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Trial Transcript, Vol. 82, Afternoon Session

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case # 4993

File # 189

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IN THE DISTRICT COURT FOR THE FIFTH JUDICIAL DISTRICT

WASHAKIE COUNTY, STATE OF WYOMING

IN RE:

THE GENERAL ADJUDICATION OF
ALL RIGHTS TO USE WATER IN
THE BIG HORN RIVER SYSTEM
AND ALL OTHER SOURCES,
STATE OF WYOMING.

)
)
)
) Civil No. 4993
FILED _____
6/23 1981
Margaret V. Hampton CLERK
DEPUTY

VOLUME 82

Afternoon Session

Thursday, June 18, 1981

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THE SPECIAL MASTER: Come to order, please.

MR. ECHOHAWK: Your Honor, do we have a firm schedule set now for the next two months?

THE SPECIAL MASTER: It's being drafted.

MR. ECHOHAWK: Okay.

THE SPECIAL MASTER: I can give it to you roughly what it contains, starting July 7 --

MR. ECHOHAWK: July 7?

THE SPECIAL MASTER: I beg your pardon. July 14. We were going to start July 7, but July 14.

We run into Frontier Days if they run us out of here, and we will convene September 1, but we will not come back in the second week of September.

Mr. Perry, that's for Mr. Sachse and his problem.

And then we will finish up two weeks of September. We will not work October 9 to October 20, and that takes care of all obligations to all parties being treated equally, and from there we go on through every week.

MR. ECHOHAWK: Every week?

THE SPECIAL MASTER: And we will go through everything in the balance of October and November and December, until December 20 for the submission of the case by December 20, and you may argue where is our hearing on adverse effects in Worland for three or four days, and the Estoppel Doctrine can be argued. They may be slopped over into



1 January, but I think we can hear it in January, and I
2 think this is realistic because we have seen now,
3 after you have knocked heads on so many issues, the
4 other matters can go to one side.

5 I would imagine that the issues on the National
6 Forest as to the Federal Reserve question could be
7 resolved in three or four days of getting together
8 a stipulation of some type in this lawsuit.

9 The water in Water Division III is a question
10 of the Indians, non-Indians -- the others are
11 minute in comparison, I think.

12 MR. WHITE: Did you mean that all the claims or
13 just the Indian claims would be finished by December 20?

14 THE SPECIAL MASTER: All the claims.

15 MR. WHITE: I know you are going to get mad at
16 me, but I don't think there's any way.

17 THE SPECIAL MASTER: We are going to crank it out
18 and get it done because this is pretty much the schedule
19 that even the State first submitted two years ago. You
20 can't get -- We cannot have the type of cooperation
21 we have tried to have on these questions for delays and
22 keep going on -- the case has got to come to an end.
23 It's got to.

24 MR. WHITE: We'll do our best, Your Honor.

25 THE SPECIAL MASTER: I realize you will, and the



1 guts of the case is right here (indicating).

2 MR. ECHOHAWK: Thank you.

3 Q (By Mr. Echohawk) Mr. Billstein, before we broke at
4 lunch, I think we had a little discussion on water
5 duties that you used in your systems operation.

6 Did you state that you received the water duties
7 from the agricultural consultants in this case that
8 previously testified, that being Mr. Stetson and Mr.
9 Mesghinna?

10 A That's correct.

11 Q I show you what has been marked as United States Exhibit
12 WRIR C-306.

13 Would you please identify that exhibit for us?

14 MR. WHITE: Excuse me. Before he answers, Your
15 Honor, could I look at this for a minute? I may want
16 to object, and I may not.

17 MR. ECHOHAWK: Could we have a minute, Your Honor?

18 (Off the record.

19 MR. WHITE: Your Honor, the State of Wyoming would
20 object to any use of Exhibit C-306 on the grounds that
21 only the Type VIII and the future monthly breakdowns
22 have been previously provided to the State --

23 THE SPECIAL MASTER: Only the Type VIII and what?

24 MR. WHITE: And future, and we would object on the

25 billstein-direct-echohawk



1 basis of the five-day rule.

2 MR. ECHOHAWK: This exhibit was provided to the
3 State of Wyoming five days previous to today.

4 MR. WHITE: It was handed to us by Mr. Echohawk
5 on Monday, wasn't it?

6 MR. ECHOHAWK: It was sent out either last Thursday
7 or last Friday. and received in your office the same day.

8 MR. WHITE: I don't believe so, Your Honor.

9 THE SPECIAL MASTER: Well, if it's a document that
10 Mr. Billstein is going to use to refresh his memory or
11 to testify from on knowledge that he has in having used
12 some of the figures on it, I'm going to let it be used.

13 If it's an exhibit, then I might rule otherwise.

14 MR. WHITE: Your Honor, let me ask if I could check
15 to see whether or not I fouled up on that earlier sub-
16 mission, and we can proceed, reserving your decision on
17 the five-day rule, and let me check on that, and I can
18 be a little more definite on it.

19 THE SPECIAL MASTER: I have a question or two on it.

20 What do you mean that this is a composite climatic
21 zone on Big Horn Flats? In my opinion, this should be
22 not a composite. It's clearly in one climatic zone.

23 THE WITNESS: This report, Your Honor, did show it
24 in more than one climatic zone, and the summary totals
25 as per the April, 1981 Stetson Engineers' Report are



1 as reflected for North Crowheart in Exhibit C-306.

2 If you would like to, we could open up that docu-
3 ment, and I could point that out to you.

4 THE SPECIAL MASTER: No, I don't want to do that.
5 I just -- You have a type of claim, usually based on
6 Type A Project, but when you get to new ones, you have
7 an above B Lake and below B Lake?

8 THE WITNESS: B is hyphenated for Bull Lake, Your
9 Honor.

10 THE SPECIAL MASTER: That's supposed to be Bull
11 Lake?

12 THE WITNESS: Yes.

13 THE SPECIAL MASTER: All right.

14 THE WITNESS: What it reflects, Your Honor, is
15 the claimed acres presented by Stetson Engineers rela-
16 tive to their location, be it above Bull Lake or below
17 Bull Lake.

18 THE SPECIAL MASTER: I guess there is a parcel of
19 Big Horn Unit up north of the lake. I didn't realize
20 that.

21 Okay. Thank you, Mr. Echohawk.

22 Q (By Mr. Echohawk) Mr. Billstein, is the information
23 contained on Exhibit C-306 water duty information that
24 you used in running your systems operation or water

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1 availability analysis in this case?

2 A. I used this information relative to the Big Wind and
3 Little Wind operations studies.

4 Q. And this is information that you received from Stetson
5 Engineers?

6 A. That's correct.

7 Q. Mr. Billstein, you have mentioned previously that you
8 used the water supply information from Mr. Keene that
9 he has previously testified about, and you just stated
10 that you received the water duty information from Stetson
11 Engineers and identified it on C-306.

12 Is it necessary to use return flow information in
13 your systems operations?

14 A. Yes, it is.

15 Q. And what type of return flow information did you use?

16 A. Return flow information was based on volume, monthly
17 distribution, and location.

18 Q. Where did you get this information?

19 A. This was generated by HKM Associates, specifically by
20 Mr. Toedter.

21 Q. Did you play any role in assisting Mr. Toedter in any
22 of that generation of that information?

23 A. Yes, I did. I was in on the investigation in terms of
24 meeting with various agencies or doing literature research.

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We obtained some interviews with certain people that we felt were qualified in this area. I was also involved in the location of the return flow nodes and delineating the lands contributing or returning to those nodes.

Q Is it a common practice for someone such as you in water resource planning to rely upon someone who has a background such as Mr. Toedter in relying on return flow information?

A Certainly a person who is a water resource planner delineates locations that he would like to see the information generated. He then can assist in the analysis of that data, but he goes to a technical expert to make sure that the interpretations that he is making are, in fact, adequate and that there is no technical information in evidence that would contradict any of the conclusions that the planner would make.

Q To your knowledge, does Mr. Toedter have the correct technical background to provide you with this return flow information?

A Mr. Toedter is qualified in that area.

* * * * *



1 Q (By Mr. Echohawk) Okay, you mentioned that you assisted
2 in the delineation of return flow locations and areas.
3 I direct your attention to what has been marked previously
4 as United States Exhibit WRIR C -- I believe that's 294.
5 Would you please identify that exhibit for us?

6 MR. WHITE: Objection, Your Honor. We are getting
7 into the area again of opinion based on opinion. The
8 Court will recognize Exhibit C-294 is the exhibit about
9 which Mr. Toedter indicated that he -- or was presented
10 during Mr. Toedter's testimony. The Court prohibited its
11 use at that time because of the five-day rule, and at
12 that time it was represented to the Court Mr. Toedter
13 would be brought back to discuss that. I have two grounds
14 for my objection to the future reference to this exhibit
15 by this witness: First, again, it's based on opinion;
16 second, the expert who actually prepared this is in the
17 Courtroom, was in the Courtroom, and we were all told he
18 would be brought back to testify about that. What is
19 happening here is that the exhibit is being introduced
20 based on the reliance theory and precluding effective
21 cross-examination of the exhibit.

22 THE SPECIAL MASTER: The objections will be over-
23 ruled. This Witness said he assisted in return flow
24 data, so he may answer.

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1 MR. ECNOHAWK: Your Honor, in response to Mr. White's
2 objection, we have been over this many times in the last
3 few months. Again, we rely on Rule 703. And to meet ,
4 Mr. White's concerns, the United States is prepared to
5 put Mr. Toedter on at this point, break Mr. Billstein's
6 testimony, if the State of Wyoming feels it's absolutely
7 necessary that we have that information established ahead
8 of time. We can either put Mr. Toedter on now for
9 direct examination and cross-examination and get this
10 matter laid to rest, or we can put him on at the close
11 of Mr. Billstein's testimony.

12 THE SPECIAL MASTER: I shouldn't think it's required,
13 unless Mr. White says it is.

14 MR. WHITE: It will be inconsistent to say it isn't
15 required, but in the interest of time, let's do it at the
16 end of this testimony, Your Honor.

17 MR. ECHOHAWK: We will put that testimony on shortly.

18 THE SPECIAL MASTER: All right.

19 MR. ECHOHAWK: Excuse me, Your Honor.

20 (Off-the-record discussion.)

21 THE SPECIAL MASTER: If we put Mr. Toedter on now,
22 we don't have to wait for him until the end, and he was
23 brought down expressly to use at this time. Why don't
24 we put him on at this time and it will save him a day in
25 respect to his time.



1 You have waived putting him on now?

2 MR. WHITE: Yes.

3 THE SPECIAL MASTER: But you said you want to
4 reserve him until the end?

5 MR. WHITE: That was the suggestion of Mr. Echohawk.
6 We have people here who are here primarily to hear Mr.
7 Billstein's testimony because Mr. Toedter was not put
8 on this morning. We are really not in a position to listen
9 to his testimony right now.

10 THE SPECIAL MASTER: Is that agreeable, Mr.
11 Echohawk, to wait and do Mr. Toedter tomorrow or when you
12 are through with Mr. Billstein?

13 MR. ECHOHAWK: I'm not clear if -- I assume Mr.
14 Billstein's cross-examination is going to go far beyond
15 the break period, so if we don't do it now, then we are
16 not going to get to Mr. Toedter until July.

17 (Off-the-record discussion.)

18 THE SPECIAL MASTER: Mr. Echohawk -- off the record
19 for a minute. Can I see you at the bench for just a
20 minute?

21 (Off-the-record discussion.)

22 THE SPECIAL MASTER: Back on the record, please.

23 MR. WHITE: Your Honor, we would renew our objection
24 to Exhibit C-306, being in violation of the five-day rule.
25 We object to the correspondence and the attachments to



1 that correspondence which we received last week, and
2 we find that exhibit was not included in the attachments,
3 and we further state to the Court we received this on
4 Monday. Mr. Echohawk kindly pulled it out of his notebook
5 and gave it to us on Monday, and it's in violation of the
6 five-day rule because today is Thursday.

7 MR. ECHOHAWK: I apologize, Your Honor.

8 THE SPECIAL MASTER: I'm going to overrule the
9 objection, Mr. White, because I don't think the -- I don't
10 think there's an unfair advantage taken. It's shortening
11 the rule, that's granted, but it's not a disadvantage to
12 you, and I hope I'll appreciate that.

13 MR. WHITE: Can I have another chit, Your Honor,
14 another crack?

15 THE SPECIAL MASTER: Another chit you get. You're
16 up to eight.

17 MR. WHITE: I think I'm in the mid-60s, I think.

18 THE SPECIAL MASTER: Because if we do that, we delay
19 the case, and delaying the case is becoming unethical to
20 me. All right.

21 Q (By Mr. Echohawk) Mr. Billstein, I direct your
22 attention -- I'm not sure if I got this out again -- to
23 WRIR C-294. Would you please identify that exhibit for us?

24 A Yes. This is an exhibit showing the return flow areas,
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1 specific to return flow collection control points for
 2 the Big Wind, specific to return flow collection control
 3 points for the Big Wind and the Little Wind study units.
 4 To explain further, you would see in the upper northeast
 5 corner of the --

6 THE SPECIAL MASTER: Which corner?

7 THE WITNESS: Northeast -- northwest corner of the
 8 exhibit is node or Control Point No. 11. It is colored
 9 in blue. There is a contributing drainage in terms of
 10 a closed line extending up the East Fork of the Big Wind
 11 River. That contributing drainage reflects areas
 12 containing agricultural claims served by the operation
 13 study which have return flows which are collected at
 14 Control Point 11. Moving downstream colored in green
 15 would be the next area of service whereby we would have
 16 return flows collected by a downstream node. In this
 17 case Control Point 3 is the return flow collection point.
 18 All of the areas outlined in green refer to the service
 19 base from which return flow has been collected at Node 3.
 20 Moving further in the downstream direction we see
 21 Control Point 24. It is colored in red. The area above
 22 it outlined in red corresponds to the service area
 23 supplied by the operational study from which return flows
 24 accrue to the system and are collected at Point No. 24.

25 billstein-direct-echohawk



1 Q (By Mr. Echohawk) Mr. Billstein, in relation to C-294,
2 the base map, is that base map the same base map which
3 is Exhibit C-305, does it show the same general infor-
4 mation?

5 A The base map is one and the same. The only exception
6 being that the respective agricultural claim distinctions
7 are colored in on Exhibit C-305, while on Exhibit C-294
8 they are left blank, only identifiable by the insignia
9 being either a triangle, circle or hexagon in the right-
10 hand corner which reflects the type of claim the return
11 flow is accruing from.

12 Q Are the control points or nodes, as you have described
13 them, that are reflected on C-294, the same control points
14 or nodes that are reflected on C-305?

15 A The numbering system is identical.

16 Q Are the control -- return flow collection areas and
17 collection points that are reflected on C-294, the
18 remainder of them that you have not yet described,
19 generally denoted in the same manner as you have described
20 the previous three or four?

21 A That's correct. Typically what we have is a color-coded
22 return flow collection node. The area that contributes
23 to that return flow node is identified by the same color.

24 Q Now, do you collect return flows at all control points
25 billstein-direct-echohawk



1 or nodes?

2 A No. As you will see on Exhibit 294, there are many nodes
3 that are not colored in. Only the nodes that are, in fact,
4 colored in are return flow collection points.

5 Q Now, when you talk collection points, those -- are those
6 collection points merely for the purposes of your study?

7 A That's right. They are collection points that we use for
8 our bookkeeping or accounting system in this operational
9 study. There are many cases where the return flows from
10 a particular service area would come in above that
11 particular node, but in no case did we feel that there
12 was any return flow coming in below that control node
13 from the contributing area circled above it.

14 Q Could you tell us generally what sort of information
15 you and Mr. Toedter relied upon in determining collection
16 points or return flow collection areas?

17 A Basically we relied upon my needs as per the system's
18 operations study in terms of locating the respective
19 collection points. Oftentimes, however, there are
20 physical systems in place or in evidence in the Basin
21 that make for or are amendable for collection points. For
22 example, the Little Wind Unit, which is a part of the Wind
23 River Federal Irrigation Project, identified as the Ray
24 Unit and the Coolidge Unit, the Little Wind Unit is a

25 billstein-direct-echohawk



1 complex service area where water can be utilized or
2 reutilized within the system. In those cases the
3 operational plans of the Bureau of Indian Affairs were
4 re-evaluated, the facilities were reviewed, and the
5 collection point nodes reflect actual locations where
6 return flows are accounted for and collected in this
7 system. A major example of this would be what we have
8 on Exhibit C-294, Node No. 5 is colored in orange. This
9 reflects the point where a major tributary in the Little
10 Wind system called Trout Creek intersects the Coolidge
11 Canal, the Coolidge Canal being a major service canal in
12 the lower part of the Little Wind Unit. What happens is
13 that the return flows from the areas that are being
14 served between the point where Trout Creek passes the Ray
15 Canal, which is the major service canal for the upper
16 area of the Little Wind Unit, and the point that it meets
17 the Coolidge Canal, these return flows are collected in
18 Trout Creek and are available for reuse at the Coolidge
19 Canal. Trout Creek enters into the main Coolidge Canal,
20 and we have overflow structures that can be set up in
21 such a way it either can take all of the return flow or
22 all of the base flow that's moving down Trout Creek or it
23 can be set up in such a way that some spill can take
24 place, but this is a typical example how there is a
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typical in-place facility in the Basin that was utilized as a return flow node. They were not a purely speculative or idealized node. If there was, in fact, a situation where return flow was being collected and reuse was being made, that was being brought back and incorporated in the plan if it was of value to the plan.

* * * * *

billstein-direct-echohawk

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1 Q (By Mr. Echohawk) Thank you. I think you can have a
2 seat.

3 Mr. Billstein, does this, what we have discussed so
4 far regarding return flows -- does that pretty much sum
5 up the information that you needed -- return flow infor-
6 mation that you needed and utilized in your systems
7 operation?

8 A That's correct.

9 MR. WHITE: Your Honor, at this time the State would
10 move to strike the testimony of Mr. Billstein concerning
11 the return flow information which he developed in con-
12 junction with Mr. Toedter because from the testimony of
13 Mr. Billstein it's clear that the return flow information
14 that he has pointed out on Exhibit 294 is return flow
15 from both historic and future lands.

16 The offer of proof in the following discussion --
17 from that offer of proof from Mr. Clear concerning Exhibit
18 294 on Monday included a representation by the United
19 States that this was a return flow representation only
20 for future lands, not historic lands and, as a result,
21 first the State objects on the five-day rule because the
22 purpose and the contents of the exhibit were affirmatively
23 stated to be one thing and not the thing that they actually
24 are five days ago.

25 billstein - direct - echohawk



1 And, second, the United States is now estopped to
2 claim that after an offer of proof to the effect that only
3 future lands were included in that return flow study, that
4 they now include historic lands as well.

5 THE SPECIAL MASTER: I don't see how a systems opera-
6 tion study map can be accurate and complete if it doesn't
7 include both historic and future, so I will overrule the
8 objection. If it's to have probative value or use at all,
9 it has to include both.

10 Go ahead, Mr. Echohawk.

11 Q (By Mr. Echohawk) Mr. Billstein, now that we have the water
12 supply, water demand, and the return flow information, I
13 assume that this is the basic data you used to operate
14 the system or assess the water availability generally in
15 regard to the two main study areas you have set up, the
16 Big Wind and the Little Wind unit.

17 Did you perform this systems operation or analysis
18 by hand calculations, or did you use some sort of a com-
19 puter?

20 A It's certainly too complex to do anything by hand calcu-
21 lations. We used a computer program, specifically the
22 hydrologic engineering, HEC-3 program.

23 Q The HEC-3 program, is that a type of computer program
24 that's generally accepted for people such as yourself to
25 billstein - direct - echohawk



16-3

1 run this sort of analysis?

2 A Yes, it's certainly acceptable for this.

3 Q Is it a computer program that's available to the public?

4 A It's available to the public domain.

5 Q Could you describe for us in general terms, without getting
6 too detailed or too specific, what this program does and
7 how you used it?

8 A Okay. The HEC-3 program is a reservoir system study along
9 the traditional accounting or bookkeeping principles, and
10 what you do is count inflows, demands, depletions, and
11 return flows and be able to monitor the remaining flow
12 or the river flow in the downstream direction.

13 It's a sequential type of analysis. When you do have
14 storage involved or you want to superimpose other opera-
15 tional constraints, if you wanted to have, say, fishery
16 flows at a certain location or a certain node, you can,
17 in fact, build in operational criteria for that, and we
18 have in certain portions of this study, but by and large
19 what it is is a computerized accounting system monitoring
20 water flow in a sequential fashion in a downstream direc-
21 tion.

22 Q Now, these control points or nodes that you have been
23 discussing that you have depicted on C-305 --

24 THE SPECIAL MASTER: On what?

25 billstein - direct - echohawk



16-4

1 MR. ECHOHAWK: On Exhibit C-305 --

2 Q (By Mr. Echohawk) -- are those points accounting points
3 where you kept track of what flows were available in that
4 computer?

5 A That's correct. Each control point or node does have in-
6 flow or storage or release river flow information avail-
7 able for it.

8 Q By using the computer, that's how you assessed what water
9 was available at each of those control points?

10 A That's correct. You take a look at what the inflow is
11 into a point under the specific operational constraints
12 that you apply to that point.

13 If you have demands coming out of that point, you
14 take care of those demands, and then you take a look at
15 what remaining river flow is leaving that point.

16 Q I assume from your previous testimony that you are also
17 able to add return flows at those various points also?

18 A There are certain points that are return flow point nodes
19 and other points that are diversion nodes. They are mutual-
20 ly exclusive nodes. You can't add return flow and call on
21 demand at the same point, but --

22 THE SPECIAL MASTER: Is it possible that there are
23 some return flow points along the river that you do not
24 have spotted with a node, a study node?

25 billstein - direct - echohawk



1 THE WITNESS: I don't believe that we have any
2 reaches designated on 294 that we don't have return
3 flow accounted for except perhaps at the very end of the
4 study unit where catagorization or quantification of those
5 return flows had little or no importance.

6 THE SPECIAL MASTER: So you feel that Exhibit 294 is
7 a thorough and accurate representation of all return flow
8 in the two study areas?

9 THE WITNESS: That's my opinion.

10 Q (By Mr. Echohawk) Mr. Billstein, before we jump into your
11 operation of the Big Wind system, you operated this study
12 or assessed the flows over a period of time. What base
13 period did you use?

14 A I used the base period supplied to me by Mr. Keene, the
15 1946 to 1979 period.

16 Q The same period Mr. Keene used for his natural flow analysis?

17 A That's right, the same period that was used for, for in-
18 stance, his A.I study site analysis.

19 Q Mr. Billstein, let's get into your operation, your analysis
20 of the Big Wind system.

21 Could you explain for us very carefully and slowly,
22 starting at the top of the system, how your analysis pro-
23 ceeded, what you considered, and just generally go down
24 the system until we get a good understanding of what it is
25 billstein - direct - echohawk



1 that your analysis included?

2 A Certainly. As I discussed previously, in an operational
3 study, you start from the upstream direction and move
4 sequentially in a downstream direction.

5 The first area or reach of stream that was part
6 of the Big Wind system was the East Fork of the Big Wind
7 River. There were various agricultural water claims.

8 What I would like to -- let me break the thought
9 for just a minute and say that what I am going to describe
10 to you right now is procedurally how the agricultural claims
11 were analyzed.

12 Later on we'll go back in and superimpose how the mineral
13 and fishery claims were reviewed on the basis of this
14 analysis.

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25 billstein - direct - echohawk



1 THE WITNESS: Getting back to the East Fork of the
2 Big Wind River, there were a number of claims, specifically
3 government claims, developed on that system. These
4 claims fell within the boundaries in red above Control
5 Point No. 11. For the purposes of the computer program,
6 I showed all the diversions coming out of Control Point
7 No. 9. We have some very minor irrigation usage in the
8 upper Basin. Those were simply transferred down here
9 so that we didn't have to worry about several accounting
10 nodes on the Big Wind System. We were able to come in
11 with a composite acreage and define that as being
12 irrigated out of Control Point No. 9.

13 THE SPECIAL MASTER: When you mention that around
14 Control Point 9 and Control Point 27 there were various
15 government claims, were those State or Federal or both?

16 THE WITNESS: I don't understand the question, Your
17 Honor.

18 THE SPECIAL MASTER: Just a moment ago you said
19 there were various government claims on that stream of
20 the East Fork of the Big Wind.

21 THE WITNESS: Yes, sir.

22 THE SPECIAL MASTER: And I wonder what kind of
23 government claims, if you are talking about the Wiggins
24 Creek Elk Migration or is this irrigation reclamation

25 billstein-direct-echohawk



1 or Wyoming Game and Fish, just what is it?

2 Q (By Mr. Echohawk) Mr. Billstein, are the claims that are
3 up there agricultural claims asserted by the United States
4 and by the Indians?

5 A Yes, that's correct.

6 THE SPECIAL MASTER: I see. Where is the land that
7 water goes on that's claimed up there that's Indian land?
8 Go ahead and point it out.

9 THE WITNESS: Your Honor, we have a small acreage
10 at this location (witness indicating).

11 THE SPECIAL MASTER: Okay, I see it.

12 THE WITNESS: Another small acreage at this location.

13 (Witness indicating)

14 THE SPECIAL MASTER: All right.

15 THE WITNESS: Moving downstream we come to a blue
16 area of adjudicated rights.

17 THE SPECIAL MASTER: Okay.

18 THE WITNESS: And I believe that covers the extent
19 of the government claims in that area. Specifically, if
20 you go back to the report submitted by the various
21 experts for the United States as well as the amended
22 motion relative to the adjudicated rights, one would be
23 able to follow it tract by tract. I do have that backup
24 information if that would help you, Your Honor, sometime

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1 in the future to do that.

2 THE SPECIAL MASTER: Well, what bothers me is that
3 I see that East Fork coming down to touch the confluence
4 with the mainstem, and I was of the opinion that Blue
5 Holes, which I see there -- what's it covering up there?
6 Off the record.

7 (Off-the-record discussion.)

8 THE SPECIAL MASTER: All right, thank you.

9 THE WITNESS: Therefore, we took the respective
10 agricultural claims. In this case it was 308 and 310 acres
11 of what we call non-project historic lands. We would
12 then go into the water duty schedule and pull out the
13 water duties for those 310 acres of non-project historic
14 lands. In this case, Your Honor, it's out of the Dubois
15 Climatic Zone, so if you would go to the second page of
16 Exhibit C-306, look at water duty schedule No. 20, you
17 would see under the description non-project acreage,
18 climatic zone Dubois, historic claim, you would see that
19 in reading across the unit or the individual acre water
20 duty all the way over on the right-hand side is 5.06
21 acre-feet per acre, so relative to those 510 (sic) acres
22 of government claim, this water duty under this monthly
23 distribution of duty was applied to those lands to come
24 up with the demand that was charged against the system

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1 at that point.

2 THE SPECIAL MASTER: So your claim would encompass
3 roughly 2,500 acre-feet for that -- the acreage you just
4 described?

5 THE WITNESS: I believe it would be around 15, 1,600,
6 Your Honor.

7 THE SPECIAL MASTER: Five hundred acres or --

8 THE WITNESS: Three hundred ten.

9 THE SPECIAL MASTER: You said 310 acres times 5.06,
10 okay. Thank you.

11 THE WITNESS: Now, we do have a Control Point No. 27
12 above Point 9, and I'll just describe this once, and it's --
13 I don't want it to confuse the Court about the system
14 study as a whole, but one of the only changes -- or the
15 only change that we made to the HEC-3 Program was the
16 fact we did not feel it adequately depicted return flows
17 accurately over a 12-month or a yearly cycle. What we
18 had to do was put in a point which we call a dummy
19 diversion point, and the dummy diversion point acts as
20 a mechanism to convert return flows to the monthly
21 distribution that we would like them.

22 So everytime we had a diversion in the system, we
23 code that back to this dummy diversion point, and
24 consequently that allows us to get the return flow

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1 distribution that we think is appropriate to the system.
2 So that is what that point is, and nothing more, and
3 should consequently then be dismissed from our minds in
4 terms of the actual operation of the system.

5 So this, then, takes us down to the confluence of
6 the East Fork of the Big Wind System to the mainstem of
7 the Big Wind System. We then took up the natural flow
8 estimate as developed by Mr. Keene in his testimony. This
9 is a natural flow estimate utilizing a number of gauges
10 in the Basin; specifically we start at the Wind River at
11 Crowheart and then we step it up subtracting out all the
12 other natural flow stations until we arrive at the natural
13 flow estimate at that point. So this would give us --
14 the river flow leaving Point 11 would then reflect the
15 remaining flow, that is leaving the East Fork of the Big
16 Wind System plus the natural flow of the Big Wind System
17 at that point.

18 We then go into the next reach and encounter Node
19 No. 1. Node No. 1 constitutes a diversion point, control
20 point, and it takes into account all of the diversions
21 for use in the reach between 1 and 3. As we see here,
22 there is a -- going to Exhibit C-294 we can see that
23 Node 3 then is a collection point of the return flows
24 for that same reach. We have a water supply leaving

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1 Point No. 11, it's being diverted for the acreage
2 between 1 and 3 at No. 1, it's then recollected at Node
3 No. 3, which gives us then the river flow at that point.

4 We then move on in the downstream direction. In
5 this particular case, to save reiterations on the computer,
6 we combined the diversions in several locations into what
7 we would call Control Point No. 4. Control Point No. 4
8 is a diversion point, and it would --

9 THE SPECIAL MASTER: Pardon me. Henry, would you do
10 me a favor and knock off the lights behind you? I think
11 it would be more comfortable. It's almost glaring for me.

12 (Whereupon, Mr. Sostrom
13 (turns off some lights in
14 (the Courtroom.

15 THE SPECIAL MASTER: Thank you very much. Go ahead.

16 THE WITNESS: Control Point No. 4 is shown three
17 times on the schematic, which reflects the fact that I
18 have incorporated three separate diversions into the
19 computer program at this point. The diversions reflect
20 1,351 acres of non-project historic lands along the Big
21 Wind River from the enlarged Black Rocks Ditch, which
22 is roughly at Point No. 4, all the way down to Diversion
23 Dam roughly. In other words, I built in all the
24 diversions for the mainstem of the Wind River from
25 enlarged Black Rocks Ditch down to Diversion at this

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1 point. Also included was the Wind River A Canal portion
2 of the Upper Wind Indian Unit, which is roughly along
3 this line (witness indicating). This is the lower canal
4 of the two major canal systems that serve the Upper
5 Wind Project. And in that case there was 1,118 acres of
6 project land served by the Wind River A Canal. Now, again,
7 these acres can be referenced back to the water duties
8 schedules if the only missing link would be ^{the} climatic
9 zone information. And that backup data can be furnished
10 so that you can trace the water duties in the downstream
11 direction.

12 The third diversion location is for the North
13 Crowheart Project. This is 38,773 acres of future lands.

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1 THE SPECIAL MASTER: Where is that diversion?

2 THE WITNESS: That diversion is located at this
3 lower point, No. 4. It's at the same headworks as the
4 private ditch system, Nolan Ditch (indicating). It ex-
5 tends along the edge of the cliff, crosses Crow Creek,
6 then extends up into the North Crowheart Service area.
7 So, at this point in time, we have the diversions from
8 these three control points being taken out of the river
9 system.

10 The computer program then goes into Control Point
11 No. 2, and Control Point No. 2 reflects the Dinwoody
12 Creek area and the natural flow estimate, which again
13 was an A,1 site sometime obtained from Mr. Keene, was
14 utilized for the inflow at Point No. 2.

15 We have at this point a demand based on the agricul-
16 tural claims of the United States of 171 acres of non-
17 project historic lands.

18 We can go back to the water duty schedule and get
19 that demand and charge it against the system. For ease
20 of analysis, we've then allowed the stream flow to be
21 diverted over into the Dry Creek, Meadow Creek and Willow
22 Creek areas.

23 As you're aware of from your field trip, there is a
24 major canal that services or brings supplemental water

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1 from Dinwoody Creek over into the Dry Creek, Muddy Creek,
2 Willow Creek areas.

3 Just for ease of accounting, we allowed the remainder
4 of the stream flow to also continue along that canal.

5 One thing you have to remember, Your Honor, is that
6 at any time you get into an operational study, there are
7 several different solutions to the water availability issue,
8 and we could -- there's many other ways that we could
9 operate the system and still arrive at the same conclusion.

10 We chose to operate it in this way, but I could have
11 chosen to release a certain amount of flow down Dinwoody
12 Creek and not have remaining flow go over into the Din-
13 woody Bench area and still have the same conclusion.

14 So the flow from Point No. 2 is taken over into the
15 Dinwoody Bench Canal and goes into Dry Creek.

16 Now, this is another one of those complicated commingl-
17 ing source areas in the Upper Wind Unit.

18 By that, what we can do is take any or all of the
19 flow of Dry Creek and any or all of the flow that's coming
20 over in the Dinwoody Canal and use it to service an area
21 in that unit under a reach of canal moving into Control
22 Point 8 and 17 by the name of Dry Creek Canal.

23 So, basically, what we do then at Control Point No. 8
24 is this is accounted for from the outflow from Control

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1 Point No. 2 plus the natural flow estimate for Dry Creek
2 which, again, is a Station A.1 site developed by Mr. Keene.

3 Then what is charged against this accumulated flow
4 at this time is the private irrigation below on Dry Creek
5 which is 187 acres plus 3,747 acres of project land which
6 is serviced under the Dry Creek Canal portion of the Din-
7 woody Bench area and 441 acres of Type VIII lands, which
8 are included further in that portion of the --

9 THE SPECIAL MASTER: I have a running troublesome
10 problem every time you mention project lands because up
11 until the reconnaissance trip I was of the opinion that
12 virtually all project lands were either trust lands or
13 fee lands to Indians, period.

14 Now I find out that there are non-Indian owners of
15 fee land within the projects.

16 Do you make a distinction in your work regarding who
17 owns the fee land in the projects?

18 THE WITNESS: At this particular time we made -- we
19 are not including anything but trust land in the operational
20 study, Your Honor.

21 THE SPECIAL MASTER: So if you find fee land in your
22 study that is Indian-owned, you exclude that acreage?

23 THE WITNESS: That is not included in this study.

24 MR. ECHOHAWK: It's not in the Claim of the United

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1 States, Your Honor. The United States is asserting claims
2 only for trust lands.

3 Q (By Mr. Echohawk) Mr. Billstein, what I derive from your
4 analysis thus far, and you have been explaining it to us,
5 is that it's generally, as you described before, an account-
6 ing system of adding inflows, subtracting diversions, and
7 then adding again return flows at the various collection
8 points that you have described on Exhibit C-294.

9 Is that generally what you have done?

10 A That's correct. You do it year by year for the base period
11 established for the study?

12 Q So, essentially, this same analysis, inflow-outflow account-
13 ing, has been done for each period -- the 34-year base
14 period that you have chosen?

15 A That's correct.

16 Q And it has been operated or analyzed for the entire area
17 depicted in red as the Big Wind Study Unit?

18 A That's correct.

19 MR. ECHOHAWK: Your Honor, could I have a brief
20 moment, please?

21 THE SPECIAL MASTER: Sure. Do you want to take a
22 five-minute break?

23 MR. ECHOHAWK: Yes, Your Honor. This may speed this
24 up.

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1 THE SPECIAL MASTER: Okay. Five to ten minutes.

2 (Recess.

3 THE SPECIAL MASTER: May we come to order?

4 I have got it clear now that the assertion of Mr.
5 Echohawk was not understood by me, and that is the United
6 States' claims do not assert any claims reserved right for
7 Indians who hold it in fee. The Indians will make that
8 claim when that case comes on, or the Tribes will make
9 that claim when their case comes on.

10 MR. PERRY: That's correct, Your Honor.

11 THE SPECIAL MASTER: Go ahead, Mr. Echohawk.

12 Q (By Mr. Echohawk) Mr. Billstein, as I understand, what
13 you said so far is you performed this analysis at each of
14 these downstream points, at each of these control points,
15 or nodes for each year over the 33-year base period; is
16 that correct?

17 A That's correct.

18 Q In your analysis of such and calculating supply against
19 ideal demand or the demand set by the agricultural engineer
20 in any of the years in the base period, does the situation
21 arise where the supply available at any one of your control
22 points or nodes -- does the situation ever arise where
23 there was not enough water to meet the demand?

24 A By the demand, you're talking about the idealized demand?

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1 Q That's correct.

2 A Supplied by Stetson Engineers?

3 Q That's correct.

4 A Okay.

5 MR. WHITE: I object to the question, Your Honor,
6 for lack of foundation. Until he gets some description
7 of the control points he's talking about, I think the ques-
8 tion is ambiguous.

9 THE SPECIAL MASTER: Mr. White, I admit in all honesty
10 I wasn't following the question.

11 Will you read it to me, please?

12 (The above question was read back
13 (by the reporter as follows, to
14 (wit: "Q: In your analysis of
15 (such and calculating supply against
16 (ideal demand or the demand set by
17 (the agricultural engineer in any
18 (of the years in the base period,
19 (does the situation arise where
20 (the supply available at any one
21 (of your control points or nodes
22 (-- does the situation ever arise
23 (where there was not enough water
24 (to meet the demand?"

25 THE SPECIAL MASTER: Then you objected to the fact
that it was supplied by Stetson Engineers?

(The above answers and questions
were read back by the reporter as
follows, to wit: "A: By the
demand; you're talking about the
idealized demand?" Q: That's
correct. A: Supplied by Stetson
Engineers? Q: That's correct."

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1 MR. WHITE: No, I objected to -- I'm not sure which
2 control points he's talking about, the ones he's already
3 described or the ones that haven't been described.

4 THE SPECIAL MASTER: Okay. Identify your control
5 points, Mr. Echohawk.

6 MR. ECHOHAWK: All right.

7 Q (By Mr. Echohawk) Mr. Billstein, I show you what has
8 been marked United States Exhibit WRIR C-307.

9 Would you please identify C-307 for us?

10 MR. WHITE: Objection, Your Honor. May I have just
11 a minute to review the document and see -- I will have a
12 five-day objection, but I want to check on something else.

13 THE SPECIAL MASTER: I thought I saw you looking at
14 that this morning, so it will be a four and a half-day
15 objection, but go ahead.

16 MR. ECHOHAWK: Your Honor, may I consult with the
17 witness off the record?

18 THE SPECIAL MASTER: Off the record for a while, Vi.
19 (Off-the-record discussion.

20 THE SPECIAL MASTER: Back on the record, please.

21 MR. WHITE: I object, Your Honor, to the use of this
22 document as part of Mr. Billstein's testimony in that it
23 is used in violation of the five-day rule. It was fur-
24 nished to us approximately midday on Monday. Today is

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1 Thursday.

2 THE SPECIAL MASTER: I'll overrule the objection, Mr.
3 White, and let him proceed.

4 MR. WHITE: Can I have another chit on that?

5 THE SPECIAL MASTER: Okay, another chit on the subject.

6 Q (By Mr., Echohawk) Would you please identify Exhibit 307 for
7 us, Mr. Billstein?

8 A. Yes, this is a description developed by myself that des-
9 cribes what takes place at each control point associated
10 with the Big Wind River operational study.

11 Q Now, the control points as listed along the left-hand side
12 of each page of Exhibit C-307, control point numbers, do
13 those numbers correspond to the control points indicated
14 on Exhibit C-305 and C-294?

15 A. They are one and the same.

16 Q Does the description that's depicted on Exhibit 307
17 describe what information is taken into account at each
18 control point?

19 A. That would be correct.

20 Q Mr. Billstein, I refer you to the last page of C-307.
21 Could you please describe for us what that is?

22 A. That is a schematic of the Big Wind operational study. It
23 shows in a schematic form the location of the diversion
24 points, the return flow points, and describes the major

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1 facilities or use areas utilized as part of the study
2 relative to those nodes.

3 MR. WHITE: Your Honor, I would move to strike the
4 Exhibit C-307 on the grounds that it's clear from the
5 face of the exhibit that return flows from private lands
6 are being used, and if that is the case, it 's utterly
7 remarkable that this has any probative value at all to use
8 return flows from private lands when there's been no es-
9 tablishment that those private lands could be served by
10 diversions if the claims of the United States were filled.

11 MR. ECHOHAWK: Your Honor, I believe that with a
12 couple questions we can clear that up.

13 THE SPECIAL MASTER: Well, I hope you do because I'm
14 of the same opinion that Mr. White is that if you rely
15 upon return flows from private lands to make a claim for
16 water, you have included an improper factor in your
17 instrument for right to water.

18 Q (By Mr. Echohawk) Mr. Billstein, would you please tell us
19 how the term "private land" is used in C-307?

20 A In the schematic --

21 THE SPECIAL MASTER: You are talking about the back
22 page, aren't you?

23 MR. WHITE: I'm also talking about such as Page 4
24 and 5 where it says, private lands below Dinwoody Bench

25 billstein - direct - echohawk



1 service canals, and then skipping some language, are col-
2 lected at CP-24.

3 THE SPECIAL MASTER: All right. Which one are you
4 referring to, Mr. Echohawk?

5 MR. ECHOHAWK: That would be fine. I think it's used
6 the same way throughout the document.

7 THE WITNESS: I can respond to that.

8 THE SPECIAL MASTER: All right. Please do.

9 THE WITNESS: Private lands referred to nonproject
10 lands. We're only talking about trust lands, and only
11 trust lands are accounted for. These are trust lands that
12 are located outside of respective projects. So, if you
13 would, for purposes of my further testimony, associate non-
14 project and private as interchangeable phrases, then I
15 think that should alleviate the problem, but they are
16 located on trust land.

17 THE SPECIAL MASTER: That does alleviate the problem
18 and alleviates the objection.

19 MR. WHITE: I withdraw the objection.

20 THE SPECIAL MASTER: Go ahead.

21 Q (By Mr. Echohawk) Just so we are clear on the point, Mr.
22 Billstein, all lands that you considered in your operational
23 study deal only with trust lands claimed by the United
24 States, is that correct?

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1 A. That's correct.

2 Q. Now that we have control points identified and described in
3 C-307, can you describe for us -- I will go back to my
4 previous question -- in your analysis over the 34-year
5 period -- in your analysis did you ever -- did your
6 analysis ever show an insufficient water supply to meet
7 the demands set by the agricultural engineer?

8 MR. WHITE: I will object to the question on the
9 grounds of ambiguity, Your Honor. The question deals with
10 annual acre-feet amounts of water that are necessary. It
11 should state that, and I would have no objection.

12 If it says that it's the amount of water that's avail-
13 able at any one particular day or any one particular day
14 or any one particular month during the instantaneous
15 amount, the c.f.s. amount that's available, I would have
16 no objection, but as it is, there's no way to know what
17 information is not included by the question. And, there-
18 fore, the question is ambiguous.

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THE SPECIAL MASTER: What do you mean by insufficient water supply, for what, for what period, for an area?

MR. ECHOHAWK: At each of Mr. Billstein's control points he has a demand -- or not at each of them, in certain ones he has a demand. He matches that with the water supply. The question is at each of those points he considered that is there a sufficient supply to meet the demand?

THE SPECIAL MASTER: I'll overrule the objection, and that question has been made much more clear I think.

THE WITNESS: Yes, there were a small number of years where there were points in the system where the water supply did not meet the idealized demand that was asked for by the agricultural engineer in his claims.

THE SPECIAL MASTER: What did you do accordingly?

MR. ECHOHAWK: That's right.

THE WITNESS: That was analyzed from the standpoint of manageable shortages. You took a look at how significant the shortage was in this particular case. For example, the worst shortage that we had in a given month took place in 1977, which was a very severe low flow year in the Basin, and that shortage was 6,600 acre-feet.

THE SPECIAL MASTER: At how many nodes did it show
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1 up, in the whole system?

2 THE WITNESS: It only showed up at one particular
3 node. Now, the total demand in the Big Wind System was
4 73,000 acre-feet during that critical low flow year
5 during that month. So what we are talking about is
6 roughly an eight percent shortage in the worst possible
7 case in the worst possible month in the period of the
8 operational study. So when you look at how was that
9 handled in the Basin, there is a history of actions
10 carried out by the irrigators during low flow periods to
11 counteract draught conditions.

12 THE SPECIAL MASTER: Which Basin, Wind or Big Horn?

13 THE WITNESS: Wind, Your Honor. And in this
14 particular case all you would have to look at was one
15 particular reach of the Wind River -- of the Wind River
16 System. And this particular case was the Wind River
17 A Canal and the Dinwoody Bench area or the whole composite
18 Upper Wind Unit. Now, the efficiencies just for that
19 Upper Wind Unit are roughly 16 percent as specified in
20 the water duty schedule established by the agricultural
21 consultant, Stetson Engineers. If we were to increase
22 that efficiency to 25 percent, for example, just in the
23 Upper Wind Unit, that would free up enough water to
24 alleviate that shortage. So when we are talking about

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1 managing shortages, by going after approximately one-
2 eighth of the acreage in the Basin and reducing the demand
3 by increasing the efficiency from 16 percent to 25 percent,
4 you have essentially negated any deficiency, so when I
5 talk about a manageable shortage, this is a prime example.

6 THE SPECIAL MASTER: How do managers go about
7 increasing their efficiency from 16 to 25 percent? Do
8 you tell somebody they can't have water?

9 THE WITNESS: Yes, very definitely. We are talking
10 about a Federal Irrigation Project, and I did a considerable
11 amount of research in that area, and during 1977, for
12 example, I researched what was done in the Wind River
13 Federal Irrigation Projects, and they went in,-- they
14 had sufficient lead time at that particular point to
15 have a short water supply forecasted. So they had
16 meetings in the spring to establish what the water duty
17 schedules were going to be, and typically in the Little
18 Wind area your water duty schedules were around five to
19 five and a half acre-feet per acre. They set those at
20 three acre-feet per acre. They went into the --

21 THE SPECIAL MASTER: You set that after the plant --
22 after the crop is planted and it needs water you --

23 THE WITNESS: No, Your Honor.

24 THE SPECIAL MASTER: You set that beforehand?

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1 THE WITNESS: They set it beforehand, and then they
2 set up a procedure to carry out the administration of
3 that water duty. That causes some people to make some
4 decisions. Sometimes they decide that they're not going
5 to plant their full crop. They may go with a different
6 crop type, like small grains where they feel they can
7 get an early season supply and harvest it out by the time
8 they get a late season shortage. They will get into a
9 situation where they will accept partial service on
10 pasture and apply a vast majority after the water duty
11 to their cash crops. They will actually have their ditch
12 riders out there administering certain heads and
13 enforcing the efficiencies of the irrigators to improve,
14 try to reduce or minimize the waste. For a system such
15 as the Wind River A Canal where you got a water duty of
16 12 acre-feet per acre, it isn't hard to realize that --
17 trying to increase it up to 25 percent would not be all
18 that difficult to do.. So in terms of going back and
19 rationalizing what we call a manageable shortage, it's
20 my opinion we have no shortage over a period of record.
21 If this is the worst case, we have 6,000 acre-feet in the
22 month of August there's a total of 173,000. If we went
23 into just the Upper Wind Unit alone and increased those
24 efficiencies slightly, which is still ample efficiency
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1 for a gravity irrigation project, and not cause any
2 other efficiency increases, certainly that's well within
3 the standpoint of a manageable shortage. My opinion
4 is we have no shortage at all under this situation.

5 THE SPECIAL MASTER: I thank you.

6 Q (By Mr. Echohawk) So generally the key, Mr. Billstein,
7 then as I understand it, is it's a management consideration
8 where there are some minor shortages that show up, is
9 that correct?

10 A There are minor shortages that show up. If ---there are
11 several ways of managing those types of shortages, and in
12 the particular case that we examined, very definitely
13 those kinds of management decisions are carried out
14 because it really isn't up to the individual farmer to
15 say he is or is not going to participate in this type of
16 management decision, the administrator of that program,
17 which is the Bureau of Indian Affairs, dictates you will
18 do it and you will operate this way.

19 MR. WHITE: Your Honor, I would like pointed out to
20 the Court that Mr. Billstein has just made our argument
21 for us when we stated before the efficiencies assumed
22 by the agricultural engineers were inappropriate, that
23 by proper management, and Mr. Billstein has indicated,
24 those efficiencies can be increased and the water demand

25 billstein-direct-echohawk



1 reduced. I suppose it would be appropriate to move to
2 strike the agricultural engineer's testimony because of
3 a conflict with Mr. Billstein's testimony, but I'll save
4 that for a Rule 41 Motion.

5 THE SPECIAL MASTER: Go ahead, Mr. Echohawk.

6 MR. ECHOHAWK: I would like to point out, Your Honor,
7 I don't think it's quite appropriate for Mr. White to
8 stand up and make his argument now.

9 THE SPECIAL MASTER: Yeah., We have no jury, though.
10 No advantage is being taken of it.

11 MR. WHITE: I can move to strike, if that's
12 appropriate.

13 THE SPECIAL MASTER: He merely wanted to remind me
14 the efficiencies can control water and adjust harsh
15 water shortages, and I understand that.

16 MR. ECHOHAWK: It's pointed out in our testimony,
17 we are claiming the people are doing that right now, and
18 if that situation arises, any minor shortages that occur
19 can be overcome by management situations.

20 THE SPECIAL MASTER: Go ahead, Mr. Echohawk.

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THE SPECIAL MASTER: Okay. Good.

Q (By Mr. Echohawk) Mr. Billstein, in your professional opinion, is there enough water available in the Big Wind system in the areas that you have delineated in the study unit there to serve the agricultural claims by the United States for lands encompassed within that study unit?

MR. WHITE: Objection. Ambiguous --

THE SPECIAL MASTER: You don't have to. I'll object. Object on this basis, Mr. Echohawk: to sustain the agricultural claims for what? For historic? For the combination of for everything? Adjudicated, unadjudicated, historic, futures?

MR. ECHOHAWK: For all agricultural claims asserted by the United States in this action.

THE SPECIAL MASTER: For all agricultural claims, that includes the claims for the five future projects too?

MR. ECHOHAWK: Well, Your Honor, for the lands contained within the Big Wind study boundary that he has delineated on Exhibit C-305, which we include --

THE SPECIAL MASTER: Which is within the Big Wind study boundary.

MR. ECHOHAWK: Yes, that large red study area he has delineated, which would include a combination of all historic --

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1 THE SPECIAL MASTER: Yes, that question I understand.
2 That question is unambiguous.

3 MR. WHITE: The other part of my objection --

4 THE SPECIAL MASTER: You are objecting to the new
5 question?

6 MR. WHITE: Yes, because he doesn't delineate the time
7 period involved. Mr. Billstein's testimony goes only to
8 the 34 years from 1946 to 1979.

9 As we know, the underlying results or opinions upon
10 which he relies are Mr. Keene's and can't be projected
11 forward, can't be projected backwards, by Mr. Keene's own
12 testimony.

13 What we are talking about is that one study period.
14 I will withdraw the objection if the question is phrased,
15 "Mr. Billstein, do you have a professional opinion whether
16 or not adequate water is available to meet the agricultural
17 or irrigation claims by the United States on behalf of
18 the Indians during the period of study, 1946 to 1979?"

19 THE SPECIAL MASTER: Do you wish to adopt that ques-
20 tion?

21 MR. ECHOHAWK: I will adopt that question for now.

22 THE SPECIAL MASTER: Very well. Will you answer that
23 question? You are basing your answer upon the 44-year
24 span of time to which you testified your studies were made?

25 THE WITNESS: There is no question in my mind that the



1 water is available. One just simply has to look at --
2 based on the SCS type forest study, there's 116,000 acres
3 of total use in the basin now. The government claim is
4 for 60,000 acres.

5 Roughly utilizing the same water supply sources that
6 are reinforced by the operation analysis makes it obvious
7 that there's no water supply constraints.

8 THE SPECIAL MASTER: One moment.

9 (Off the record discussion.)

10 Q (By Mr. Echohawk) Mr. Billstein, the next question I'm
11 not sure whether you just answered a portion of it, but let
12 me ask you this: in your opinion as to what you know about
13 the overall basin or the Wind River basin water supply, is
14 that water supply adequate to serve the claims of the
15 United States during the 34-year period in the Upper Wind
16 study unit -- in the Big Wind study unit?

17 A Yes, it's my professional opinion that it's obvious that
18 it does.

19 MR. WHITE: Your Honor, I would move to strike the
20 answer and I object to the question because it includes
21 some unspoken assumptions that ought to be included.

22 The unspoken assumptions that needs to be included
23 is that nobody else diverts, and I think that ought to
24 be clear.

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1 THE SPECIAL MASTER: Nobody else what?

2 MR. WHITE: Nobody else diverts water, and I think
3 that ought to be clear that what that means is that in
4 order for the answer to be in the affirmative, the assump-
5 tion has got to be made that nobody else is diverting
6 water, and I would like to ask that the question be re-
7 phrased to include that concept.

8 THE SPECIAL MASTER: I thought the question was pretty
9 repetitious of the first one. I didn't get the new one.

10 Q (By Mr. Echohawk) Mr. Billstein, in your analysis what
11 priority date did you assume for the lands contained
12 within the Big Wind study boundary?

13 A We serviced those lands that are in 1868 priority.

14 MR. WHITE: I move to strike the answer on the grounds
15 of lack of foundation. I think that there must be some
16 showing that the lands involved within that study area are,
17 in fact, entitled to the 1868 priority date. They do not in-
18 clude; for example, lands that have gone out of trust status
19 to private ownership or fee status and then been reacquired,
20 and to the extent they include those, I think the answer
21 is without foundation.

22 THE SPECIAL MASTER: I overrule the objection. I
23 think the whole matter is a predication upon hypothetical
24 facts, hypothetical situations, because you have to assert

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1 MR. WHITE: I don't believe so.

2 THE SPECIAL MASTER: Mr. Keene was using figures,
3 and he found that there was more water returned from re-
4 turn flow than there was diverted, he would give a nega-
5 tive factor or credit that stream providing that return
6 came ahead of the gauging station.

7 At that time if there is to be some adjustment or
8 compensation for other diverters of water in the area, that's
9 when that ought to be made, I think.

10 MR. WHITE: I think Mr. Keene was rather forthright.

11 THE SPECIAL MASTER: It would diminish the amount of
12 water to service the claims.

13 MR. WHITE: Mr. Keene was rather forthright that this
14 was a natural flow analysis, and my concern and my first
15 objection was that the natural flow assumption was not
16 clearly stated in the question, and the answer could be
17 misinterpreted to the question, could be misinterpreted
18 to be that even under current conditions there's enough
19 water for the claims, agricultural claims of the United
20 States to be satisfied.

21 I think it ought to be clear that essentially under
22 virgin flow conditions with nobody else diverting, that's
23 the proper answer, and I think that's an assumption that
24 has to be stated.

25 THE SPECIAL MASTER: I will overrule your objections,



1 something, and his answer was he asserts that there be
2 no diversions and that the natural flow which was up from
3 the historic flow results in sufficient water in the Big
4 Wind River study area to take care of these claims.

5 That is not without possibility of some very strong
6 assertions to question the study itself and some of the
7 factors that went into it. That will bring out in your
8 own case.

9 MR. WHITE: I would also move to strike the answer,
10 Your Honor, since I believe there's been no foundation to
11 show that the HEC-3 program can take into consideration
12 relative priorities.

13 As a matter of fact, I believe the witness would
14 testify if asked, in order to build an appropriate founda-
15 tion for his answer, that if the priorities on an upstream
16 and downstream basis --

17 THE SPECIAL MASTER: Mr. White, the time and the
18 place for this discussion would have been about half way
19 in Mr. Keene's testimony about the use of the computer
20 printouts when he was talking about assuming the flows
21 at that time as if there were no other diversions.

22 MR. ECHOHAWK: I believe, Your Honor, the proper
23 place for this argument is in the briefs at the close
24 of the case.

25 THE SPECIAL MASTER: It may be.



1 and I will ask the witness this question: You're talking
2 now only about Big Wind study area, are you not, as delineated
3 in 305?

4 THE WITNESS: That's correct.

5 THE SPECIAL MASTER: And what you testified to applies
6 to the portion north of the diversion dam as well as south
7 of the diversion dam?

8 THE WITNESS: That's right, Your Honor, everything ---

9 THE SPECIAL MASTER: What compensation, if any, did you
10 make for the diversions at diversion dam to irrigate the
11 entire Midvale Irrigation district of non-Indians who used
12 water in this stream?

13 THE WITNESS: There's no compensation. This is a
14 study carried out under an 1868 priority to establish
15 whether there is available water to serve those senior
16 water rights.

17 THE SPECIAL MASTER: If you, Mr. Billstein, owned a
18 ranch or a farm in the Midvale Irrigation district and
19 your grandfather homesteaded it and received a title from
20 the United States made possible by a sale of land by the
21 Indians and the United States, do you think you would have
22 the right to your water rights so that 13,000 new acres
23 would be put in irrigation at North Crowheart just north
24 of you?

25 Just answer an ordinary decent question, would you?



1 THE WITNESS: Well, Your Honor, I would certainly
2 look for some relief.

3 THE SPECIAL MASTER: Thank God for your honesty.
4 Well, we are looking for some too. There has got to be
5 equity in what we are doing. There just has to be some
6 equity. I'm not going to preside over the disillusion
7 of the State of Wyoming.

8 In any event, I want to ask one or two more questions.

9 Your 167 doesn't even begin to consider the Popo
10 Agie and the Little Wind and the North Fork, does it?
11 In other words, it doesn't come down into your Little
12 Wind study boundary at all?

13 THE WITNESS: 167, Your Honor?

14 THE SPECIAL MASTER: Yes, you said 116,000 acre-feet.
15 You added sixty --

16 THE WITNESS: What I meant to say or when I used
17 those numbers, Your Honor, was from the standpoint of
18 trying to clarify that under an 1868 priority, it's ob-
19 vious that the trust lands would have available water
20 because at this particular point in time or in recent
21 period of time, based on the SCS Type IV inventory, there's
22 116 or 120,000 acres being served from the water sources
23 delineated in the Big Wind study unit.

24 The government relative to trust lands are only
25 claiming 60,000 acres.



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1 Therefore, what we are doing is saying is there enough
2 water available to serve 60 acres when at this point in
3 time there's 116,000 acres currently being served, and it
4 just reinforced the idea that, yes, there is certainly
5 water available.

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THE SPECIAL MASTER: Okay, go ahead, Mr. Echohawk.

MR. ECHOHAWK: Well, Your Honor, we all knew we were going to get to this point, that the Indians are asserting the early date on the stream and that's the evidence we have prepared, is what happens, is there enough water available for the first right on the stream to irrigate the lands that we are claiming, and I don't think there's any doubt that when the Indians have their water right decreed for the 1868 date to which they're entitled, that certain rights are going to fall second in line. But, Your Honor, that's the very nature of our claim and that's the nature of the law.

THE SPECIAL MASTER: I wish the law were that clear, Mr. Echohawk.

MR. ECHOHAWK: Your Honor, I think it's quite clear in Winters and even in Cappaert that impacts are to be considered and the Indians get what they're entitled to, and if it's 1868, then anybody that has a junior right to that must take second line.

THE SPECIAL MASTER: It's clear reserved federal rights must be applied with some sensitivity in some regard to other people's rights, but more important than that, what is clear -- what is not clear that neither Winters nor Cappaert have ever said to us and given us definitions precisely what quantification means. Does a



1 reserved water right mean that the historic lands use
2 irrigation? Is 1868 above all else? Does it mean that
3 any acre of land on this Reservation anywhere that can
4 benefit with some water is entitled to it no matter what
5 the relative values and equities are? I don't think so.

6 MR. ECHOHAWK: It's practicably irrigable acres test
7 set out in Arizona versus California.

8 THE SPECIAL MASTER: That's Mr. Rifkin's idea, and
9 he used it to crank out a formula that's being used now,
10 so we are in a whole new world of finding what's justice.

11 MR. ECHOHAWK: We'll get possibly a reaffirmation
12 or a second look at that practicably irrigable acreage
13 test in the upcoming term of the Supreme Court. The
14 Special Master's report in Arizona versus California will
15 be rendered in September and argued in the upcoming term,
16 and the practicably irrigable acreage test will again
17 be reasserted by the Government in that case. Your Honor,
18 that is the test that we are applying, that's what we
19 feel we are entitled to, and in doing that the United
20 States has put on the evidence to show what practicably
21 irrigable acres there are, we have put on the required
22 evidence, we have put on the required water amount, and
23 once that evidence is in, Your Honor, we feel that that
24 is the amount of water that we are entitled to with the
25 date of reservation date.



1 THE SPECIAL MASTER: I would like to see your claims
2 set forth with some specificity, and I hate that word,
3 regarding the various units, the various acres in the
4 units and the duty of water for each acreage for each
5 unit. Is that in the report and still to come from Mr.
6 Billstein?

7 MR. ECHOHAWK: Your Honor, I think the acreage and
8 the duty is in the reports presented by Mr. Stetson and
9 Mr. Mesghinna.

10 THE SPECIAL MASTER: Uh-huh, I was afraid those were
11 the figures you were going to say. I was hoping you had
12 maybe something boiling it down a little bit.

13 MR. ECHOHAWK: No, Your Honor, that's it.

14 THE SPECIAL MASTER: Okay. Does that conclude your --

15 MR. ECHOHAWK: No, we have a long ways to go.

16 THE SPECIAL MASTER: All right, go ahead.

17 MR. ECHOHAWK: That's only one study area.

18 THE SPECIAL MASTER: All right.

19 Q (By Mr. Echohawk) Mr. Billstein, we noticed -- I notice
20 on Exhibit C-305 that you previously described that you
21 have another study area delineated as the Little Wind
22 Study Area that's bounded in green.

23 A That's correct.

24 Q Did you perform similar analyses using the HEC-3

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1 computer program that you have described for the Big
2 Wind study area?

3 A A similar study was taken there.

4 Q Is this similar of the county in-flows -- the in-flows,
5 diversions and return flows?

6 A That's correct.

7 Q Was there any different parameters considered or different
8 items considered other than what you used in your Big
9 Wind analysis?

10 A Yes, there was some storage involved in this situation.

11 Q Would you please describe for us what storage was used and
12 how it was used?

13 A Yes. There are two existing storage facilities serving
14 the Federal Irrigation Projects. One is called Washakie
15 Reservoir and it's approximately 7,500 acre-foot capacity,
16 it's located on the South Fork of the Little Wind River,
17 and it's identified as Node No. 6 in the Little Wind
18 River Study boundary in green. The second facility is
19 an inland facility called Ray Lake. It similarly has
20 approximately 7,000 acre-feet of storage and it is
21 identified as Point 22, and it basically serves the
22 Coolidge Unit and the Subagency Units of the Wind River
23 Federal Irrigation Projects of, specifically, the Little
24 Wind Unit.

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MR. WHITE: Excuse me, Tom. Are those nodes that he's talking about described in 307?

MR. ECHOHAWK: No.

Q (By Mr. Echohawk) Mr. Billstein, I show you what has been marked United States Exhibit WRIR C-308. Would you please identify that exhibit for us?

MR. WHITE: Objection, Your Honor, five-day rule. It was provided on Monday, today is Thursday.

THE SPECIAL MASTER: I await your response on that.

MR. ECHOHAWK: It's true, Your Honor, we did not anticipate Mr. Billstein testifying this early. We had anticipated he would testify next week, and when Mr. White advised us Monday that his examination of Mr. Toedter and Mr. Keene would be somewhat abbreviated, that's when I gave this to him.

THE SPECIAL MASTER: I lieu of the adjustments we have made to accomodate various parties on the re-scheduling and the fact that we did kick him up a week earlier, would you be nice enough to withdraw the objection if the material isn't too germane?

MR. WHITE: I'm not that nice, Your Honor.

THE SPECIAL MASTER: Let's see what it is.

MR. WHITE: I assume the objection will be over-ruled, and I just want to get another chance if something
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1 happens to us.

2 MR. ECHOHAWK: It's similar to 307.

3 THE SPECIAL MASTER: That doesn't really damage your
4 case, Mr. White, it's nothing more than a description
5 of the facilities at the various control points, so I'll
6 overrule the objection.

7 MR. WHITE: I point out, Your Honor, that it does
8 include a description of a number of acres and things
9 like that, the types of lands that are included within
10 the analysis of those control points, and I know that you
11 have ruled against me, but I just wanted to make the
12 observation. I apologize for arguing after the ruling.

13 THE SPECIAL MASTER: No problem. Go ahead, Mr.
14 Echohawk.

15 Q (By Mr. Echohawk) Mr. Billstein, I direct your attention
16 to the last page of Exhibit C-308. Would you please
17 describe for us what that is?

18 A Similar to the Big Wind River operation study, this is
19 a schematic that shows how the system is operated
20 relative to the nodes that are described in the several
21 previous pages to this exhibit.

22 Q Mr. Billstein, on each of the schematics contained in
23 307 and 308, how are your return flows indicated on there?

24 A Return flow nodes show collection by means of arrows.

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1 However, it should be pointed out that there are other
2 physical constraints or considerations in the system
3 that also have arrows, dashed line arrows going to that
4 node, and one would have to cross-reference with the node
5 descriptions to make sure that it is, in fact, a return
6 flow node that the dashed line is referring to.

7 Q Now, the control points delineated in the left-hand
8 column of C-308, are those the -- do those control points
9 correspond with the control points depicted in the Little
10 Wind study area on C-305 and C-294?

11 A They should be the same.

12 Q Mr. Billstein, I think we left off with this discussion
13 of reservoirs that you used on the Little Wind in your
14 Little Wind operation study. Which two reservoirs were
15 they, again?

16 A There was Washakie Reservoir, which is located on the
17 South Fork of the Little Wind River; and Ray Lake, which
18 is an in-land reservoir which is served from the Ray
19 Canal of the Ray Unit of the Little Wind Unit.

20 Q Is the HEC-3 computer capable of operating reservoirs
21 and moving water as the way it would be in actual
22 operation?

23 A Certainly you can incorporate reservoir operation into
24 the plan that was built into the operation of the

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1 Little Wind study area. You have to have certain
2 physical parameters such as the elevation, storage in
3 area relationships, capacity relationships of the out-
4 lay work and spillways and such. Once that's established,
5 you then build in operational criteria or constraints
6 relative to how you wish to have the reservoir pool
7 operated. For example, you could break into what we call
8 a conservation pool zone which would allow you to extract
9 it out for, say, all uses. You could have a buffer zone
10 which would enable you only to put it out for selected
11 uses, then you would have a minimum pool zone where it
12 would establish the limits of how far you could draw the
13 reservoir down. You also establish criteria as to what
14 control points or what use areas you choose to serve from
15 a given reservoir, so you can locate the particular nodes
16 which reflect downstream demands that this reservoir would
17 be on call to serve if the direct flows available to those
18 users are not sufficient. Yes, it can -- to answer your
19 question, it could be easily incorporated into the system
20 it was.

21 Q It was?

22 A (Witness nodding head in the affirmative.)

23 Q With your reservoir operation in mind, then was your

24 Little Wind Systems operation conducted in the same way.

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1 that the Big Wind System operation was?

2 A Utilizing storage, the system operational study was
3 conducted in the same way as was the Big Wind System.

4 Q That's generally the downstream counting procedure of
5 in-flows, diversions and return flows?

6 A That's right. It's a sequential analysis, and the way
7 the particular program was set up for this case, it was
8 totally sequential, although it is an option to the
9 program that you can bypass certain stations.

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1 Q (By Mr. Echohawk) Mr. Billstein, in your analysis over
2 the 3-4-year period in the Little Wind system, did the
3 situation arise where water supply was not adequate to
4 meet the demand required by the agricultural engineer in
5 this case?

6 A Yes, there were cases where that occurred.

7 Q Could you give us an example, please?

8 A Out of 34 years, there were 12 years where there were
9 shortages of a significance.

10 By that we are talking about anything other than a 1
11 or 2 percent shortage. And that shortage typically took
12 place in one month, and that's very meaningful from the
13 standpoint that there was a full water duty being supplied
14 in May and June --

15 THE SPECIAL MASTER: You mean in the same month of each
16 of the 12 years?

17 THE WITNESS: That's correct, Your Honor. The shortage
18 occurred in August typically, and it's very important to
19 realize that there were full water duties available in May,
20 June and July during those flow sequences which had major
21 impact on the farming operations of the area.

22 A typical example would be a year such as 1959, which
23 is part of a drought cycle where in August there was approxi-
24 mately 5500 acre-foot of shortage.

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1 Now, the total demand for the Little Wind Study Unit
2 was 35,000 acre-feet, which results in something like 13 to
3 15 percent shortage in one of the most critical years of
4 shortage in the basin.

5 Again, one takes a look at the standpoint that we're
6 talking about, meeting ideal demands for full water supply
7 100 percent of the time.

8 Really, that's not what has happened in the Little
9 Wind Basin in the past and we certainly can't look at hav-
10 ing a small shortage of 13 percent in a critical year of
11 being an indication that there's not overall water supply
12 available to that study unit. So, again, we looked at it
13 from the standpoint of manageable shortages and interviewed
14 the operators, specifically the Bureau of Indian Affairs
15 people, who handled the Wind Unit. And, again, we went
16 into a drought year, like 1977, and went over what measures
17 they carried out during that year and came away that they
18 felt quite comfortable with being able to increase their
19 efficiencies from 10 to 15 percent through a particular
20 drought year.

21 Superimposing that type of increase to the efficiencies
22 of all the acres in that study unit, assuming shared
23 shortages, that completely alleviates the shortage, and
24 we are right back into a situation where we have a manageable

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1 shortage or no shortage.

2 I think there were two years, 1960 and '61, where
3 increasing it 10 percent. we still had 3,000 or 4,000 acre-
4 foot of shortage remaining, which again is a minor shortage.

5 MR., WHITE: Your Honor, I thought this morning that we
6 had agreed among ourselves that when Mr. Billstein referred
7 to a page out of his notebook, he would set it aside.

8 This afternoon he has gone through numerous pages in
9 his notebook --

10 THE SPECIAL MASTER: All five of us or ten of us just
11 forgot to remind him, I think.

12 THE WITNESS: Your Honor, I could pretty well -- what
13 I have been referring to, Counsel, has been some summary
14 tables and some listing of shortage tables.

15 THE SPECIAL MASTER: Would you be good enough to get
16 them out of your book?

17 MR., WHITE: I have no doubt that Ron will do his best
18 to pull them out. Like most of us, it's hard to remember,
19 and it would be very helpful if he would do it as he goes.

20 MR., ECHOHAWK: We all know that Mr. White doesn't let
21 very many papers go by.

22 MR., WHITE: If he wants to hand over his notebook, I
23 will waive the requirement.

24 Q (By Mr. Echohawk) Mr. Billstein, in your professional
25 billstein - direct Q ecjpwjl



1 opinion, based on the 34-year base period which your
2 analysis covered, which Mr. Keene defined as being reason-
3 ably representative for hydrologic studies, in your profes-
4 sional opinion, is there enough water available within the
5 boundaries of your Little Wind Study Unit or study boundaries
6 to serve the agricultural claims presented by the United
7 States contained within that area using an 1868 priority
8 date?

9 A. Yes, it is. I believe that there is no question that there
10 is water available to serve those lands.

11 Again, one just has to look historically that's what's
12 been served in the past, a comparison of numbers, like we
13 did in the Big Wind system, as the government claim is
14 approximately 27,500 acres. Historically, that's been
15 approximately 34,000 acres served in the comparable study
16 unit.

17 This is reinforced by the operational analysis that
18 was done.

19 MR. ECHOHAWK: Your Honor, we are getting ready to
20 switch areas. Perhaps we could take a break.

21 THE SPECIAL MASTER: All right. Let's take a ten-
22 minute break.

23 (Recess.

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1 THE SPECIAL MASTER: Back on the record, please.
2 Let's leave this until tomorrow morning as to the
3 scheduling of the dates of those first weeks of July.
4 We'll have a definite in the morning whether I can pick
5 it up Wednesday, the 15th, or the second week, but I
6 think I would like so much to think we could have at
7 least one day of Court July the 9th and 10th, even though
8 that week will collapse into one day and be the 9th if
9 we are only inconveniencing two people, and they're both
10 single.

11 MR. CLEAR: He's married now, Your Honor.

12 MR. WHITE: He's now married. We haven't had a
13 bachelor party for him yet.

14 THE SPECIAL MASTER: Is that why you were gone last
15 week?

16 MR. CLEAR: Your Honor, I believe the record shows
17 that while I was in Cheyenne and Billings, he was in
18 Paris and Rome and Zurich.

19 THE SPECIAL MASTER: In that case, we convene on the
20 9th.

21 MR. WHITE: If that's the case, Your Honor, the
22 State will host a bachelor party belated, but --

23 MR. PERRY: And I withdraw my objection to that
24 statement.

25 THE SPECIAL MASTER: All right. We will convene the



1 9th and the 10th and hopefully the 15th, 16th and 17th,
2 but in any event we will work the 9th and 10th of July
3 and the 16th and 17th of July with court hearings. Go
4 ahead, Mr. Echohawk.

5 Q (By Mr. Echohawk) Mr. Billstein, earlier in your
6 testimony you indicated that you analyzed water
7 availability of the Popo Agie, Little Wind and Big Horn
8 Rivers where the United States has asserted agricultural
9 claims in those areas. Will you please describe for us
10 what type of analysis you performed?

11 A The particular reach that we are talking about deals with
12 the North Fork of the Popo Agie River as it forms the
13 southern Reservation boundary. It then becomes the Popo
14 Agie River when it meets the Little Fork of the Popo
15 Agie, then continues in a northeasterly direction, picks
16 up flow from the Little Popo Agie River, then meets the
17 Little Wind River, and at that point we call it the Little
18 Wind River to its confluence with the Big Wind River,
19 and at that point it becomes the Big Horn River System.
20 So the reach we are talking about begins with the North
21 Fork of the Popo Agie River as it forms the southern
22 Reservation boundary and continues on to where it has its
23 confluence with the Little Wind River and includes that
24 portion of the Little Wind River to its confluence with

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1 the Big Wind River, and then along the Big Horn River
2 System to the northern Reservation boundaries.

3 Since this was an area of very few governmental
4 claims, it resulted in a simple comparison of available
5 natural flows from A.1 sites furnished by Mr. Keene
6 against the demand in those respective reaches.

7 Q When you say "demand in those respective reaches," is
8 that the demand presented by the agricultural engineers,
9 in this case Mr. Stetson and Mr. Mesghinna?

10 A That would be the basis of the demand calculation.

11 Q In your comparison of the natural flows to the water
12 duties or the demands set by Dr. Mesghinna and Mr.
13 Stetson, did you have any periods of water shortage or
14 where the situation arose where there was not sufficient
15 natural flow to meet the agricultural claims within the
16 34-year base period?

17 A For the reach called Big Horn River there were no
18 shortages allowed. For the reach that we called the Little
19 Big Horn River there were no shortages during the
20 period. For the reach between the North Fork of the
21 Popo Agie and its confluence with the Middle Fork of
22 the Popo Agie to the confluence of the Popo Agie with
23 the Little Wind, there were no shortages at all. For
24 the North Fork of the Popo Agie there were four years of
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1 shortages out of 34 years. This was for the one month
2 only, shortages varied from 6 percent to 22 percent, and
3 with increased efficiencies and such we felt that they
4 were manageable shortages. Therefore, we felt that there
5 were no actual shortages in the North Fork of the Popo
6 Agie System.

7 Q Increases in efficiencies that you talked about, is that
8 a normal way to handle a deficiency such as the one you
9 described?

10 A That's a normal way that people in this use area handle
11 low flow periods. When you have full water supplies in
12 May, June and July, they also utilize the soil moisture
13 if necessary. That's another technique versus increase
14 in efficiency, so yes, it's a very valuable management
15 tool that's available to them.

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1 Q (By Mr. Echohawk) Mr. Billstein, in this area, the Popo
2 Agie, Little Wind, and Big Horn; did you also perform a
3 secondary type of systems operations generally; to check
4 your results?

5 A Yes, I did.

6 Q Can you describe that for us briefly and the results of
7 your study?

8 MR. WHITE: Your Honor -- before you turn the page,
9 could I ask you to remove that page from your notebook?

10 A Yes, we performed an HEC-3 operational study for the
11 period 1934 to 1979. We established a system of nodes
12 quite similar to what was developed on the Big Wind and
13 Little Wind system and operated the system, utilizing the
14 agricultural demands that I have just evaluated previously
15 in the Popo Agie, Little Wind, Big Horn reach analysis.

16 The purpose of this study was to formulate some base
17 line information to evaluate whether there were fishery
18 flows available after agricultural claims were satisfied
19 in those reaches.

20 Q But as a result of this work that you did to analyze the
21 fishery flows, what is your conclusion as to the availabil-
22 ity of water for agricultural claims?

23 MR. WHITE: Where? Excuse me. Objection, Your
24 Honor. When? Where?

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1 MR. ECHOHAWK: For the North Fork Popo Agie.

2 MR. WHITE: I object also to the question being
3 ambiguous. There's no priority dates set forth.

4 THE SPECIAL MASTER: I assume it's the same as the
5 others.

6 MR. WHITE: If he adds 19 --

7 MR. ECHOHAWK: 34-years study. And assuming the 1868
8 priority date.

9 MR. WHITE: Withdraw the objection.

10 A The secondary operation study on the Popo Agie, Little Wind,
11 Big Horn reach gave us the same identical results as my
12 previous analysis and would be rationalized the same, the
13 conclusion there being we have no shortages that cannot be
14 managed in any of those reaches.

15 THE SPECIAL MASTER: What shortages did you have?
16 Did you have some low ones, low August for given years?

17 THE WITNESS: Your Honor, it would be the same set of
18 shortages that I spoke to and should be in the record.

19 Q (By Mr. Echohawk) Is that the four out of 34 years?

20 A That's correct.

21 Q Could you once again --

22 A In other words, one study verified the results of the
23 other exactly.

24 Q Just once again could you give us the percent shortages
25 billstein - direct - echohawk



- 1 for those four years in August?
- 2 A 1946, six and a half percent; 1948, sixteen point eight
3 percent; 1959, ten point eight percent; 1960, twenty-
4 two and a half percent.
- 5 Q And by adjusting of irrigation efficiencies, those short-
6 ages can be overcome?
- 7 A By adjusting of efficiencies were utilizing available soil
8 moisture.
- 9 Q In your professional opinion, is there enough water to
10 serve the United States' agricultural claims in the
11 Popo Agie, the Little Wind, and Big Horn rivers for the
12 34-year study period using an 1868 priority date?
- 13 A Yes.
- 14 Q Mr. Billstein, I believe we have two additional agricul-
15 tural areas that you analyzed, the minor tributaries in
16 Owl Creek.
- 17 A That's correct.
- 18 THE SPECIAL MASTER: The which tributaries?
- 19 MR. ECHOHAWK: Minor tributaries of the northern
20 part of the reservation.
- 21 THE SPECIAL MASTER: I see. In Owl Creek?
- 22 MR. ECHOHAWK: In Owl Creek.
- 23 Q (By Mr. Echohawk) Would you please describe for us your
24 analysis on Owl Creek?
- 25 billstein - direct - echohawk



1 A The analysis on Owl Creek dealt with the Main Stem resources
2 of Owl Creek, specifically the South Fork of Owl Creek,
3 which arrives in the head waters of the Owl Creek mountains,
4 flow almost due east, and then enter and meet the North
5 Fork of Owl Creek which enters the Reservation from the
6 north to the south, and then it becomes the main stem of
7 Owl Creek, and it then continues off the Reservation to
8 its confluence with the Big Horn river system.

9 The two areas of study included the South Fork of
10 Owl Creek and then the Main Stem of Owl Creek below the
11 confluence of the South Fork of Owl Creek with the North
12 Fork of Owl Creek (indicating).

13 Q Before we go any further, Mr. Billstein, on the Owl Creek
14 areas that you analyzed, are those identified by Mr. Keene
15 as the B.2 sites?

16 A Those would be B.2 sites as analyzed by Mr. Keene.

17 THE SPECIAL MASTER: Why did they have to be analyzed
18 by B.2? Were there no gauges that you couldn't use any
19 Type I?

20 I guess I asked that of Mr. Keene. Don't bother ans-
21 wering if you cannot answer.

22 THE WITNESS: It's a hydrologic question, Your
23 Honor.

24 THE SPECIAL MASTER: All right. I'll wait and do it
25 later.

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1 Q (By Mr. Echohawk) Would you describe for us what method
2 of analysis you used here?

3 A The claimed lands for the government consisted of those
4 lands south of Owl Creek. There are some lands, part of
5 the overall government claim, that are located north of
6 Owl Creek, but those lands were not included in the study
7 conducted under the 1868 priority.

8 THE SPECIAL MASTER: That's because those lands are
9 clearly not a part of the reservation?

10 MR. ECHOHAWK: Part of the reservation, Your Honor,
11 but they have State Water Rights that have a date after
12 1868.

13 MR. WHITE: Your Honor, I would move to strike the
14 testimony of the witness concerning the Owl Creek area
15 until the foundation is established that the lands contained
16 within his study not only exclude those lands north of Owl
17 Creek, but also exclude those lands which do not have a
18 Wind River meridian legal description as stipulated by
19 the parties being all the land within the exterior boundaries
20 of the reservation.

21 THE SPECIAL MASTER: You may find me in error for my
22 ruling, Mr. White, but I'm going to overrule it now because
23 I think the maps make it so clear that what he included was
24 properly included.

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1 MR. WHITE: I want you to be sure --

2 THE SPECIAL MASTER: You did.

3 MR. WHITE: The stipulation that certain lands were
4 within the exterior boundaries of the reservation -- those
5 were lands which had Wind River meridian legal description
6 as opposed to a sixth principle meridian legal description.

7 During Mr. Billstein's testimony about certain lands
8 in the Owl Creek, it became clear that there were some
9 lands south of Owl Creek, but those lands had a sixth prin-
10 ciple meridian legal description, and those are the lands
11 I'm talking about.

12 THE SPECIAL MASTER: Well, I'm going to let him testi-
13 fy as to those lands as long as they are south of the South
14 Fork of the Owl Creek, and so go ahead.

15 A Those lands so described as being south of the South Fork
16 of the Owl Creek were the only lands that were incorporated
17 into the area of service from the South Fork --

18 THE SPECIAL MASTER: Some future irrigated land?

19 THE WITNESS: There's one portion in the Owl Creek
20 unit that's colored in green. Mr. Mesghinna introduced
21 that as a Type VIII land, Your Honor.

22 THE SPECIAL MASTER: Type VIII?

23 MR. CLEAR: I don't want to -- Dr. Mesghinna testified
24 as to Type VIII's and Owl Creek. He testified at the same
25 billstein - direct - echohawk



1 time about the Type VIII's and Owl Creek, so I think that
2 Mr. Billstein misspoke. Owl Creek was lumped in for
3 testimonial purposes with the Type VIII, but it wasn't
4 a Type VIII.

5 THE SPECIAL MASTER: I see. He just studied it at
6 the time.

7 What type land was it? Was it a IV?

8 MR. CLEAR: It was really almost a future, but I
9 think it was so small that he just did that with Type
10 VIII lands because it was so small.

11 MR. ECHOHAWK: And the land was classified under the
12 future standards.

13 MR. WHITE: That's all correct, Your Honor.

14 THE SPECIAL MASTER: Go ahead.

15 A For those lands that were served from the Main Stem of
16 Owl Creek, those again are only lands that are south of
17 the main stem of Owl Creek. Those respective lands both
18 in this category and for the South Fork of Owl Creek were
19 categorized by water duty and supplied by the agricultural
20 engineer and demands were developed on that basis.

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THE SPECIAL MASTER: Go ahead, Mr. Echohawk.

Q (By Mr. Echohawk) So you compared the agricultural demands with the flow information prepared by Mr. Keene, is that correct?

A That's correct. These would be Keene B.2 sites.

Q What were the results of your comparisons?

A The results were such that we found that August, again, was a low flow month relative to -- it was a month of inability to meet the ideal demand as specified by the water duties of the agricultural engineer. We had similar findings for both the South Fork area as well as the Mainstem area.

THE SPECIAL MASTER: How many Augusts of the 34 years?

THE WITNESS: Your Honor, we took a little bit different approach on this particular study area. We did a -- I asked that a percent yield analysis be done, and that was the format for the stream flow data that was supplied to me by Mr. Keene. And by format --

THE REPORTER: Pardon me?

MR. WHITE: Format.

THE SPECIAL MASTER: Go ahead. You got --

THE WITNESS: Flow data is what I meant to say.

THE SPECIAL MASTER: Did you also use prediction techniques?

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1 THE WITNESS: I didn't apply any prediction
2 techniques.

3 THE SPECIAL MASTER: Okay. But you just said that
4 you used a different technique or a different application,
5 different methodology here?

6 THE WITNESS: Yeah. I asked Mr. Keene to give me
7 the information, rather than just the number of years,
8 to give me it in terms of percent yield which tells you
9 basically how many years out of ten would you expect flow
10 to be there that is equal to or greater than the amount
11 of flow in a stream. In this particular case if we were
12 looking at an 80 percent yield flow in August, which his
13 table shows roughly 888 acre-feet, it follows that eight
14 out of ten yields you would have flow equal to or more
15 than that. The reason we chose to use percent yield
16 analysis was the fact that this is a time tested method
17 of evaluating water supply used by the Soil Conservation
18 Service over time. They use 80 percent chance to size
19 their irrigation projects. With the advance of
20 computerized studies, they are being able to get into a
21 little bit higher chance frequency. But that has been
22 kind of a rule of thumb that was utilized over time.

23 THE SPECIAL MASTER: But if in that area you had
24 used actual gauging of the stream flows over the years

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1 instead of a B.1 concept, would there might have been a
2 shortage of five out of ten instead of two out of ten,
3 August?

4 A I can speak to that. In this particular situation, going
5 to the actual flow data supplied to us by Mr. Keene
6 before the percent yield analysis was undertaken, in
7 August approximately 12 out of 25 years we would have had
8 some shortage where we would not have been able to meet
9 the demand. In July we would have had six out of the
10 25 years, and similarly in September, approximately 6
11 out of the 25 years.

12 THE SPECIAL MASTER: Okay. Go ahead, Mr. Echohawk.

13 MR. ECHOHAWK: Your Honor, as I understand, the Owl
14 Creek area is a B.2 site that has gauge flows, is that
15 right? Is that your --

16 THE SPECIAL MASTER: Well, I used a different
17 technique on it, and Mr. Keene I think testified that
18 there was some need to make projections rather than having
19 gauges.

20 MR. CLEAR: I think, Your Honor, they're unlike the
21 B.1 sites, which I don't think had gauges, B.2, which is
22 Owl Creek, had gauges which Mr. Keene utilized, but he
23 did have to make some transfers and projections.

24 THE SPECIAL MASTER: That's right. That's right,
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1 Mr. Echohawk.

2 Q (By Mr. Echohawk) Mr. Billstein, I show you what's been
3 entered as evidence as United States Exhibit C-301,
4 which is Mr. Keene's natural flow study report. I direct
5 your attention to Page 27, Table 8 -- Page 28 and Page 29.
6 Would you please review those and tell me whether those
7 are the -- is that the flow information that you utilized
8 from Mr. Keene?

9 A These are the flows -- I mean, these are the sites we
10 analyzed, and these are the percent yields that were
11 utilized to evaluate water availability.

12 THE SPECIAL MASTER: All right. I stand corrected
13 because I note on my copy of it these are B.2 sites.

14 Q (By Mr. Echohawk) Okay. You took 80 percent probability
15 of flow, is that correct --

16 A That's correct.

17 Q -- in your analysis, and did you then compare the
18 agricultural demand to that 80 percent flow?

19 A That's correct. The result was we had 100 percent of the --
20 looking at the 80 percent chance flows, we could fulfill
21 that need 100 percent of the time in May, 100 percent of
22 the time in June and 100 percent of the time in July.
23 We dropped from 80 percent chance down to roughly 60
24 percent chance, say, in August, and we were able to meet

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1 the 80 percent chance criteria in September, which meant
2 that we, again, were looking at a low flow period and
3 had to analyze how shortages typically were handled in
4 the Basin in a period such as that.

5 Q What did you find in your analysis of how they handled
6 shortages in the Owl Creek area?

7 A Well, Owl Creek is noted as having to have State
8 administration and reports such as the Owl Creek studies
9 of 1949, and such show that you have water duties
10 typically of three, three and a half acre-feet per acre,
11 Those water duties are less than the water duties
12 estimated by the agricultural consultant, so typically
13 what it means is that during those low flow months such
14 as August these people have had to conduct good management
15 on their lands and undertake practices that would extend
16 their water supplies. They have had to do it over time,
17 and it was quite logical that this is what is, in fact,
18 taking place. So by increasing the efficiencies from
19 approximately 35 percent to 50 percent, overall efficiencies,
20 just during that month we could essentially alleviate
21 that kind of shortage and get it to the point where we
22 could have a supply of approximately 80 percent of the
23 demand, which would basically allow you to get close to a
24 full yield. So again, we felt that we had a situation

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1 where we had tolerable shortages.

2 The other thing that confirms that is that in the
3 Type IV study there's 12,400 acres listed as being
4 irrigated in Owl Creek above the Le Sueur Pumping Plant
5 area; of that, about 10,000 acres were listed by the
6 State at that time as being full service irrigation lands.
7 We are talking about between the South Fork and the
8 Middle -- and the Mainstem of Owl Creek less than 2,000
9 acres. So basically just looking at the figures one
10 realizes that they do undertake some very significant
11 management during low flow periods which they're faced
12 with over a great number of years. It's not unreasonable
13 to expect that a continuation of a historic practice such
14 as this would take place on these lands, and it's
15 reasonable to say that that would manage the shortage.

16 MR. WHITE: Your Honor, at this time the State of
17 Wyoming would move to strike testimony of Mr. Stetson
18 concerning the duty of water for the historic lands.
19 Mr. Stetson testified that certain duties were required
20 for those lands, and yet everytime Mr. Billstein comes up
21 with a shortage, his opinion, which I very much respect,
22 is that by proper management the duty of water for those
23 lands can be reduced and the shortage managed. It seems
24 almost patently clear that if the duties of water

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1 recommended by the -- or stated by Mr. Stetson, the
2 agricultural engineer, can be reduced in order to meet
3 the shortages, then they may be a little high in the
4 first place. As a result, because of the conflict of
5 the testimony between the two witnesses of the United
6 States, and the absolute incompatibility of that
7 testimony, we would at this time move to strike the
8 testimony of Mr. Stetson.

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1 THE SPECIAL MASTER: I will deny the Motion to Strike
2 his testimony. You can comment on the fact. If it's in-
3 consistent and ambiguous, there will be some comments on
4 it when we go to your side of the case.

5 MR. ECHOHAWK: I don't think it's any different than
6 any other place or in this side of the basin where when
7 water gets tight, they tighten their belts.

8 THE SPECIAL MASTER: Well, people should tighten
9 their belts, and that includes only all kinds of people,
10 everybody.

11 MR. ECHOHAWK: The point I would like to make, if
12 nothing else, we have to remember that what's applied
13 against the Indians must certainly be applied against the
14 non-Indians in this case.

15 THE SPECIAL MASTER: That's right.

16 MR. WHITE: We will take the 1868 priority date, Your
17 Honor.

18 THE SPECIAL MASTER: Let's don't go into that. We
19 are going to have several weeks to argue the case. Let's
20 see if we can't get the evidence in right now and submitted.

21 Okay, Mr. Echohawk.

22 Q (By Mr. Echohawk) Mr. Billstein, what is your professional
23 opinion regarding water supply for the Owl Creek area?

24 MR. WHITE: Objection. During what period of time

25 billstein - direct - echohawk



1 of studies? Under what assumed priority date?

2 THE SPECIAL MASTER: Based on his 34-year --

3 Q (By Mr. Echohawk) What period of analysis does your Owl
4 Creek analysis cover?

5 A The years covered on the South Fork of Owl Creek were from
6 1940 through '43 and then 1959 through '79.

7 Q Based on the period of your study and assuming an 1868
8 priority date, is there enough water available, assuming
9 reasonable management in periods of shortage, to serve
10 the United States' agricultural claims?

11 MR. WHITE: Object on two grounds, Your Honor.
12 The lands involved are not described in the question,
13 and what's meant by reasonable management is not des-
14 cribed in the question.

15 It goes back to my Motion to Strike. The question
16 ought to say what the duty of water required by the
17 agricultural engineer was or at some other lesser duty
18 of water which Mr. Billstein has determined would be
19 required under proper management.

20 THE SPECIAL MASTER: The motion is overruled. The
21 lands are those that he described fairly accurately
22 south of the South Fork of Owl Creek, and he can explain what
23 that means when he gets into his answer on the specific
24 management practices.

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1 Q (By Mr. Echohawk) Mr. Billstein, for the months of May,
2 June and July and September, assuming using the water duty
3 supplied to you by Mr. Stetson and Dr. Mesghinna, and assum-
4 ing an 1968 priority date, is there enough water available
5 to irrigate those lands during those months?

6 MR. WHITE: Objection. The question has already been
7 asked and answered. He's testified that there are shortages.

8 MR. ECHOHAWK: Regarding specific months, other than
9 the month of August, Your Honor.

10 MR. WHITE: I withdraw the objection and apologize.

11 A Under those conditions, we met the 80 percent yield cri-
12 teria.

13 Q (By Mr. Echohawk) And in the month of August where you
14 identified that there were some shortages that occurred,
15 based on your research of how people in the Owl Creek area
16 handled water shortages during that month, is there enough
17 water available to meet the agricultural needs of those
18 lands?

19 MR. WHITE: Objection. Foundation. There is no tes-
20 timony as to his research and how the people in that area
21 handled water shortages.

22 THE SPECIAL MASTER: I will overrule the objection.
23 You may answer, if you can.

24 A It's my opinion that those are manageable shortages, and

25 billstein - direct - echohawk



1 we have adequate water availability to serve the lands
2 noted on the South Fork of Owl Creek.

3 I think we have to realize that what Mr. Stetson was
4 doing was talking about water duty schedules resulting in
5 average yields. The economists in the case, Mr. Dornbusch,
6 used average yields, which implies there is going to be low
7 flow years, which could impact yields.

8 I think we are confusing the fact that we have to have
9 100 percent water supply to come up with average yields.
10 I think what we are doing is comparing apples and oranges.

11 When the water is in the stream, it's my feeling that
12 the water duty that Mr. Stetson has defined should be
13 served to those lands.

14 When they are not, then they can be managed down to
15 an acceptable level of shortage, but with the basic assump-
16 tion of average yields in this case, we certainly don't
17 have to undergo the proof that we would never have a
18 shortage.

19 Otherwise, we would have went with far better than
20 average yields.

21 THE SPECIAL MASTER: Isn't this land pretty much in
22 the high climatology anyway and mostly given to alfalfa
23 and hays?

24 THE WITNESS: That's right, Your Honor.

25 billstein - direct - echohawk



1 THE SPECIAL MASTER: And if you haven't got the water
2 in August, then you do with a little less hay crop than
3 you would normally --

4 THE WITNESS: That's basically --

5 THE SPECIAL MASTER: How many acres are we talking
6 about?

7 THE WITNESS: 1306 acres.

8 THE SPECIAL MASTER: 1306 acres of land. I wish that
9 were our biggest problem.

10 Go ahead, Mr. Echohawk.

11 Do you want to hold those out?

12 MR. WHITE: Off the record.

13 (Off-the-record discussion.

14 THE SPECIAL MASTER: Is everyone as tired as I am?

15 MR. ECHOHAWK: I'm pretty tired.

16 MR. WHITE: Could I ask how long we are before the
17 end of direct?

18 THE SPECIAL MASTER: Are you just about there?

19 MR. ECHOHAWK: No.,

20 THE SPECIAL MASTER: Then let's go another half hour.

21 Let's go another half hour. We are going to have a short
22 morning.

23 MR. ECHOHAWK: Your Honor, if we could break now,
24 maybe I could get it in a little more compact --

25 billstein - direct - echohawk



1 THE SPECIAL MASTER: I don't see what much more you
2 have on direct. You have just about stated --

3 MR. ECHOHAWK: We have got to cover the minor tri-
4 butaries, the fish flows and the minerals.

5 What I'm saying is, if I have a little more time to
6 organize my notes, perhaps it could be presented more
7 precisely.

8 THE SPECIAL MASTER: Let me ask a question on two on
9 this.

10 If the Vogel testimony on the fish need for maximum
11 habitat is jeopardized by the requirements to meet your
12 figures in May, June, July, which gives?

13 MR. ECHOHAWK: The fish.

14 THE SPECIAL MASTER: All right. That I was asking
15 the witness, not counsel.

16 MR. ECHOHAWK: That's a decision for the --

17 THE SPECIAL MASTER: That's the official position of
18 the United States, is it?

19 MR. ECHOHAWK: That question is more properly directed
20 to the attorneys for the United States, Your Honor.

21 MR. CLEAR: And, note, Mr. Membrino is not here.
22 That's why he said fish.

23 MR. WHITE: I think the witness can answer. It's his
24 study.

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1 THE SPECIAL MASTER: If you don't mind, I would like
2 to ask the witness this question.

3 MR. ECHOHAWK: I hate to object to your question, but
4 it's generally a question, a legal decision one, to be
5 considered by the Tribes and by the attorneys for the
6 Tribes, both the United States and the tribal attorneys,
7 as to what claim will be asserted, should there be a con-
8 flict.

9 THE SPECIAL MASTER: I appreciate that.

10 MR. WHITE: We have no objection to the question,
11 Your Honor.

12 THE SPECIAL MASTER: I just thought that might have
13 some place in the matters tomorrow morning. You will pro-
14 bably touch on those.

15 MR. ECHOHAWK: I think the evidence will show, when we
16 get to the morning, on the fishery, that there are various
17 situations that arise where there will be a conflict
18 between some agricultural claims and some fish claims, and
19 that will certainly come out when we cover that portion
20 with Mr. Billstein. But my position is, Your Honor, that
21 that's not a decision for Mr. Billstein to make.

22 THE SPECIAL MASTER: Let me ask a few questions of
23 this witness then on the systems operation.

24 If this is, in your professional opinion, an economically
25 billstein - direct - echohawk



1 feasible, engineeringly -- Why are you making such signs?

2 THE WITNESS: Well, Your Honor, you are asking me
3 about the conclusions about the economic feasibility --

4 MR. WHITE: I would like to cross-examine him on it,
5 Your Honor, so why don't you go ahead and ask him?

6 THE SPECIAL MASTER: I will let Mr. White do Mr.
7 White's work then.

8 But I just have questions that arise naturally.

9 MR. WHITE: I have no objection to your asking the
10 question.

11 THE SPECIAL MASTER: I know you don't.

12 MR. DONNELL: Nor do I.

13 MR. WHITE: If you ask him, I can cross-examine on
14 it; but if you don't, I can't. So why don't you go ahead?

15 THE SPECIAL MASTER: I will wait. They will come out
16 later in the case and, Lord knows, everybody else is tired.
17 Off the record.

18 (Off-the-record discussion.

19
20 (Proceedings recessed to reconvene
21 (at 9:00 a.m., Friday, June 19,
22 (1981.

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WITNESS: MICHAEL DAVID KEENE

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INDEX TO EXHIBITS

IDENTIFIED

RECEIVED

U. S. Exhibit WRIR C-294	7244	
U. S. Exhibit WRIR C-296, 297, 298		7157
U. S. Exhibit WRIR C-299, 300		7157
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REPORTERS' CERTIFICATE

1
2 State of Wyoming)
3 : SS
4 County of Laramie)


5 We, Mary Nelson and Viola Lundberg, Registered Pro-
6 fessional Reporters and Notaries Public, hereby certify that
7 the facts as stated in the caption hereof are true; that we
8 did at the time, date and place, as set forth, report the
9 proceedings had before the Honorable Teno Roncalio, Special
10 Master Presiding, in stenotype; that the foregoing pages,
11 numbered 7145- 7331, inclusive, constitute a true, correct and
12 complete transcript of our stenographic notes as reduced to
13 typewritten form under our direction.

14 We further certify that we are not agents, attorneys
15 or counsel for any of the parties hereto, nor are we interested
16 in the outcome thereof.

17 Dated this 18th day of June, 1981.

18 
19 MARY NELSON

20 Registered Professional
21 Reporter

22 
23 VIOLA LUNDBERG

24 Registered Professional
25 Reporter

