused significant harm and financial hardship
6
   for many of the water users in Montana.
7
              And, in fact, it hit them from two ways.
8
   the one hand they had less direct flow, and on the
9
   other hand they also were reduced in the amount of
10
   storage they had available. And so they got as low as
11
   less than 50 percent of what their normal storage right
12
13
   was. And so that was very difficult for the state of
14
   Montana.
15
              Turning, then, to the post-1950 use in
             It's uncontroverted that there are a number
16
   Wyoming.
   of post-1950 reservoirs in Wyoming, and it's also
17
   unconverted that Wyoming stored water in those
18
   post-1950 reservoirs in 2001, '2, '4, and '6.
19
20
              In Wyoming, you can't access the reservoirs
21
   until the spring. And we heard from the water
2.2
   commissioners that it is routine to readjust the
   storage at the end of the filling season to make sure
23
   the senior right gets its full share of water.
24
              Now, that's all that Montana asked.
25
                                                   But
```

```
despite the fact that Wyoming did not release any of
the storage water until late June in those years -- in
other words, it was still in the reservoirs -- it did
not honor Montana's request.

Turning, then, to the post-'50 irrigation in
Wyoming, despite its claims that Wyoming has incredibly
```

tight records, it had no measuring devices on the main stem of the Tongue or on Prairie Dog Creek and, therefore, had no idea -- no way of determining how

9 therefore, had no idea -- no way of determining how 10 much water was being used.

2.2

Wyoming never regulated the lower part of the main stem of the Tongue, and only once did they regulate the Tongue at all in 2006. That was on an upper portion. They never regulated Columbus Creek, Fivemile Creek, Prairie Dog Creek, or the lower part of Big Goose Creek below the Alliance Ditch.

Most of the Wyoming witnesses testified that when there's no regulation, Wyoming users take all available water up to their full appropriations, including in those years '01, '02, '04, and '6. The irrigation season ends in September; it begins in May. And, again, we had multiple Wyoming witnesses come up here and say that, in fact, during those years, '01, '02, '04, '06, they were irrigating throughout the season. It's undisputed -- my reading of Mr. Fritz's

report, it's undisputed that there was post-1950 irrigation use in Wyoming in the years at issue.

2.2

Turning then to CBM, which is the last post-1950 impact in Wyoming, there's no dispute between the experts, Mr. Larson and Mr. Schreüder, that there is a hydrologic connection between the CBM-produced water and the surface flows. Mr. Larson utilized a BLM-created model, which was developed in order to address CBM impacts in the Powder River Basin, including the Tongue River Basin.

Wyoming would have you believe that that BLM is totally inappropriate, completely not for the purposes that it was used in this case. But based on Mr. Larson's extensive experience, including interstate proceedings and including developing MODFLOW, which is the methodology that actually went into the BLM model, Mr. Larson determined that it was appropriate for the use in this case.

Now, boiling everything down between the two experts, I think the main issue between the experts is the amount of infiltration that comes from the produced water and the impoundments.

That's kind of a squirrely issue, as we found out today. There was only one witness that came up to the stand that actually has studied that issue and

```
looked at that issue. That witness was called by
              That was Mr. Wheaton.
 2.
    Wyoming.
              Now, Mr. Wheaton testified there was almost
 3
   no infiltration to the regional groundwater aquifer
 4
 5
    from the CBM produced water.
              Turning then briefly to Wyoming's defenses,
 6
    the first one that they had raised, I believe in their
 7
   pretrial brief and elsewhere, was the interstate
    remedies question. Essentially, their argument was,
 9
    well, there's post-1950 users in Montana that were
10
    getting the direct-flow water.
11
              We heard from each of the water commissioners
12
13
    that was appointed in Montana in those years,
14
   Mr. Kepper, Mr. Gephart, Mr. Fjell. And each one of
15
    them was consistent. Those commissioners testified
16
    that they measured every diversion in Montana.
    were on the river every day. They made sure that only
17
18
    those rights that were entitled to rights received
19
    water.
20
              Contrary to Wyoming's pretrial position,
21
    those water commissioners testified that they regulated
2.2
    all water use, including direct flow. They also
23
    accounted for storage and direct flow separately.
              In the end, there really is zero evidence
24
    that there was any post-1950 user in Montana that
25
```

received direct-flow water out of priority. Really the impression that I think all that evidence gave was that it was a very effective system in Montana.

2.2

It's also not particularly surprising, given that the water users who were in Montana testified that they were aware of their water use, their water rights, their neighbors' use and rights, the storage rights, because they are all taken from the same source. And as I mentioned, the only two rights receiving water in those particular years, direct-flow water, '01, '02, '04, '06, after the spring runoff, were Mr. Nance and part of the T & Y.

The next defense that Wyoming has attempted to focus on is the issue of waste. And this has come in two forms. One, they say that the winter flows through the reservoir, as they like to call them, foregone storage opportunities, are waste. And the second is that there was waste from the direct-flow users.

I think there's no evidence of either one of those. It is noteworthy that Wyoming bears the burden of establishing waste and also, as I said, of establishing that Montana's practices were not consistent with the doctrine of appropriation.

Now, turning to the waste in the reservoir,

there were two experts in this case who were qualified and offered opinions on the operations of the Tongue 2. River Reservoir. Both of those experts, Mr. Smith and 3 Mr. Aycock, were Montana experts. Mr. Hinckley 4 expressly stated that he was not offering any opinions 5 on the operations of the Tongue River Reservoir. 6 7 Rather, he said, he was simply essentially engaging in an accounting exercise. And that's very different. And I think makes it incredibly difficult for Wyoming 9 10 to prove its burden. Mr. Smith and Mr. Aycock both testified in 11 their expert opinions that the operations of the Tongue 12 13 River Reservoir were reasonable and consistent with the 14 practices in Montana and elsewhere. They both 15 expressed expert opinion that there were multiple justifications for the winter flows through the 16 reservoir, including the historic operations of the 17 18 reservoir, which formed the water right itself, and that that water right had the fill period in the 19 spring. 20 21 The senior stock rights downstream, those 2.2 were necessary to prevent property damage from ice 23 They were necessary to prevent damage to the 24 spillway of the reservoir. They were necessary to 25 prevent ice damage -- I'm sorry -- damage to property

from flood control and also necessary to prevent damage from -- to the outlets from ice.

2.

2.2

All of those things are consistent with the doctrine of appropriation. We heard from the Wyoming witnesses that reservoirs and other diversion works in Wyoming are not required to be operated in a way that causes damage to the diversion work itself or the reservoir or to downstream property. We heard that they will operate reservoirs consistent with the water right itself.

We also heard about the practices in Wyoming. And we heard that in the Tongue River Basin, for example, there are winter flows that are essentially bypassed through the reservoir, including Park and others, and that those winter flows have never been charged against the Park Reservoir, for example.

Now, Wyoming says, well, there was never really a call made involving Park. Park never made a call. And that's not exactly true because Park called water from Cross Creek. We know that water was sent down from Cross Creek down to Park. And even when that happened, Park never once was charged for the bypasses that went through the reservoir.

Again, there was some notion that -- there was some storage rights to satisfy those winter flows.

But I think we showed that, by orders of magnitude, those are vastly insufficient to cover the winter 2. flows. 3 And so essentially what Wyoming attempts to 4 5 do is to impose a standard and a practice on Montana that it doesn't do itself in the state of Wyoming. 6 7 And, in fact, we also can see in the operating plan of the Tongue River Reservoir, which was adopted pursuant to federal law, the Northern Cheyenne Tribe Compact, by 9 an advisory committee which included the federal 10 government, that the winter flows should be 175 CFS. 11 And this 175 CFS is entirely consistent with the winter 12 13 flows, including those flows that existed at the time 14 of the compact. There is no contrary evidence. 15 Turning to Wyoming's argument that there was waste of direct flows, again, we heard from multiple 16 Montana irrigators, we heard from Montana water 17 commissioners, and none of them indicated that there 18 was any waste whatsoever. 19 20 Mr. Muggli testified that the T & Y was 21 diverting almost the entire flow of the -- was 2.2 diverting the entire flow of the river during many of the months at issue in those early 2000 years, the 2000 23 drought years, and that also there was no water coming 2.4

out the end of the T & Y.

25

Mr. Aycock reviewed the flows below the T & Y 1 and, in fact, the flows in general on the river, and in 2 his expert opinion, the Tongue River in Montana, 3 including those flows and including the way they 4 operated the reservoir, was managed very efficiently. 5 Again, there's no contrary expert opinion. 6 7 Turning to the contemporaneous demand argument from Wyoming, again, this is really directed 8 at the demand model, because it can't seriously be 9 10 argued that there wasn't contemporaneous demand from Montana in 2001, '2, '4, and '6. The T & Y was 11 receiving only a part of its water. None of the other 12 13 pre-1950 water rights were getting any water, 14 direct-flow water, and so they were forced to use 15 stored water. And, therefore, we know that they were ready, able, and willing, as Wyoming likes to say, to 16 take that water. We also know that the reservoir 17 18 didn't fill and that Montana made repeated requests for water for those reservoirs. 19 20 Next, we've heard a lot about return flows. 21 Again, I don't know that there was any Wyoming expert 2.2 that actually quantified return flows. We heard that 23 from Mr. Hinckley. There's really no expert opinions 24 to substantiate that sort of notion that they have put out there. 25

The only expert that actually reviewed the issue of whether there was -- the Tongue River in Montana is gaining or losing, the only one to directly address that issue or evaluate that issue was Mr. Dalby. And Mr. Dalby indicated and testified that the Tongue River in Montana during dry irrigation years is a slightly losing stream. And, again, there's no other expert opinion on that particular issue.

2.

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Even if there were return flows in, let's say, Mr. Book's conservative assumption, I might say, of some return flows that it's slightly gaining in the irrigation season, even if that were correct, it wouldn't get close to the amount of water necessary to satisfy the direct-flow rights in Montana. Again, we're talking about flows that were as low as 15 CFS. Extremely low in these drought years.

And, finally, the sort of overarching argument that Wyoming seems to be making is that, well, maybe there was a violation, but that violation was only small, and so let's not worry about it. There's no de minimis exception in the compact or in the case law for a violation of a compact which occurred here.

You heard from irrigators in Montana that every small amount of water counts. You heard from DNRC administrator, Mr. Tubbs, and from the attorney

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general of the State of Montana, General Fox, that this
    case is extremely important to the water users of the
 2.
    Tongue River Basin and to the state of Montana as a
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 4
    whole.
              And try as Montana might, with the various
 5
    assumptions and various incredibly, what I would
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 7
    consider, inaccurate assumptions, they still could not
   develop a final number that put them at zero.
    all the evidence in the case is that there was impact
 9
10
    from Wyoming's post-1950 use in Montana.
              SPECIAL MASTER: By the way, I think you just
11
    said, try as Montana might. I assume, again, you meant
12
13
    Wyoming there?
1.4
              MR. WECHSLER: I absolutely meant Wyoming.
15
              And for all those reasons, we would
16
    respectfully request that there be a ruling on the
17
    liability phase of this case in Montana's favor.
                                                       Thank
18
    you, Your Honor.
19
              SPECIAL MASTER: Before you actually sit
           So first of all, I'm glad we're actually doing
20
   down:
    this because this is valuable for me to hear both sides
21
2.2
    set out their cases as they see them. And your closing
23
    is, I think, an example of the value of that.
24
              Let me just mention one or two points that,
    as you think about your posttrial briefs, will be
25
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valuable. One of them is my guess is that, in connection with the filling of the reservoir, that 2. there will probably be a number of issues here, some of 3 which you've already focused on in terms of what's the 4 appropriate size of the reservoir for purposes of 5 looking at its filling. You had also mentioned the 6 7 question of the actual rights to stored water out of the reservoir. 8

And without, I think, unreasonably anticipating what one of the things Wyoming will probably talk about is that if you look at the compact itself, Article V.A of the compact provides for the protection of appropriative rights to the beneficial uses of the waters of the Yellowstone River system.

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And then if you look at the definition of "beneficial uses," it's defined to be "the use by which the water supply of a drainage basin is depleted when usefully employed by the activities of man."

And so it does raise the interesting question of when you look at the reservoir rights and I think -- although again this is something both sides are free to brief -- I don't think you can argue that it doesn't technically say anything about storage, and, therefore, storage rights are not protected. But it does raise the interesting question of when you talk about a

reservoir right, what does it protect?

2.2

And my guess is one of the things Wyoming will probably argue is that, well, initially there was only 30,000 feet being diverted from it and being used; and, therefore, really you only get protection for 30,000 feet -- is it 30,000 or 32,000? 32,000. So you really only get protection for 32,000 acre-feet of storage.

My guess is, looking at Montana's side, number one, you know, again, your claim is going to be in part that, well, under Montana water rights, you know, you perfected a right to this much storage and that's what gets protected.

But this has to be interpreted through the lens of the compact. So it raises the -- I think, the interesting question of what is the actual amount of reservoir storage that should be protected under the compact? Is it what Montana recognized as a reservoir right? Is it, as I would expect Wyoming to argue, just 32,000 acre-feet of storage?

If -- and let me just make an assumption here. We've talked sometimes about sort of like one a half fills. You know, if that were, say, the Montana rule, is it 32,000 acre-feet times 1.5? You know, it does raise that interesting question.

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So that's one of the issues that I know I'll
appreciate both sides briefing. And I think I have a
better sense of where Wyoming will come out on this
because they will argue for just 32,000 acre-feet, and,
you know, that's only the amount that was being
diverted for beneficial use.
          I have less sense of -- well, no, I guess I
do know what Montana's argument is. It's Montana's
water rights says this is what you get, and what this
is really protecting is Montana's full recognition of
reservoir right. I don't know if you wanted to say
anything about it at this point in time, but I'm just
saying I think that will be an issue.
          MR. WECHSLER: Yes, Your Honor, and I agree
that it's a complex issue, certainly one we will
address, as you indicate, in our posthearing brief.
          I will say a couple of things about that.
And the first I'll say is that it's not the first time
that the definition of beneficial use has come up in
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And the first I'll say is that it's not the first time that the definition of beneficial use has come up in this case. If you remember what Montana argued, relatively strenuously, in the first interim report and to the Court was that that had a particular definition in the compact. And that definition needed to be given a -- the meaning that the word said.

And my reading of your report and my reading

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of what the Court said is, well, it's not so different
   than what it is under the doctrine of appropriation.
2.
   So I think what you look to is the doctrine of
 3
   appropriation. We see in Wyoming, we see in Montana,
4
   that the beneficial use of a reservoir is that amount
5
   that the reservoir has fully filled to and the firm
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   yield of that reservoir.
              And so that has to be the amount of the
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   pre-1950 water right. The amount that was put to
   beneficial use was that entire firm yield of the
10
   reservoir in 1950.
11
              I would also -- I think it's unreasonable to
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   think that, you know, there's documents -- and we know
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   that Montana, as part of negotiating the compact, one
15
    thing that was incredibly important to Montana was the
   storage in Montana. And so it would be unreasonable to
16
   say that Montana would agree or even that Wyoming would
17
   demand that "Well, we know that storage is super
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19
    important to you, Montana. But even though it's really
    important, we're going to say that you've built this
20
21
   really large reservoir and you filled it, but you only
2.2
   get 32,000 acre-feet."
23
              And the last point before I stop on that
   particular issue, and the rest we'll put in the brief,
24
   is that that 32,000 contract amount, acre-feet amount
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is the amount actually delivered to the users.
    Wyoming hasn't offered any evidence whatsoever to say
 2
    what's the firm annual yield -- what does that
 3
    reservoir need to fill in order to satisfy those 32,000
 4
    acre-feet?
 5
              The evidence that we have is that they
 6
   believed that the full fill, that the reservoir needed
 7
    to be filled to its full capacity, in order to satisfy
    that 32,000 acre-feet. And that was what the water
 9
10
    users were agreeing to take.
11
              SPECIAL MASTER: Okay. Second thing that I
    assume will still come up there -- and I was reaching
12
13
    for my copy of the compact during part of your
    argument; so if I missed it let me know -- but the
14
15
    question of the Northern Cheyenne rights. From, in
   particular, Mr. Draper's cross-examination the other
16
    day, I assume part of the argument is that that water
17
    sits down at the bottom of the reservoir and that,
18
    therefore, you know, we don't have to worry about that.
19
    But I was just curious as to what Montana's argument is
20
21
    on that.
2.2
              MR. WECHSLER:
                            Well, I think part of the
    argument is certainly in this case, up until this time,
23
    there is no -- you don't get into the amount, the
24
    additional amount that was added to the reservoir in
25
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1999. And the reason that's true is you have the minimum pool that's roughly 10,000 acre-feet down at 2 the bottom of the reservoir. And there's been 3 4 testimony that Montana never stored more water than it did in any one year prior to the compact, other than 5 the first year, 1999, that it filled up essentially to 6 7 the full 79,000 postrehabilitation amount. I will point, if -- to the extent that it's 8 9 necessary to determine whether the Northern Cheyenne 10 right in the reservoir is pre-compact; in other words, comes out of Montana's share or before either state 11 takes that. 12 13 I think that Article VI really provides the 14 I know at the beginning of the case you mentioned the Arizona v. California case. Now that 15 compact, of course, has different language. And while 16

answer. I know at the beginning of the case you mentioned the Arizona v. California case. Now that compact, of course, has different language. And while I don't remember exactly the language, my recollection is it says something, nothing shall change the obligations of the federal government, words to that effect.

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This compact says nothing in this compact shall adversely impact the rights of the Northern Cheyenne Tribe. And we know that -- we've seen testimony that the Northern Cheyenne Tribe claim based on Winters Doctrine law -- I won't go into, but that it

was a pre-1900 right.

2.2

If the Northern Cheyenne tribe right has to come out of Montana's share, the way that we know the compact works is Wyoming gets its pre-'50 rights first; then Montana gets its pre-1950 rights. And there are years when the reservoir -- or there's shortages. And so Wyoming gets all of its rights and Montana might not get all of its rights.

And what that would mean for the Northern
Cheyenne Tribe, if it's construed to come out of
Montana's share, is they would be adversely affected.
They couldn't get all of their water. It would be impossible. So that would be directly at odds with the compact.

And the -- it's also true that the Northern Cheyenne Tribe and the reservoir right are commingled; and, therefore, Montana is not able to get its full storage right unless the reservoir is full. And the same is true of the Northern Cheyenne.

SPECIAL MASTER: Okay. So that's helpful.

Sort of in the back of my mind, particularly during the earlier portion of the trial, one of the things that I was a little bit concerned about was whether or not we would actually get into a situation about the Northern Cheyenne would become indispensable parties to this

case, which is something I obviously want to avoid.

2.2

But as you both talk about these issues, keep that in mind and alert me if you think at any particular point in time that's a worry. I'm sure that Ms. Whiting will probably be following along on all this and making sure that the Northern Cheyenne's rights are not in any way affected by anything that the Supreme Court might do in this particular case.

But, again, that was a concern I had earlier and would want both sides just to alert me at any point in time if that became a concern.

The last thing that I'll just mention that your argument raised in my mind, and I'll sort of let you know, at least way before seeing the posttrial briefs and the oral arguments, I've been thinking about the questions of waste -- how individual water users might be using their water and the like -- is really that -- the question is how the system is administered more than it is a question of a particular water user in a particular situation.

In other words, every system is going to have some degree of, I guess maybe, sort of a question of slippage in its regulatory system.

So the question really becomes, you know, for example on the Montana side, whether or not the way in

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which Montana was regulating the water during the
   relevant periods of time was adequate under the
2.
   compact. So it's really sort of a system question,
 3
   again, rather than looking at a microlevel of
4
   particular individuals.
5
              And one of the questions that I think, again,
6
   will be relevant here is, what's the standard for doing
7
          And when we had our arguments on the various
9
    summary judgment motions before the trial, I had
10
   suggested it was really sort of a question of, you
11
   know, does it comport with the way in which prior
12
   appropriation systems are generally managed and was it
13
   reasonably managed?
14
              And, of course, it's always easy for lawyers
15
   and judges and special masters to reach for the term
    "reasonableness," because it's something that we all
16
   think we know and probably all disagree a bit on
17
18
   exactly what it means. But, you know, once we get into
19
    the facts here, you know, what the exact standard is by
   which the system should be judged, I think, is
20
21
    important.
2.2
              And on this, one of the things that, you
23
   know, just thinking about prior original jurisdiction
24
   cases, one case that comes to mind is the -- I quess,
   was it Colorado versus New Mexico or New Mexico versus
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Colorado? 2 MR. DRAPER: Colorado v. New Mexico. SPECIAL MASTER: That's what I thought. 3 The Colorado v. New Mexico case, now, that was 4 an equitable-apportionment case rather than a compact 5 But it was relevant in the sense that the 6 case. 7 special master in that particular case originally pushed for a standard that would have been more conservative of water, more exacting of the way in 9 10 which water was being used than the state actually employed at that particular point in time. 11 And the court ultimately, I think, seemed to 12 13 sort of relax a bit, you know, how much they were 14 worried about eking out, you know, the last amount of 15 water that you might be able to save for other people 16 to use. Other than that, I'm not sure there's much 17 18 precedent out there from the Supreme Court as to how 19 you might resolve a question of this nature. 20 just mention that as some quick ramblings on wondering 21 exactly how one approaches that particular question, 2.2 how the Court might want to approach it in the context 23 of this particular compact. 2.4 And recognize, of course, that this goes, you know, both directions. And so, you know, whatever 25

1 standard you think about applying in Montana, that 2 could be potentially used on the Wyoming side also.

2.2

I will differentiate, though, between two different situations. One would be on the Wyoming side if, as a -- and, again, this is just my initial thinking, but I figure all of this is probably relevant for purposes of your briefing.

On the Wyoming side, to the degree you have a river which is, you know, well regulated and it just happens that there is somebody out there who is post-1950 who, you know, turns on some water when somebody is not looking and utilizes it, then that strikes me as the sort of thing that happens, right? And it's hard for Montana to complain, if Wyoming is regulating things well, that there's that type slippage.

On the other hand, if you have a stretch of river like the lower part of the main stem of the Tongue where there's no regulation at all because there's no one downstream that calls that portion of the river, then that seems to be a different issue, because there, it's not really, you know, the fact that Wyoming has a great system -- and I'm doing this as an illustration at the moment; I'm not necessarily concluding that it is a great system -- but that

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Wyoming has a great system and it just happens there's
    inevitable slippage in it; it's that, well, this
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   portion of it just hasn't been regulated. And if, in
 3
   fact, Montana were treated like any other appropriator
4
   in Wyoming that's downstream and senior, then you would
5
   have regulated those people.
6
              Well, that's different. That's not getting
7
   to the question of what is the reasonableness of the
8
   system that's being employed. It's, instead, getting
9
   to the fact that there's a gap in the system.
10
    there I would think that the compact would fill that
11
   gap and say, okay, in this situation, where you're
12
13
   supposed to protect pre-1950 appropriators, pre-1950
14
   appropriators in Montana shouldn't be treated any
15
   differently than pre-1950 appropriators who are
   downstream in Wyoming. So I want to differentiate
16
   those two types of situations.
17
              But, again, the way I've been thinking about
18
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    this is thinking about it as sort of systemwide.
20
   the case of Wyoming, are there any gaps that, under the
21
   compact, should be filled? And in the Montana case,
2.2
   does the way in which the system has been regulated,
23
   does it comport generally with prior appropriation and
   is it reasonable?
2.4
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And it's there where I begin thinking about

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cases like Colorado v. New Mexico, because it's the
   only case where the Supreme Court has gotten into the
2.
   question of, well, under the prior appropriation
 3
   system, there again, though in a situation of equitable
4
   apportionment, exactly what will we demand of the
5
            Because I think one can reasonably say that
6
   states?
   every state in the U.S. has some slippage in its
7
            There is inevitably a little bit of water
    that's lost, and it varies from state to state.
9
                                                     And so
   the question is how much do you demand?
10
              MR. WECHSLER: Your Honor, I think most of --
11
   the question of the standard is complicated.
12
13
   it's okay with you, I'll reserve that for the brief
14
   other than to say I believe -- and I don't think
15
   hearing you saying anything different. I do believe
    that the system in Montana -- I think the evidence
16
   shows it was an extremely effective system and actually
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   not so different than the one in Wyoming.
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19
              The rest of the testimony -- or that issue,
   if it's okay with you, I'll reserve for the posthearing
20
   brief.
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2.2
              SPECIAL MASTER: That will be fine.
   again, I wasn't, in making those comments, in any way
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   suggesting that there's any significant deficiency in
24
   what the Montana system has been. But simply, you
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know, what exactly that standard is that is required of
   a system is, I think, going to be a relevant question
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   here.
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              And, you know, I'm not sure, getting to your
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   particular point -- and I realize that Montana believes
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   its system is like Wyoming's system. But even if they
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   are different, I'm not sure it's the difference that
   matters so much as the question of, you know, is it a
9
   reasonable prior appropriation system for purposes of
   managing this portion of the compact?
10
                             Understood. And I don't mean
11
              MR. WECHSLER:
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   to suggest that Montana's system is the same as
13
   Wyoming's.
                I simply am saying it's a very effective
14
   system, and in many ways I think it's a better system.
15
   But I'll leave Mr. Kaste to disagree with me on that.
16
              SPECIAL MASTER: And with Mr. Hayes sitting
   back there, you better say nice things about the
17
18
   Montana system.
19
              Okay. It's 25 after the hour. So what I
   would suggest is now that we take a break, and that --
20
21
   I assume, Mr. Kaste, the length of your argument for
2.2
   any comments that I would make would be probably about
23
    the same length as Mr. Wechsler's?
24
                          I'm having a hard time judging
              MR. KASTE:
   that because he went really fast. There were a lot of
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words in a short period of time. I don't anticipate
   that it will be any longer than Mr. Wechsler. I think
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 3
   he did a fantastic job of being concise, and I hope to
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   be as concise.
              I cannot, in the limited time that I have to
5
   prepare for this closing argument, give a comprehensive
6
   overview of the evidence, just focus on what we think
7
   are some of the important points. And I don't think it
   will take terribly long. I will try to address the
9
10
   things that you raise with Mr. Wechsler to the extent
    that I can.
11
12
              SPECIAL MASTER: Okay.
                                      That's good.
                                                     So what
13
   I'm thinking is why don't we go ahead and start at
14
          I think that will give us enough time for your
15
   closing, then have a break, and then to talk about the
   process from this point forward.
16
              So we're recessed for lunch at this point in
17
18
   time, and I'm going to stay here because I actually
19
   want to talk to the deputy for a moment.
20
                        (Recess taken 12:27 to 1:32
21
                        p.m., December 4, 2013)
              SPECIAL MASTER: Okay. Everyone can be
2.2
23
   seated except for Mr. Kaste.
                       CLOSING STATEMENT
2.4
                          Thank you. Thank you for the
25
              MR. KASTE:
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opportunity to present these closing remarks,
   understanding that they are not the full arguments that
2.
   we might make and certainly haven't been able to
 3
   marshal all the evidence in support of the statements
4
   made in the course of this closing that we will
5
   ultimately rely on.
6
              But I do think this is worthwhile and helpful
7
   to hear what the parties' initial reactions were at the
8
   close of evidence. So here are the State of Wyoming's.
9
10
              SPECIAL MASTER:
                               Okay.
11
              MR. KASTE: As we've said multiple times,
   while this is a case among sovereigns states, at its
12
13
   core this is a simple breach of contract case.
14
   any breach of contract case, the party alleging the
15
   breach has the burden of proof on each essential
   element of its claim.
16
              Moreover, a party seeking to enforce a
17
18
   contract containing a condition precedent, such as the
   notification requirement in this case, that party bears
19
   the burden of proof as to the occurrence of the
20
   condition. And if there's no evidence of the
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2.2
   occurrence of the condition, the duty of the defendant
   has not been triggered, and his or her promise cannot
23
   be enforced.
2.4
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Montana has fairly consistently argued that

the burden of proof in this case falls on Wyoming.

But, in fact, that is not the law. And even the

Montana Supreme Court has found, for example, in Tucker

v. Missoula Light & Water Co., that an appropriator

seeking to enforce his rights under the doctrine of

appropriation must prove his need for the water as well

as his right thereto and his ability to use the same

through his system of distribution.

2.2

Montana has failed to meet this burden and failed to prove any of the five essential elements of its claim. I did notice during the course of Montana's closing argument that their belief is that there are three essential elements to their claim. Wyoming asserts that there is not, that there is, in fact, an obligation in this case in order to prevail that Montana must prove causation and injury as they would in any contract or tort case.

The evidence in this case clearly establishes that Montana did not make calls on Wyoming before 2004. It's worth noting that unlike the summary judgment proceedings on this issue, you are no longer required to view the facts in the light most favorable to the nonmoving party. Instead, now that the evidence is closed, you can judge the evidence presented by both parties on its merits and make appropriate inferences

from that evidence.

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Here the evidence from the Wyoming witnesses was unequivocal. No one from Montana made a call or demand on Wyoming for regulation before 2004. Instead, at times outside the irrigation season and after the fact, Montana officials expressed concern about the conditions that had prevailed in their state during the preceding irrigation season and wondered if there were ways to administer the compact in the future that would result in more water for Montana.

These discussions about administration of the compact were generally focused on the application of Article V.C, which makes perfect sense given that both states understood that provision is the vehicle by which appropriated water was allocated by the compact. These kinds of communications are qualitatively different from a call for regulation, and they clearly were not understood to be calls by the officials in Wyoming.

The difference between how Wyoming reacted to the two different kinds of communications is telling.

When Montana actually made calls, there was a significant and well-documented series of communications. E-mails and letters were exchanged within and between the states. There were briefings to

the governor, calls between officials, meetings, press releases, requests for information, and marshaling of staff to report on conditions. None of this happened before 2004.

2.2

Similarly, when calls were actually made, they're reflected in the annual reports of the compact commission. Even the phone call by Mr. Fritz to Mr. Christopulos in 1981, which was a hypothetical inquiry as opposed to a call, made its way into the report. And with regard to 1981, it's clear that the injury Montana was concerned about never occurred. At that time, Mr. Fritz was concerned about filling the reservoir, and it did fill.

In contrast to these well-documented responses to Montana's call in 2004 and 2006, there isn't a piece of paper corroborating Montana's claims that it made calls before 2004. This disparity is telling and determinative.

Accordingly, Wyoming is titled -- entitled to the entry of judgment on all of Montana's claims for all remaining years before 2004. In 2004 and 2006, Wyoming has consistently admitted that Montana did make calls. But Montana has failed to prove the remaining elements of its claims for those years. Montana, of course, has the burden of proving its pre-1950 rights

were actually short in 2004 and 2006.

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2 As it relates to the Tongue River Reservoir, Montana misapprehends the nature of its right under 3 Article V.A -- yeah, under Article V.A of the compact; 4 and, consequently, its claim of injury to that right is 5 misplaced. Montana's Article V.A right in the Tonque 6 River Reservoir is defined by the terms of 7 Article V.C.3, not Montana law. The compact clearly protects existing uses in existing reservoirs under 9 Article V.A and new uses in existing reservoirs under 10 Article V.C. 11

Mr. Wechsler noted that we had talked about beneficial use in this case in the past. That's true, but in the context of the consumptive requirements and the consumptive use of water in the direct-flow portion of this case. Reservoirs under the compact are treated differently. They are specifically called out and treated differently than the direct-flow uses by virtue of the language in Article V.C.

The evidence in this case has been very clear. As of 1950, the existing uses in the Tongue River Reservoir were limited to the provision of less than 32,000 acre-feet of water for contracts with the Tongue River Water Users' Association. The evidence is similarly clear from the historical record that it only

1 took 45,000 acre-feet of water in the reservoir to meet 2 these contract demands.

2.2

Montana says, well, reservoirs are important. Wouldn't it make sense that we would want our reservoir filled up all the way? Well, probably. Except that in the course of the compact negotiations, the parties agreed to treat existing uses in existing reservoirs differently than new uses in existing reservoirs. And we are bound by the provisions of the compact in that regard.

Of course, even if Montana is entitled to 45,000 acre-feet that it took to deliver the contract water as of 1950, the evidence demonstrates that it received this amount of water in both 2004 and 2006. While Mr. Hinckley's testimony established this fact perfectly well, one need only look to Table 4-A of Mr. Book's report to see that in May of 2004, the reservoir end-of-month contents were 46,300 acre-feet and in May of 2006, the end-of-month contents were 60,020 feet. And these were not necessarily the peak storage values for those years.

Of course, these amounts were actually stored. And even without accounting for Montana's bypasses in excess of what was necessary to meet the needs of downstream senior rights, Wyoming met its

obligation under the compact as it relates to Montana's
Article V.A right in that reservoir.

2.2

And, of course, Wyoming asserts that

Montana's Article V.A right is limited by the doctrine
of appropriation to that which is necessary to satisfy
senior rights. In this regard, Arizona v. California
is instructive. In that case the court stated that
invested rights to the appropriation of water are
subject only to the right of prior appropriations.

Moreover, the compact contains an explicit definition of beneficial use which dictates that Montana cannot call on Wyoming to fulfill these nonbeneficial bypasses. This is true regardless of whether Montana has historical released water for these purposes. Montana cannot rewrite the definition of "beneficial use" in the compact through its course of conduct, nor can it unilaterally change the doctrine of appropriation simply by force of habit.

Wyoming is not obligated to fill Tongue River Reservoir to its current or even its pre-1950 capacity, and it is not obligated to pay for Montana's discretionary operational decisions. Wyoming is entitled to judgment on Montana's claims arising from an alleged injury to the reservoir.

With regard to its direct-flow rights,

```
Montana attempted to show a shortage with the flow
   model based on paper rights using continuous diversions
2.
   on lands that were not necessarily even irrigated in
 3
    2004 and 2006. This model, as explained by
4
   Mr. Hinckley in detail, does not approximate reality,
5
   and it's insufficient to show any actual
6
7
   contemporaneous shortage.
              The only other evidence of shortage comes
8
   from the testimony of the individual irrigators.
9
   However, there was no testimony establishing a causal
10
   link between these shortages and actions in Wyoming.
11
   Mr. Book was the likely candidate to provide this
12
13
   causal link. But if you look at the last paragraph on
14
   page 4 of his original report, he acknowledges that he
   didn't undertake that task.
15
              That paragraph reads, "The investigation
16
   conducted for this report does not include
17
   quantification of damages to the -- to Montana water
18
19
           An assessment of the effects of the depletions
   users.
    in Wyoming on deliveries to water users in Montana
20
   would require further analysis."
21
2.2
              His testimony on the stand was consistent
23
   with his representation in the report. In the absence
   of evidence establishing causation, Montana's claim
2.4
   must fail.
25
```

Finally, Montana did not compile information from which we could fairly determine that its pre-1950 rights were not being satisfied after May 18th, 2004, or July 18th, 2006 -- excuse me, July 28th, 2006, or that any shortage could not have been remedied by appropriate intrastate regulation. Montana had both the burden and the opportunity to collect the necessary data to demonstrate a true shortage both before and after this suit was filed. And it failed to do so.

2.2

The records of the water commissioners, which would seem to be a natural place to amass this information, are incomplete and, frankly, a mess.

You asked about what standards should we utilize to judge the two systems to determine whether or not they comport with the compact obligations imposed on both parties. And I think that there is room in both states for the kind of situations you describe in which the regulatory system is doing overall a very good job and a water user here or there isn't picked up by that system. And I agree, again, that in a situation like the lower main stem of the Tongue River, where our regulatory system is not doing a very good job of ensuring that post-1950 uses are curtailed, the compact can be the vehicle by which we change that action.

The compact imposes, however, similar obligations on the State of Montana. As you described it, Montana sits in a position of the downstream senior appropriator. And in that situation, in the downstream senior appropriator makes a call on the upstream appropriator. As you heard from numerous witnesses from Wyoming, the very first place they need to go is to that calling right to assess the circumstances surrounding that call.

2.

2.2

We need to have the same opportunity as our water commissioners or our hydrographer commissioners to assess the circumstances related to Montana's calls. That means that we need to have records and personnel in place on those particular days when calls are made from which we could verify the actual need and necessity for regulation of junior appropriators in Wyoming.

What we can tell, from the records of the water commissioners, is that natural flow in the Tongue River in Montana is chronically undercounted. And there are a number of important pieces of a properly functioning regulatory system which are missing from the actions of the Montana water commissioners.

They took no account of return flows, which are likely to play an important role in such a long

river system. They did not regulate the tributaries for the benefit of the seniors on the main stem. They do not know what water is being used on the reservation, and yet we heard there is irrigation occurring there.

2.

2.2

2.4

If the dam only releases water for specific contract deliveries, where did that water come from?

Where are the records reflecting the calls that were made for reservoir deliveries? And how can we measure what actually seems to be coming out of the dam against what these purported calls were without that evidence? And why are they taking calls for storage water at times when the flow of the river is well above what is necessary to meet even the paper demands? How could T & Y Irrigation Canal receive 1200 acre-feet of water in excess of what it appears to have called for in 2006 if the water commissioners were actually in command of the river?

The Montana water commissioners are diligent and hard-working guys, but their methods were inadequate to ensure that Montana engaged in appropriate intrastate regulation before calling Wyoming in 2004 and 2006. Their methods and their records were inadequate for Wyoming to verify the presence of an actual shortage of water. There's

simply not enough evidence to conclude by a preponderance of the evidence that Montana showed a real shortage at any particular time or that diversions that were occurring were not more accurately ascribed to post-1950 rights.

2.

2.2

Montana would have you simply apply a presumption that, gosh, don't we all know that a certain amount of water at the state line must equate to a shortage? Well, we can't base a judgment in this case on a presumption. Montana has the burden of proving by a preponderance of the evidence an actual shortage existed.

No one in the state of Wyoming realistically believes that there are not times late in the summer when the flows at the state line are likely to equate to a direct-flow shortage in Montana. However, for purposes of this case, the evidence is insufficient to establish that that occurred on July 24th -- or July 28th, 2006, or May 18th, 2004. I think the evidence that we have seen indicates, particularly with regard to May 18th, 2004, that that call may have been substantially premature.

And I have no doubt that as Montana continues to implement a more functional and sophisticated regulatory system, then in future years Montana will be

```
able to demonstrate actual shortages to its direct-flow
            But it cannot do so in 2004 and 2006.
2
   rights.
              Montana has also failed to show when
 3
   post-1950 use occurred in Wyoming in relation to the
4
   call dates in 2004 and 2006. Mr. Book made no attempt
5
   to figure out when water was applied to lands in
6
7
   Wyoming and instead, as Mr. Fritz pointed out, looked
   at annual amounts that are of essentially no value in
   these proceedings. There's been no evidence
9
10
   establishing that any of the parcels identified by
   Mr. Book in his rebuttal report actually used water
11
   after the call dates in 2004 and 2006.
12
13
              As an aside, it's worth noting that the
14
   evidence from witnesses such as Ms. Ankney, Mr. Pilch,
15
   and Mr. Fritz demonstrates many of these parcels were
   not irrigated in 2004 and 2006 with water from the
16
   Tonque River.
17
18
              With regard to storage in Wyoming, the State
19
   of Wyoming, based on the careful records of its
20
   hydrographer commissioners, showed that no storage
21
   occurred anywhere in Wyoming after the call in 2006.
2.2
   And Wyoming, not Montana, demonstrated that, in fact, a
   small amount of storage did occur after the call in
23
   2004.
2.4
              Of this small amount, senior appropriators in
25
```

Wyoming would have used some of this water if it had not been stored and only a very small amount in a 2. couple of reservoirs may have even been unavailable to 3 4 Montana. Of course, Montana failed to show that that small amount of water would actually have made a 5 difference in any reservoir or to any particular 6 7 direct-flow right. There's not been any evidence showing that the few feet of water stored in Wyoming after the calls in 2004 would have made it to any 9 10 particular irrigator in Montana. This causal link is a 11 necessary prerequisite to liability, and there's been no proof on this subject in this trial. 12 13 Moreover, Montana had water in its reservoir 1.4 that it didn't use in 2004 and 2006. And from 15 Wyoming's perspective, it doesn't matter whether Montana assigned that water to the tribe or the Water 16 Users' Association. The fact remains that the supply 17 was there. And we've heard during the course of this 18 19 trial repeatedly that those two water rights are 20 commingled. And that's fine. But they are limited by Article V.C.3. 21 2.2 Wyoming is not responsible for Montana's discretionary decision to provide the Northern Cheyenne 23 Tribe with a storage right. That decision was not 2.4 mandated by the Winters Doctrine and, in fact, seems at 25

odds with the doctrine since the reservoir did not exist at the time the reservation was created.

2.2

This may be a reasonable compromise for the folks in Montana and it surely protected Montana's existing irrigators. But Wyoming's compact obligations are unaffected by that compromise. Montana is responsible for the satisfaction of the Northern Cheyenne Tribe's reserved rights out of its allocation under the Yellowstone River Compact.

With regard to the effect of CBM production in Wyoming, it's obvious that Mr. Larson's results are not reliable. As Dr. Schreüder explained, Mr. Larson took a model created for an entirely different purpose and skewed certain inputs. The factual basis for his alteration of the return flow rate is demonstratively wrong, as evidenced by the testimony of David Schroeder, Mr. Steir, and Mr. Hinckley. Just fixing this one problem with Mr. Larson's analysis eliminated any effect on Montana in 2004 and 2006.

Finally, Wyoming has proven that Montana failed to store a substantial amount of water over the years. And this waste of water, in and of itself, is a complete defense to Montana's claims and justifies the entry of judgment in Wyoming's favor. Figure V.A, in Mr. Hinckley's report, is perhaps the clearest

demonstration of the effects of Montana's decisions not to store available water.

2.2

2.4

Montana's alleged depletions which are profoundly overstated, are dwarfed by the bypasses of available water in 2004 and 2006. Wyoming understands that reservoir operations are complicated and influenced by many factors. But the doctrine of appropriation, and thus the compact between these two states, places the burden of these decisions on the reservoir operator and not the upstream juniors.

If, as we've heard from a number of witnesses from Montana, every acre-foot counts, then we need to count every acre-foot. Accordingly, Montana, not Wyoming, must bear the consequences of its own decisions.

Finally, I want to talk about the future,

'cause I think everybody acknowledges and recognizes

that this case is about the future and not about the

past. And I want to talk about the testimony you heard

from Montana's first witness, Mr. Tubbs, in which he

asked you to formulate a set of rules governing the

administration of the compact.

First of all, Wyoming has never denied that it did not honor Montana's calls in 2004 and 2006. Of course, Montana's first call was complicated by

requesting actions that clearly are not contemplated by the compact.

2.

2.2

Wyoming is not obligated to regulate pre-1950 rights for the benefit of Montana, nor is it obligated to release water stored in priority prior to a call if that water was stored -- even if that water was stored under post-1950 rights. Montana's request that Wyoming do these things in 2004 obviously should not have been honored. And that invalid call cannot form basis of liability in this case.

Nevertheless, when these calls came in, as you heard in Mr. Tyrrell, Wyoming acted under an interpretation of the compact that proved to be incorrect. Wyoming did not take exception to your ruling, although it was at odds with Wyoming's prior interpretation. Mr. Tyrrell and the State of Wyoming intend to honor the obligations that flow from that ruling. Accordingly, in future years Wyoming will honor valid calls from Montana.

What that means, however, as a practical matter is beyond the scope of these proceedings. You've not been presented with sufficient evidence from which you could fairly develop the rules Mr. Tubbs requested. And, frankly, the claims made by Montana are not conducive to nor do they warrant the imposition

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of a wholesale administrative scheme uninformed by the
    technical expertise of the compacting parties.
 2.
                                                     Those
    issues, none of which have been developed in this case,
 3
    must be left to the compact commission and, failing
 4
 5
    that, a very different lawsuit.
              Your task in this case is simple: to
 6
 7
   determine whether Montana proved by a preponderance of
    the evidence that Wyoming breached the compact.
    evidence convincingly demonstrates that Wyoming did not
 9
10
   breach the compact, that Montana's shortages were the
    product of its own decisions; and, therefore, your
11
    recommendation to the Court ought to be complete
12
13
    dismissal with prejudice.
14
              SPECIAL MASTER:
                              Okay.
15
              MR. KASTE:
                          Thank you.
16
              SPECIAL MASTER: Thank you. So I really just
   have one follow-up question. Just like Mr. Wechsler's
17
18
    closing, that was very valuable and, again, is very
    useful for me at this stage to hear both sides' summary
19
2.0
    of their cases.
21
              So you had -- actually, I heard you the other
2.2
    day reference Section V.C.3 of the compact. And I
    might have missed something earlier, but I do not
23
    remember this coming up in any of the arguments
24
    earlier.
25
              So I actually didn't look at it until just
```

```
now.
              MR. KASTE:
                          I'm shocked that you haven't
2
   memorized this compact.
3
              SPECIAL MASTER: There were portions of it I
4
   didn't realize I needed to look at before. So really
5
   quickly -- I know you probably don't have a copy of it
6
7
   in front of you.
              MR. KASTE: I have a pretty good idea what it
8
9
   says.
10
              SPECIAL MASTER:
                               Okay. So what's your
11
   interpretation of this language in V.C.3?
              MR. KASTE: Article V.C.3 defines Montana's
12
13
   Article V.A right in existing reservoirs by
14
   denominating that there are different treatments for
15
   existing uses in existing reservoirs and new uses in
   existing reservoirs.
16
              SPECIAL MASTER: And so several things.
17
   again, I haven't had, really, any time to take a look
18
19
   at this before. Quickly, what's the difference
   between, in your view, between V.C.2 and V.C.3?
20
              MR. KASTE: V.C.2 I think talks about new
21
2.2
   reservoirs.
                 Is that right?
23
              SPECIAL MASTER: It says in all reservoirs,
24
   which is sort of odd because you're right, V.C.3 talks
   about existing reservoirs. So you would expect that
25
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maybe V.C.2 would talk about new reservoirs.
    again, my guess is -- and I realize I'm not giving
 2.
   Montana an opportunity to argue this, and so I'm just
 3
    sort of curious as to begin thinking about this
 4
   particular issue.
 5
              MR. KASTE: Well, I think it's pretty clear
 6
 7
    when we look at the language of V.C.3 that it is
    specific to existing reservoirs and that there's a
    different mathematical treatment of those new uses in
 9
    existing reservoirs.
10
              So it's fairly obvious, I think, that the
11
    drafters of the compact anticipated that those new uses
12
13
    in existing reservoirs would be part of the
14
   mathematical equation that pertains to the Article V.C
15
    water, which necessarily means that there's a portion
    of that existing reservoir that is covered under V.A
16
    and a portion that is covered under V.C.
17
              SPECIAL MASTER: Yeah, and -- okay. I'm
18
    beginning, I think, to -- V.C.2 also talks about areas
19
20
    that are completed subsequent to January 1, 1950.
21
              MR. KASTE:
                          That's right. That's the new
2.2
    reservoir language.
23
              SPECIAL MASTER: Yeah. And so your view on
24
    what is meant by the point of measurement. Is that
    defined anywhere?
25
```

```
1
              MR. KASTE:
                          The point of measurement, I
   think, is Locate, Montana. I think it's a town --
2
   what's the name of the town?
3
              SPECIAL MASTER:
                              Okay. So --
4
              MR. KASTE:
                          Intake.
                                   Intake, Montana.
5
              SPECIAL MASTER: Okay. So here, by the point
6
7
   of measurement, it's the point of measurement on the
   Tongue River, not a point of measurement on the
   reservoir itself?
9
10
              MR. KASTE: I believe that's true.
                                                  Because I
   think the V.C calculation is sort of comprehensive and
11
   not necessarily specific to that particular reservoir.
12
13
              SPECIAL MASTER:
                              Okay.
14
                          It's a larger computation along
              MR. KASTE:
15
   each of the river systems to give us our percentage
16
   allocations of the unused and unappropriated waters of
17
   that particular river.
18
              SPECIAL MASTER: Okay. So then the question
   would become, assuming that, in fact, V.C.3 is relevant
19
   in this particular case -- and, again, since I saw
20
21
   this, I don't want to make any presumption. But if it
2.2
    is, then one of the questions would be what is meant by
23
    the term "net change in storage"? How would you
24
   actually calculate that?
25
              MR. KASTE:
                          Well, that's part of the
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```
Article V.C mathematical calculation that we don't have
    to worry about in this case since we're only dealing
 2
    with claims under V.A. But you could figure out which
 3
   part is V.A and which part is V.C, look at the net
 4
    change in storage, and that's part of the existing
 5
    reservoir that is a V.C right, and you would stick that
 6
 7
    into the equation for that particular reservoir and
    that particular river.
              SPECIAL MASTER: No, I understand that. But,
 9
10
    again, I've just seen this. So if I understand your
    argument -- and correct me if it turns out that I'm
11
   misstating it -- that what this is suggesting is, okay,
12
13
    to the degree that there is a change in storage after
14
    January 1, 1950, and in particular a net change in
15
    storage after January 1, 1950, then that goes into the
    V.B calculations; and, therefore, implicitly that must
16
   mean that the only part that goes into the V.A
17
    calculation is whatever was there before the net
18
19
    change?
20
              MR. KASTE:
                          No.
21
              SPECIAL MASTER: No, that's not what you're
2.2
    saying.
            Okay. Well, there's another thing to talk
23
    about then.
              MR. KASTE: Well, the net change in storage
24
    in acre-feet, I think, refers to the change in that
25
```

portion of the existing reservoir that's going to be counted under Article V.C. And that's defined as that portion of the reservoir which is used for irrigation, municipal, and industrial purposes developed after January 1, 1950.

2.

2.2

2.4

So we know that we have these existing uses in various reservoirs in Yellowstone River Basin that had particularized uses as of 1950. And those are protected under V.A. At the same time, those existing reservoirs, apparently some of them had space.

Certainly the Tongue River Reservoir did. And the drafters of the compact said, any new uses of those reservoirs are going to be accounted for and come out of the Article V.C allocation between the states.

existing in existing reservoirs as of 1950, and then the mathematical equation to that portion of the reservoir that is developed after 1950, you take the net change in, say, that pool, in any given year and plug it into your Article V.C calculation to determine whether or not we're in compliance with the 60/40 split. And it seems relatively straightforward.

And that's why I say the direct-flow discussion of beneficial use that occurred earlier in this case raises a different issue than the issue you

```
we're presented with at this phase of the case.
    Because these reservoirs are called out differently by
 2.
    the compact and treated differently by the compact, no
 3
   portion necessarily of that existing discussion related
 4
    to consumptive use has much bearing on the
 5
   determination that you're going to have to make in this
 6
 7
    phase of the proceedings. The direct flow and
    irrigation rights aren't treated this way by the
 9
    compact.
10
              And by virtue of this express language, we
    know that these reservoirs are treated somewhat
11
12
    differently. And we have to figure out, well, what
13
   does that mean? And I think it's fairly clear.
14
   means that there are two pools inside Tongue River
15
   Reservoir, the V.A pool, and a V.C pool. And the V.A
   pool was about 32,000 acre-feet plus what it took to
16
    deliver that. I think we can grant Montana that. But
17
18
    I think the historic evidence that we've seen,
19
    particularly from Mr. Sullivan in his memo, was that
20
    45,000 acre-feet was more than adequate to supply those
    32,000 acre-feet of contracts.
21
              And that's the end of the inquiry with regard
2.2
    to the reservoir. To the extent we have a continuing
23
    fight about the remaining contents, we need to do the
24
    full equation under Article V.C to determine where we
25
```

```
are with regard to the unappropriated and unused waters
   of the Yellowstone River. And that's not an issue in
2.
   this case. So we don't have to do the hard math
 3
4
   associated with that calculation.
              SPECIAL MASTER: Okay. So two things.
5
   think I understand your argument now. And what was
6
   confusing me earlier was discussions of net changes in
7
   storage. But what you're saying is words "net change
   in storage" here actually is referring to the net
9
10
   change in storage in any particular water year that
   then gets calculated into section V.B. And so your
11
   reference to this particular section is simply to
12
13
   suggest that the storage, other than storage for the
14
   water necessary to deliver water to beneficial uses as
   of --
15
                          1950.
16
              MR. KASTE:
              SPECIAL MASTER: -- that's right -- is
17
   actually covered under V.B rather than V.A?
18
19
              MR. KASTE:
                          Correct.
20
              SPECIAL MASTER: Okay. So, again, we
21
   shouldn't get any more into this at this point in time
2.2
   because we will have an opportunity to argue these
   particular issues. This is the first time that I've
23
   actually seen this. But I want to understand at least
24
   what your argument was on this particular point since
25
```

you had referenced it.

2.

2.2

2.4

MR. KASTE: And I agree this is the first time you've seen this. When we got to the summary judgment stage, we thought we had a deal with Montana, as you know, and we thought that that deal imposed certain obligations on both states. And it was our intent to live up to what we believed our obligations to be.

You have given us what I think is very -probably the right ruling, given the language in that
1992 agreement about what its effect is. And I think I
told you in the summary judgment proceedings that
without that 1992 agreement, Montana would be worse
off. And I meant it. They are worse off. We had
made, we thought, some compromises when we engaged in
that agreement. But if it doesn't mean what we think
it means, we revert to the language of the compact, and
the language of the compact is clear.

SPECIAL MASTER: Okay. So, again, won't discuss this anymore at the moment. I want to make sure Montana has an opportunity to give its view of the compact before we get into this particular discussion. But I did want to -- since as I said, I hadn't heard that reference other than I think you may have said something about it a couple of days ago.

```
1
              MR. KASTE:
                          I said it in my motion for
    judgment on partial findings, and that was the first
2.
   time that I brought it --
3
              SPECIAL MASTER: Right, I remember that.
4
   I think also maybe a couple of days ago you briefly
5
   referenced it.
6
7
              MR. KASTE:
                          I pop off all the time. I'm not
   sure what I might have said.
8
              SPECIAL MASTER:
9
                              Okay.
                          And I suppose I want to address
10
              MR. KASTE:
   one more thing, 'cause I think that you are -- you're
11
   struggling with exactly the right issue with regard to
12
13
   the standard that ought to be applied to the regulatory
14
   systems in both states. And, obviously, nobody is
15
   seeking perfection. These are complicated systems that
    cover vast areas, and there are a host of moving parts
16
17
   on any given day.
              But I think what Wyoming is entitled to is
18
19
   the reasonable assurance that the activities inside of
20
   Montana that are taking place in advance of a call are
21
   verifiable and are such that we can rely on their
2.2
   representation that a call is truly appropriate.
23
              And that's going to mean some record keeping.
   And it's going to mean maybe some more sophisticated
24
   regulatory activities by the State of Montana.
25
                                                     And
```

certainly they have improved dramatically, beginning in 2 2001 when the first commissioner has been appointed.

But they still have a ways to go.

2.2

Maybe not that far really. But, you know, we're judging this particular case on what they had available to us in 2004 and 2006. And you'll notice, of course, in 2004, the call letter didn't include an affidavit from the water commissioner. That would have been really great to have. We got one in 2006.

But still, of course, had a lot of questions about what is going on in Montana. And I think Wyoming is completely justified in asking in response to a call, the same way we would with any calling right, is it really appropriate for us to shut off a junior water user in our state at this time? And we need to have some reasonable amount of assurance before we go take away someone's livelihood in Wyoming that this is necessary and appropriate to do so.

What that's going to look like in terms of what Montana chooses to do by virtue of its regulatory activities, I don't know. But I do know that they need to have a more comprehensive and recreatable accounting that they can present to us and say, "Here's where all the water is going. We have taken the appropriate intrastate regulatory measures to insure that when you

1 turn off your farmer in Wyoming, it's going to show up
2 at the calling headgate here in Montana."

2.2

And I don't think that's an unreasonable thing for Wyoming or any upstream junior to ask of the downstream calling right.

SPECIAL MASTER: Okay. So, again, you know, thank you on this. I guess my only other thought on the last question is, you know, to me, it's an issue of, you know, as you've put it, whether or not the Montana system gives Wyoming the sufficient -- the ability to determine that, yes, this is a legitimate call.

At the same time, I also think that we need to reflect that Montana is the downstream state, and, obviously, they're at a disadvantage there. And one can keep asking for more and more and more information and, in doing so, never end up doing anything. So I think the question does become, what's the appropriate information that needs to be reliable enough, credible enough, so that if Montana requests its water under Article V.A of the compact, then Wyoming will provide it.

MR. KASTE: And I can tell you -- and I think you probably heard this from Mr. Tyrrell. He has no intention of moving the goalposts. I think he told

you, I just need to know where the goalpost is in order to act. And we do need to know where the goalpost is.

And it is truly unfair to say, whatever you bring me is not going to be good enough. And that's not Wyoming's intention. We have every intention of living up to the obligations that you have found the compact imposes upon us with regard to Article V.A. Mr. Tyrrell told you that.

2.2

2.4

I think we do probably need some assistance in defining that standard. But I think, as Mr. Tyrrell told you, defining the procedures and the mechanisms by which regulation ought to occur in given circumstances is a very complicated question and one which is probably best suited to the technical experts in both states. And if we can't get there by some other proceeding, then maybe we're back in this court.

But here today, you're asked to decide a fairly narrow question about breaches that occurred in the past and not to, sort of, make wholesale an administrative scheme that doesn't have the expertise and the input of both of these parties that would be necessary.

I think that the work that you saw and heard from a number of witnesses about what it took to create those kinds of systems on other rivers in the Bear

```
River system and the North Platte system is indicative
   of the kind of work that's going to be necessary in
2.
   this case to create a system that the parties find
 3
   acceptable and that meets both of their needs and takes
4
    into account all of the variability and technical
5
    issues that arise on this river.
6
7
              And I'm perplexed by Mr. Tubbs' request that
   you should do that in these proceedings without the
8
   benefit of all that additional information that
9
   certainly wasn't developed here in the course of trying
10
   to figure out these prior breach of contract claims.
11
12
              SPECIAL MASTER: Okay. So at this particular
13
   stage, obviously, we're just dealing with the issue of
14
   liability, which should be determined based on what the
15
   evidence is that's been presented over the past several
   weeks. And if, indeed, there is liability, then we can
16
   continue on to determine what the appropriate remedy
17
   would be.
18
              And I have full confidence that the Supreme
19
   Court will only resolve those issues that it needs to
20
21
   on this particular record.
2.2
              MR. KASTE:
                          This and every other case.
                                                       The
   bare minimum, which is wise.
23
              SPECIAL MASTER: So I also have to ask,
24
   though, is -- if every acre-foot counts, then you have
25
```

1 to count every acre-foot. Is that your version of if
2 the glove fits?

2.2

MR. KASTE: If the glove fits. Well, I thought it was cute and appropriate. You know, we've heard often about how important even small amounts of water can be for a particularized farmer. And we know that's true. We heard a number of these farmers talk about how a little bit of water makes a big difference for them.

And so from Wyoming's perspective, we should do our best to help all of these folks out to the extent we can. And that's going to mean the kind of accounting for farmers on both sides of the state line that it takes in order to ensure that things are being done properly.

And, you know, maybe back in the old days we didn't have to do a very detailed and sophisticated accounting of what happened at Tongue River Reservoir. But in times of drought, and perhaps those times are increasing in number, we are going to have to do that on the Tongue River Reservoir.

And Wyoming's position is our farmers can't get shortchanged any more than Montana's farmers should get shortchanged. And we see those bypasses going out to the Yellowstone River and go, I don't understand why

we would be responsible for those decisions.

2.2

2.4

And you can understand the position of Wyoming's farmers when they look at that particular activity and then hear from Montana, "We should get more water." It strikes those folks as fundamentally unfair.

SPECIAL MASTER: Okay. Thank you. So let me just say in closing, before we get on to the next portion of the administrative proceedings, that the Supreme Court takes these types of original jurisdiction matters very seriously. This one obviously has been up to the Supreme Court once before and will now be going up a second time.

And, you know, one of the things I will make sure in my report to the Supreme Court is not only will I carefully review and sift and analyze the evidence in this particular matter, but I will do that with the background understanding that this is a dispute that matters a great deal to the water users in both Montana and in Wyoming and perhaps in North Dakota; and that, therefore, this is a matter that requires the utmost care and deliberation. And I will make sure, in my report to the Supreme Court, that that is clear to the Court itself.

I think that counsel on both sides of this

case have done an exceptionally good job in presenting evidence on behalf of their states and the users of those states. And I think that those presentations and the quality of those presentations reflect, again, the importance of this particular case and the importance with which the two states take the dispute in this particular matter.

2.

2.2

It is always, I guess, unfortunate that when we divide the U.S. up into individual units, sometimes in a somewhat geographically random fashion, that it means that you end up with disputes of this nature that can't be resolved outside of court. But the constitution provides that the Supreme Court can resolve these types of matters when those disputes cannot be resolved voluntarily. And, again, the Supreme Court takes that original jurisdiction very seriously.

So I just want to, again, before we move on to the administrative portion, thank the attorneys for both sides, as well as everybody who has been working with you for what I think has been, as I say, a very good presentation of the materials. And although one might always wish that the evidence in some situations clearly showed exactly what the situation is, I have little doubt that the Court, in resolving this

```
particular case, will have as much evidence as it could
   possibly hope for on the questions that it's going to
2.
   need to resolve.
 3
              So those are my just closing thoughts.
4
   so I guess the question is would you like to take about
5
   a five-minute break and then we can talk about
6
   administrative issues?
7
              MR. KASTE: How long do you anticipate that
8
   discussion will last?
9
10
              SPECIAL MASTER: I can't imagine it will take
   more than about 20 minutes, unless you have a lot more
11
   than I do.
12
13
              MR. KASTE:
                          I don't think so.
14
              SPECIAL MASTER: So should we just go ahead
15
   now?
16
              MR. KASTE:
                          I think that would be great.
17
              SPECIAL MASTER: Mr. Draper?
18
              MR. DRAPER: Either way would be fine, Your
19
   Honor.
20
              SPECIAL MASTER: Okay. Well, why don't we go
21
   ahead, then, and talk about -- actually, could we take
2.2
   about a two-minute break? I just need to get one thing
23
   which I left downstairs. And I'll be right back.
                        (Recess taken 2:19 to 2:23
2.4
25
                        p.m., December 4, 2013)
```

SPECIAL MASTER: Okay. So let's talk about the next steps in this proceeding. So first of all, I just want to talk a moment about the exhibits. So my understanding is is that the court deputies have been coordinating with both sides to ensure that the list that we've been keeping of the exhibits that have been admitted is accurate. And so my hope is that list is going to be accurate. If at some point in time it turns out there's an inaccuracy, we can deal with it then.

In order to try to avoid just carting a lot of paper around, what I have asked my deputy to do is to basically take that list, make sure that all of the exhibits that have been admitted are shipped to me in San Francisco so I'll have those. And that's going to be particularly valuable, because I've been writing notes on a lot of the exhibits in this particular room.

But we will probably just throw away, for lack of a better term, all of the additional hard copies of those exhibits which are here rather than spending a lot of money to cart them around. They will be recycled into other valuable paper items, I'm sure.

Mr. Draper?

2.

2.2

MR. DRAPER: Your Honor, parties have discussed this a bit, and we thought we would confer

```
first and then provide you an agreed -- like a thumb
   drive with all of the admitted exhibits on it
2.
   electronically so that you would have that.
3
              There have been some that have been divided
4
   into A and B, and there's some additional ones from the
5
   original list that came in, and that we would agree
6
7
   that we had a complete list of all the joint and then
   the admitted exhibits of each state and the
   demonstrative exhibits and just provide that to on you
9
10
   a thumb drive to give you an agreed set in that regard.
              MR. KASTE: Yes, that sounds like it makes
11
12
    the most sense to us. You could then give that to
13
   whomever at the Supreme Court or make copies as
14
   necessary depending on what the Court requires.
15
              But with regard to your hard-copy set, other
    than the ones that have been admitted and you have your
16
   notes on, if you want to take the remainder of
17
18
   Wyoming's exhibits and throw them away, that's fine
19
   with us.
20
              SPECIAL MASTER: Okay. I will -- then that's
21
   the process that we'll follow. So, again, just to
2.2
   confirm, any of the copies that we have here of the
23
   exhibits, then those will be shipped to my office at
   Stanford.
2.4
              And I would still go with the system, though,
25
```

if for any reason you can't find a copy of the exhibit here and you know it's been admitted, if there's an 2. extra copy upstairs, then put that in the box and send 3 it to me, because that way I don't have to print 4 5 anything out and waste more paper. Everything will be available. 6 If you're interested and willing in coming up 7 with a new thumb drive that includes all the exhibits that have actually been admitted, including the new 9 numbering systems, that, obviously, would be quite 10 valuable. And what I would ask is maybe if could you 11 send me, like, three thumb drives, with the notion that 12 13 I'll ultimately want to send one to the Court and -- in 14 fact, I think this is an innovation in original jurisdiction matters. 15 But one of the nice things about this is, as 16 I mentioned, I think in the past, although the Court 17 has paid a lot of attention to the record, I think it's 18 19 been an infrequent occurrence to actually get copies of independent exhibits, unless they turn out to be 20 21 critically important, because it's just been a hard 2.2 matter to do that because of the size of some of these 23 records. This will make it even more available to the 24

Supreme Court justices and their clerks so that they

25

```
might even be able to look at more exhibits than they
   have in the past. So I should think this is a nice
2.
    improvement on traditional process.
 3
              MR. DRAPER:
                          It's going to be much easier.
4
5
   think in some cases they have actually called for the
   record, period. And then a truck has to head for
6
7
   Washington, D.C.
              SPECIAL MASTER: And then, of course, once
8
9
   they're there, then they're generally not in the
10
   clerk's office; they're somewhere else in the court.
   So you have to go somewhere else and actually get the
11
   exhibits and pore through them. So I do think this is
12
13
   going to be quite valuable. So that will be useful.
14
              MR. KASTE:
                          What do you think an appropriate
15
   time frame for doing that would be? Donna probably
    could do it really fast, but I wouldn't want to impose.
16
              SPECIAL MASTER: I don't think you have to do
17
   it necessarily that quickly, only because, again, I
18
19
   have my own set from these proceedings. And so as a
20
   general matter, I probably will not have to access that
21
   thumb drive, or at least I can't think of a good reason
2.2
   why I would need to in your typical case.
              So I don't think there's an immediate rush on
23
24
   doing that part of the housekeeping.
                           I was thinking in terms of
25
              MR. DRAPER:
```

```
sometime after the holidays.
              SPECIAL MASTER: That would be fine with me.
 2
 3
              MR. KASTE:
                          Great.
              SPECIAL MASTER: Okay. So that takes care of
 4
    the exhibits.
 5
              MR. DRAPER: Your Honor, I just have one
 6
 7
    question that occurs to me.
              SPECIAL MASTER: Yes, Mr. Draper.
 8
              MR. DRAPER: On the list of exhibits, has
 9
10
    that been updated electronically? I haven't talked to
    the clerk or Donna about that.
11
12
              SPECIAL MASTER: No.
                                    And so at the moment,
13
    what we've been doing on the list of exhibits is to --
14
    the deputy has been keeping track, by hand, each of
    various exhibits. And one of the reasons that I wanted
15
    to make sure we did it that way is that the alternative
16
   has been sending that to my assistant in Palo Alto,
17
18
    having her then revise it, and sending it back here.
                                                           Ι
    was just afraid that things might be lost in the
19
20
    process.
21
              So what my plan was to do is to now get that
2.2
    list and update it electronically. Now, to do that,
23
    one thing that would be useful would probably be to get
2.4
    the electronic copy of that particular file. I don't
    think I have it.
25
```

```
1
              MR. DRAPER: If you don't, we can easily
   provide it.
2.
              SPECIAL MASTER: Yeah, if you could do that,
 3
   then what I could do is have my assistant in Palo Alto
4
5
   then go through and update that. And then, presumably,
   you can utilize that to then generate -- well, no, you
6
7
   can probably use that to generate everything.
                          Well, I think as a practical
8
              MR. DRAPER:
9
   matter, each party has been keeping track. So we have
10
   our list as well. It might be good, as we're getting
   that thumb drive with the actual exhibits on it, to
11
   maybe at that point confirm with a final electronic
12
13
   version from your assistant that it matches our records
14
   and that everybody is clear and agreed on that.
15
    that then could be provided at the same time as the
    thumb drive with the exhibits on it.
16
              SPECIAL MASTER: Okay. So I think that
17
18
   sounds good to me.
19
              Peggy, does that make sense from your
   standpoint?
20
21
              THE CLERK: Yeah.
                                 I don't have the ability
2.2
   to do anything on the computer. It's all --
23
              SPECIAL MASTER: That's right. That's why,
24
   as I said, I'll have Susan do it.
                          I'll send everything to Susan and
25
              THE CLERK:
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explain how it works. And I've given a copy to both
   the State of Montana and the State of Wyoming. So they
2.
   have what I have.
 3
              SPECIAL MASTER: Okay. And what I can do is
4
   I can -- hopefully Susan could complete that before the
5
   holidays, because I think we go off on -- I think the
6
   20th of December, I think, is the last day. Then the
7
   university closes down for something like two and a
   half weeks. So I'll make sure she gets that out.
9
              And then if there's any issues of
10
11
   disagreement between the two lists that Wyoming and
   Montana has and what Susan sends, then we can, at that
12
13
   point, resolve those.
14
              MR. DRAPER:
                          That will work.
15
              SPECIAL MASTER: Okay. Excellent. Anything
   else on the exhibits?
16
              MR. DRAPER: That's all I can think of at the
17
18
   moment, Your Honor.
19
              SPECIAL MASTER: Okay. Excellent. So then
   we -- the posttrial briefs, I've looked to see what
20
21
   both other special masters have done. I'm familiar
2.2
   with, of course, what other courts do.
              By my own preference, I'm looking for advice
23
   from all of you on this. My own preference would be
24
   trial briefs that actually integrate the law and the
25
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```
facts rather than setting up a set of proposed findings
   of fact and then, afterwards, a discussion of the law.
2.
   I just find that it's much easier to pick out those
 3
   together. And I believe that's what the special master
4
   in Kansas v. Nebraska did, or at least it looked to me
5
   that way from the posttrial briefs that actually came
6
7
   in.
                           That's correct, Your Honor.
8
              MR. DRAPER:
              SPECIAL MASTER:
9
                              So that would be my
10
   preference in terms of format.
              The second thing is that -- and, again, my
11
   understanding from the Kansas v. Nebraska case was that
12
13
   the way in which the special master there handled
14
   things was that both sides had a date by which they
15
   filed their posttrial briefs and then, in that case,
   all three sides, but that in this case, both sides
16
   would have an opportunity to file posttrial brief on
17
18
   the same date and then respond to the others posttrial
19
   brief.
20
              MR. DRAPER: Yes, two simultaneous filings.
21
   So there would be one opportunity for each state to
2.2
   respond to the other's initial filing.
              SPECIAL MASTER: One of the things I like
23
24
   about that is it gives both sides an opportunity to
   respond to the other side. It also means I would get
25
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sort of everything at once rather than sort of in
   piecemeal going on. But I would appreciate any
2.
   thoughts that either side have on that particular
 3
4
   approach.
                           Those two filings of
5
              MR. DRAPER:
   simultaneous briefs seem to be a good mechanism, and it
6
   worked well in that case.
7
              SPECIAL MASTER: So, Mr. Kaste, this is
8
   probably a little bit different than the courts in
9
   Wyoming do this, as you keep reminding me on things.
10
              MR. KASTE: Well, there's the right way and
11
    the way everybody else does it. Obviously, my
12
13
   experience has generally conformed to the Rules of
14
   civil Procedure that provides for the proposed findings
   and conclusions at the close of the case.
15
              I think that can be done just as effectively
16
    in the manner that you have described with regard to
17
   the simultaneous briefings. I think that that would
18
19
   work very well. I think it's important from my
   perspective, as I would like to respond to what the
20
21
   State of Montana has to say. And I'm sure from their
2.2
   perspective, they would like to tell you that I'm full
   of it too.
23
              So I think it would be a good procedure.
24
   think we're going to need maybe a significant amount of
25
```

time to put that first brief together. And I think some of the time that may be necessary may be dependent 2 upon the amount of time it takes to get our complete 3 transcript. And this has been a very long trial. 4 I don't know what the timeline is on that. I certainly 5 don't want it any faster than you want to do it. 6 7 MR. DRAPER: I would add to that. I think I see it in a similar way. The first thing we need is 8 9 the transcript, because I assume you want specific references. If we're saying someone said this, then we 10 11 need to give you the page and line that that was said so that you can take a look at it yourself if you want 12 13 to. 14 SPECIAL MASTER: Yeah. On the -- you know, 15 the reason why, as I say, I like the law and the facts integrated together is that, at least the way my mind 16 works, I think of it in terms of issues. 17 And I've actually even found district court opinions that set 18 out all the facts and then later discuss what the law 19 is to be -- to be less understandable than those that 20 21 integrate the two together. And that's probably the 2.2 way in which I will do my report to the Supreme Court, 23 is in that style. 24 Now, if you want to, of course, you are more than free to also submit proposed findings. 25 I'll be

```
happy to take anything. But I would integrate them.
   And, of course, in that context, you can always have a
2.
   discussion of the law and then, you know, specific
 3
   discussion of what you think the facts are in applying
4
   the law in that particular issue.
5
              MR. KASTE: I think I would envision doing
6
7
   what I typically do in most briefs and start with a
   factual section and then integrate those facts into the
9
   legal arguments later on. And that's not necessarily
10
    issue specific, but I like to tell a story at the
   beginning.
11
              SPECIAL MASTER:
12
                              Okay. And in a moment we
13
   can go off the record and talk about when you might get
14
   the completed transcript, because you're absolutely
15
   right, Mr. Draper. One -- I would say the two most
   valuable portions of this, from my perspective, will
16
   be, number one, the discussion of the law, because we
17
   haven't been doing that during the trial itself; and
18
   then second of all will be actual references to
19
20
   sections of the trial that you believe are most
   relevant to the factual issues that I'll need to make
21
2.2
   recommendations to the Court.
23
              So you will need the full transcript on that.
   And my thought was probably something in the nature
24
   of -- and, again, we can find out when the transcript
25
```

would be available. But on the assumption that it probably won't be for a couple of weeks, that it would 2. then be -- you know, like a month period of time after 3 you got the transcript for filing the first one. 4 then probably a somewhat shorter period of time, you 5 know, something like 20 days or something like that 6 7 after that for the reply. But, I realize, number one, the holidays are 8 9 coming up. So I'm more than happy to reflect that. 10 But, you know, I do want to make sure that I get a 11 report to the Supreme Court on a somewhat prompt basis at this particular stage. And I'm thinking out loud. 12 13 You know, it's probably -- it's unlikely the 14 Court is going to be considering this particular report 15 in this session, because by the time they receive the report, ask you all whether or not you have exceptions 16 17 to it, and then you file exceptions, it's going to be past the last day in which they have a conference. 18 it would be nice to set all of this up so that they 19 could, you know, ideally consider it at the very 20 21 beginning of the next term. 2.2 So -- but I'll consult with the Court as to when they would like, if possible, to get the report. 23 But, again, the sooner the better so that they don't 24 evaluate me badly on this. 25

```
1
              MR. DRAPER: Your Honor, I put in a request
   along those lines. I was, frankly, thinking in terms
2.
   of something like 60 days after we get the end of the
3
4
   transcript. There's five weeks, five full weeks of
   testimony here and hundreds of exhibits that need to be
5
   marshaled in a way that's most helpful to you.
6
   that kind of a time frame is, I think, more conducive
7
   to getting that done in a way that's most helpful to
9
   you.
10
              MR. KASTE:
                          I'm glad he squealed first,
11
    'cause I was going to ask for the same thing.
12
              SPECIAL MASTER: I think this might be the
13
   first time, on the record at least, where the two of
14
   you have actually agreed on a procedural issue.
15
              MR. KASTE:
                          That can't be true. Can't be.
   can't think of one. But it can't be.
16
              And Mr. Brown was whispering in my ear that
17
18
   we may have had a conversation with our court
19
   reporter -- and she can just nod if this is correct --
   that she was hoping to get this transcript completed by
20
21
   about the end of January?
2.2
              SPECIAL MASTER: Let's go off the record for
23
   a second.
                        (Discussion held off the
2.4
25
                        record.)
```

```
1
              SPECIAL MASTER: So let's go back on the
             So then the question becomes, I do think,
2
   given the nature of the case, it probably will be
 3
   valuable also to have a posttrial hearing. And, again,
4
   my understanding, from what I could see from the
5
   record, was that the special master in Kansas v.
7
   Nebraska actually issued you a draft report, and then
   he held the hearing after the draft report; is that
9
   correct?
10
              MR. DRAPER:
                          That's the way he did it, Your
           He had that hearing after rather than before
11
   Honor.
   issuing the draft.
12
13
              SPECIAL MASTER: So I've been thinking about
14
   this. And the advantage of doing it that way, of
15
   course, is that there you have a very clear direction
    to respond to. The only concern I have about that is
16
   the concern that even subconsciously, once somebody has
17
   actually written something down in the form of a draft
18
   report and then circulated it, it becomes more
19
   difficult for that person to actually then change their
20
21
   opinion based on what they hear somebody say.
2.2
              And as I say, I think that's just the way
23
   things work subconsciously. I would certainly, if we
   did it that way, be as open as I possibly could. But I
24
    just wonder whether or not there isn't that problem
25
```

there.

2.2

And I wonder whether or not the better way of doing it might be, instead, to have a hearing before I actually issue a report publicly, but to give some guidance on what I consider to be some of the key questions and issues, both factually and legally, on which I would appreciate the most guidance.

And to be effective, that would require that I have been working on a report and at least have sort of a sense of, you know, when I sit down to actually write it, what are the sections that become most difficult to write because it's hard to see exactly factually or legally a clear, unbriefed answer.

MR. DRAPER: I might offer my reaction to that, Your Honor. I think your notion is very good. If you would like to get the comments of the parties and answers to any questions you might have before you kind of lock yourself into what you think needs to be decided, I think that there's a great advantage to that.

I, as a party -- and I would think Wyoming might agree with this -- that when you have first read those briefs and you have questions for each side that you haven't either -- you have a true question or you feel you need to clarify as to what the thinking is or

give a party a last chance to defend a position or something, you give them that opportunity.

2.2

And it gives you the most flexibility, I think, in terms of coming to a report with the full input of the parties based on the record. And I think your notion of if there are particular issues that you want the parties to be sure to be ready to address at an argument, that specifying those can be very helpful.

SPECIAL MASTER: Mr. Kaste.

MR. KASTE: It's a weird day. I think the idea of promulgating a draft report, people just don't change their minds that often. And then it makes the hearing seem somewhat superfluous. I think the way in which you handled the summary judgment proceedings by issuing some notes about the questions that you wanted answers to worked very well. Perhaps a little earlier notice about those questions would be nice to give us a little bit of a heads-up about what we should prepare for.

But I think that the report ought to come out after the hearing. And I do think that the better use of all of our time would be for you to identify for us what it is you have concerns about in advance of that hearing. I thought that worked very well.

SPECIAL MASTER: Okay. So several things.

One of the things that I will try to do, actually even before the end of this calendar year, on the assumption that the record in this case is not going to be ready before then and, therefore, you don't need to know today, I will try to set out at least sort of the various areas that I want to make sure that the posttrial brief addresses, as well as any particular questions that would be useful for me.

2.2

I mean, we've begun to do that a little bit in the closings, and I think I can probably do a little bit more of that so that at least when you're doing the posttrial briefs in whatever format order that you want to present them, you know that you've addressed the various issues that I might have.

And then what I will do before the posttrial hearing is, again, to set out the particular questions, both factual and legal, where it would be useful to have some particular discussion during the hearing itself. And in order to do that effectively, I'll need to be drafting, at least penciling out, sections of the special report.

So I should be able to do it earlier than I did on the summary judgment motion where, the truth of the matter was, that it was only about four days before that I finished all the various papers that you had

given me as part of the summary judgment. So I wasn't able to get you those questions much ahead of time.

2.2

So why don't we go ahead and do that in that fashion. And then what I will do after that is I will submit a -- this is all subject to change, but I will plan to submit a draft report. And just like I did for the last draft -- or the last report that I submitted in this particular case, I will circulate that ahead of actual filing, not for argument on it at that particular stage, but instead to make sure that, in fact, I have correctly stated what the evidence shows in various areas. And if there's just something that you find that's just blatantly incorrect, you can point that out to me. So it won't be as if you won't have an opportunity to look at the report also. Okay.

MR. KASTE: And I guess I would suggest with regard to timing that we just sort of operate on our court reporter's schedule. And oftentimes, in various courts, the time for a brief runs from the date in which the transcript is certified. And perhaps we would just tie our 60-day window to some notice from Vonni that she's done and that we have them all and then tack 30 days onto that for the response brief.

So not necessarily set a specific date. And that would accommodate, in the event there's some kind

of hiccup with regard to the transcript that causes it to be a few days later than expected, we don't have to run around and file orders changing dates.

MR. DRAPER: I think that's, again, a great suggestion. Tying it to when the complete transcript is available to the parties is a very typical and logical procedure.

SPECIAL MASTER: Okay.

2.2

MR. KASTE: So don't hurry, Vonni.

will issue an order next week on this. There are two things I want to give thought to based on what we've talked about so far. The first is whether or not to give 60 days or 45 days on that first brief. And what I want to do is talk to the Court, get a sense of the overall schedule and see how this actually flows in order to make sure that this is also useful from the standpoint of the Court's overall schedule. But I understand both sides request to have 60 days rather than a shorter period of time.

And then the second question is whether or not to just go from when the final transcript is to be certified or whether or not to sort of set a date that will be changed if that certification is later. And that's so that Vonni knows that I have a particular

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date that I'm aiming for, although I'm sure she will
   get this done as quickly as possible.
2.
              And then if we do end up, for example, with
 3
   January -- end of January for the transcript, then it's
4
   the end of March for the -- if it's 60 days, it would
5
   be the end of March for the initial posttrial brief and
7
   then the end of April for the second one, the replies.
   And that probably means we'll be talking about the
9
   latter part of May, then, for the actual hearing.
10
              Wouldn't want to push it much beyond that.
   But at the same time, that would -- I will need time to
11
12
   actually process what you've sent me. And so what I'll
13
   probably do, then, is get you my thoughts and questions
14
   about ten days ahead of time, and then we would have
15
   the argument.
16
              And any problem with having that at Stanford?
              MR. DRAPER: Absolutely not, Your Honor.
17
18
              MR. KASTE:
                          Why do you want me to go to
19
   Stanford so bad? No, that's --
20
              SPECIAL MASTER: 'Cause you didn't make it
21
   the first time we did one.
2.2
              MR. KASTE:
                          If that's convenient for you, and
23
   given that we don't have to move the entire trial
   there --
2.4
25
              SPECIAL MASTER:
                               That's what I'm thinking.
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1
              MR. KASTE:
                          If just a few of us have to go,
   then that would be great. And I do want to express,
2.
   again, how thankful we all are, and in particular, all
3
   of our witnesses, probably on both sides, that this
4
   trial was conducted here in Billings. It has made a
5
   world of difference for the various folks that have had
   to sit in that witness chair.
7
              SPECIAL MASTER: I'm sure it did. And I also
8
   hope for those of you, like Mr. Hayes, who has been our
9
   most dedicated member of the audience for this trial,
10
   you know, I hope it also helped all of you to have it
11
   here. But I'm glad we were able do that.
12
13
              And by the way, I thanked this morning,
14
   again, the district court for actually hosting us here.
15
              So, okay. So I think that, then, takes care
   of those various matters. And I'm just checking here.
16
              MR. DRAPER: I want to thank Mr. Kaste for
17
18
   making our record 100 percent by coming into line on
19
    that last point. We're 100 percent, at least since the
20
   trial finished here.
21
              SPECIAL MASTER: Okay. And, actually, I
2.2
   should say that Billings has been a delightful place to
23
   spend this period of time. I've actually gotten to
24
   know a variety of people in the town. So although it
   tends to be the -- at Stella's that I think I know the
25
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most people at this particular point.
                     Anything else that people can think
2
   about at this point administratively?
3
              MR. DRAPER: Not that I can think of at the
4
   moment, Your Honor.
5
              SPECIAL MASTER: Okay. Then what I will do
6
7
   is I will embody all of this into another case
   management order. As I say you know, I think there are
9
   only those sort of two questions that are open: The 60
10
   days versus 45 days; and second of all, whether or not
   to have a fixed date to set this from or whether or not
11
   to do it from the actual certification of the final
12
13
   record in the case.
14
              And I will then embody this in an order.
15
   part of that order, I'll also set out particular areas
16
   I want to make sure the posttrial briefs are focused
17
   on.
18
              MR. DRAPER:
                           Very good.
19
              SPECIAL MASTER: Okay. Then I would say at
   this stage -- you know, I've already said what, you
20
21
   know, I thought about the overall presentations. But I
2.2
    just want to say it really has been delightful to be
23
   here with all of you for the last two months.
24
   long period of time.
              And I know that's been true, not only for all
25
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of the attorneys, but, again, people like Mr. Hayes,
   who was here diligently following the proceedings, as
2.
   well as people like Mr. Book and Mr. Hinckley and
3
   Mr. Aycock who were here as experts, and also counsel
4
   for North Dakota, who it must not always have been easy
5
   to sit there and not be able to get up and actually
6
7
   make argument on your own; although, I'm sure the state
   of North Dakota didn't mind.
              So thank you very much for your presentations
9
10
    in this case. It was expertly done. And I appreciate
   it very much. And I'll look forward to seeing all of
11
   you next year probably at Stanford University.
12
13
              So at this point, I'm going to do two things.
14
   First of all, I'm going to wield this thing.
              And so that's the end of the trial in Montana
15
   v. Wyoming, No. 137, Original, in the Supreme Court of
16
   the United States on the liability phase of the case.
17
              So we're now off the record.
18
19
                        (Trial Proceedings concluded
                        at 2:58 p.m., December 4,
20
21
                        2013.)
2.2
2.3
2.4
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1 REPORTER'S CERTIFICATE 2. I, Vonni R. Bray, a Certified Realtime 3 Reporter, certify that the foregoing transcript, consisting of 189, is a true and correct record of the 4 proceedings given at the time and place hereinbefore mentioned; that the proceedings were reported by me in machine shorthand and thereafter reduced to typewriting using computer-assisted transcription. 8 9 I further certify that I am not attorney for, 10 nor employed by, nor related to any of the parties or attorneys to this action, nor financially interested in 11 this action. 12 13 IN WITNESS WHEREOF, I have set my hand at Laurel, Montana, this 14th day of February, 2014. 14 15 16 17 Vonni R. Bray, RPR, CRR 18 P. O. Box 125 Laurel, MT 59044 19 (406) 670-9533 - Cell (888) 277-9372 - Fax 20 vonni.bray@gmail.com 21 22 23 24

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