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Trial Transcript, Vol. 85, Morning Session

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File 192
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case # 4993

File # 192

4443

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.	)

FILED

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Margaret D. Hampton CLERK

DEPUTY

VOLUME 85

BE IT REMEMBERED that on this 9th day of July, 1981, at Room 302, State Capitol Building, Cheyenne, Laramie County, Wyoming, the above-entitled matter resumed for trial before the Honorable Teno Roncalio, Special Master Presiding, whereupon the following proceedings were had, to wit:

P R O C E E D I N G S :

ORIGINAL

APPEARANCES

FOR THE STATE OF WYOMING:	HALL & EVANS 2900 Energy Center Building 717 17th Street Denver, CO 80202 BY: MR. MICHAEL D. WHITE and MR. JAMES MERRILL, Special Assistant Attorneys General
FOR THE UNITED STATES OF AMERICA:	MR. JAMES CLEAR Attorney at Law Land and Natural Resources Division Department of Justice P.O. Box 7415 Benjamin Franklin Station Washington, DC 20044 and MR. THOMAS ECHOHAWK Attorney at Law Land and Natural Resources Division Department of Justice 1961 Stout Street Denver, CO 80294
FOR THE SHOSHONE and ARAPAHOE TRIBES:	SONOSKY, CHAMBERS & SACHSE 200 M. Street, N.W. Washington, DC 20006 BY: MR. WILLIAM PERRY
CLERK TO THE SPECIAL MASTER:	MR. LEO SALAZAR Attorney at Law 701 Rocky Mountain Plaza Cheyenne, WY 82001

THE SPECIAL MASTER: All right. May we come to order please, ladies and gentlemen.

Mr. White, before we begin we have a couple of preliminary matters --

MR. WHITE: Excuse me, Your Honor.

THE SPECIAL MASTER: It won't take but a minute. There is only one motion that was pending that would be elgible for disposition today and there are no others pending. And that was Wyoming's motion to strike the United States' brief in support of the United States' amended motion to take judicial notice and for an order that the adjudicated State water rights are prima facie evidence of irrigability in determining reserved water rights.

I have read this brief and I have given a lot of thought to that subject matter. The fact that we have have ruled that the existence of an adjudication and a State water right given to a chunk of land not in irrigation, is prima facie evidence of its irrigability doesn't automatically qualify it as a practicably irrigable acre. The fact that flaunts in one's face to answer that presumption is if it is a practicably irrigable acre, why isn't it being irrigated and that's the answer that will determine the decision, I think, pretty much. And in many of those acres they may well

be held to be practicably irrigated acres, and entitled to a date and a duty and others may find not having been irrigated for 18 years, I see no reason to hold that they are now practicably irrigable acres because the very proof of their nonuse for that many years gives credence to their inability that they are no longer P.I.A.'S.

MR. WHITE: Your Honor, I believe that Mr. Krob of our office, and Mr. Membrino from the United States, had reached an accomodation under which that motion would be argued and called up by the State next week rather than this week.

Is that correct, Tom, do you recall?

MR. CLEAR: I think that was the motion to strike our brief.

MR. WHITE: Well, that's the motion.

MR. CLEAR: All right, yeah, fine.

MR. WHITE: So if it would please the Court, perhaps we could lay that over --

THE SPECIAL MASTER: Until a week from now?

MR. WHITE: We would not propose to argue since we agreed with Mr. Membrino that we would not argue it until he was here.

THE SPECIAL MASTER: All right. We'll pass it over for one week.

The next item for appropriate discussion at this time,

is the May 11th letter that I have written to Judge Joffe together with an order amending the first order of certification in which I asked for some additional time for the preparation of a report and also asked that Paragraphs 2 and 3 of the first order of certification be stricken because I felt that the determination of uncanceled permits was of such a minimial legal importance to the determination and confirmation of an adjudicated water right that I felt it need not be addressed in these proceedings. He seemed to concur and did concur with that observation on the telephone and said that he would like notice given that this was ready -- the time would be extended and that he would strike these from the referral to me, but I still do not have a copy of the signed ammended referral. And, I believe the reason for that is that the Judge is giving some thought to whether or not an order removing Paragraph 2 or 3 from the first referral may trigger an unreasonably long, arduous extension of this litigation. And, if it does, then I believe he's probably entertaining some alternative to that so that this can be concluded in one general mainstream adjudication. And I will be conferring with him soon to see what the upshot of that is.

MR. WHITE: On behalf of the State, Your Honor, we would agree that those issues need to be addressed as a

part of this adjudication.. We have no objection, however, if the Court should amend the order of referral to you so that you don't have to be the Master to address those issues. We think they need to be addressed either by the Court, by you or some other Master, but on behalf of the State we have no objection to your not having to handle them and your being able to concentrate on these issues.

* * * * *

THE SPECIAL MASTER: I would respectfully hereby request that counsel for the Tribes and the United States and for the State of Wyoming, to see if you can't confer in one of these days in this month or next month when we are not in trial about a stipulation or agreement regarding an adjudication of uncancelled permits. All of you know what the status is of a permit in the water law of the west. All of you know that it takes precious -- It takes virtually no legal status recognition until such time as works are perfected, and even then it takes its place at the low, low end of a paper right and of low priorities, and I believe that if you can come up with something of that kind, you may be able to expedite proceedings, whereby we can indeed have a review of a certain percentage of these permits and some agreement that my ruling thereon might apply to the rest of the uncancelled permits issued by the State Engineer.

MR. WHITE: We'd be glad to get together and chat with opposing counsel.

I think the record should reflect that at least the State's position on the permits is a little different than the position which the Master just described. There are many permits under which water is being diverted, and that's perfectly lawful under Wyoming law, where there's already been construction, diversion, irrigation, but

the part of going through the certification phase has simply not been complied with for some reason or other.

The second thing is some of these permits have been kept alive for a long time, including some of the permits serving Indian owned lands, and if those are eventually certificated, and then instead of coming in at the bottom of the list, they go in with the priority date as of the date of the permit application. I just want to make those clear so it didn't appear on the record we were ceding or acquiescing in that observation.

THE SPECIAL MASTER: I appreciate that. Then there are also those permits being filed and nothing done, and an extension granted and nothing done, and a second extension granted, and the moment of truth is at hand on some of those. I rather suspect it's a statutory duty of the State Engineer to cancel them, but who are we, I don't think it's my duty to order the State Engineer to cancel these permits that have -- that's his function, and one that I believe has been well fulfilled and administered by that office over the decades in Wyoming. So we do have something that needs to be addressed, and I'll be grateful to you if you can have a conference, Mr. EcHohawk, you and Mr. White and other counsel.

MR. ECHOHAWK: That's fine. We'll get with Mr. White. And we pretty much concur with Mr. White in

the fact that something has to be done in this adjudication about the unadjudicated permits --

THE SPECIAL MASTER: All right.

MR. ECHOHAWK: -- whether it's by you or by Judge Joffe or some other Master, but in order for it to be a general mainstream adjudication, those have to be considered.

THE SPECIAL MASTER: Addressed and considered.

The third thing which warrants mentioning now, only because it's been my policy in this lawsuit to discuss once in a while informally, but always with both sides present, but sometimes on the record, as the record is being done now, the feeling, my feeling in zeroing in on a position regarding one of the many, many determinations I have to make. I did not have to read in this morning's paper that the Attorney General of Wyoming is not too pleased with the Colville Confederate Tribe's case, but I also find that it comes up with something a little different than what I had previously said I thought was going to be my conclusion regarding the rights of a non-Indian to inherit the rights of an Indian allotee who sold him some land. And I find that this case does indeed give a Circuit Court of Appeal an approval to the consent that a non-Indian successor acquires a right to water

being appropriated by the Indian allotee at the time he takes title from the Indian allotee. And the non-Indian also acquires a right with a date of reservation priority date to what he or she appropriates, with reasonable diligence after passage of title.

If the full measure of the Indian's reserved water right is not acquired by this means and maintained by continued use, it is lost to the non-Indian successor.

In other words, the State law, five years' non-use, can damage this right once it's in the hands of a non-Indian, but it cannot damage that right so long as it stays in the Indian allotee. The State water right does not apply to the Indian allotee, but apparently I'm going to have to consider this in my determination. I think that's appropriate to mention that now.

With that, Mr. White, I think we can resume, and we're at the posture of cross-examination of Mr. Billstein.

MR. WHITE: Yes, sir. I believe the direct and cross-examination by Mr. Donnell had just been completed when we adjourned last time.

THE SPECIAL MASTER: Very good. I'll remind you, you're still under oath.

THE WITNESS: Yes, sir.

THE SPECIAL MASTER: Have been for, lo, these many

months.

CROSS-EXAMINATION

BY MR. WHITE:

Q. Mr. Billstein, as I recall, your operations study used conclusions reached by Mr. Keene for virgin flows or natural flows, and the conclusions provided you by Mr. Toedter on return flows as input into the HEC-3 program, from which you've reached your conclusions. Is that a fair generalization of the mechanics through which you went?

A. Those input data were suppled by Mr. Keene and Mr. Toedter.

Q. Was there any input data used by you that was not supplied by Messrs. Keene and Toedter?

A. Certainly the water diversion, water duties were supplied by other experts in the case. That again, was an input data into the HEC-3 program.

Q. That would have been Stetson and Mesghinna?

A. That's correct. And from that point, I developed the operational scheme. I did the input for the storage facilities, and I established the operational constraints or critera of the systems study from that point.

Q. With respect to the virgin or natural flows, did you use

any facts and data in your analysis which was not supplied by Mr. Keene to the Court?

A. Not to my knowledge.

Q. Specifically, what information did you receive from Mr. Toedter concerning return flows?

A. Mr. Toedter established the percentage of irrecoverable loss, which established the overall volume of return flow, and he also established the temporal or the monthly distribution of those recoverable return flows.

Q. Are those percentages the same percentages to which -- if you know -- to which Mr. Toedter testified during his depletion analysis testimony?

A. The percent irrecoverable loss is different.

Q. Well, perhaps you can give that to me then. What percent irrecoverable loss did you use, which was supplied to you by Mr. Toedter?

A. Twenty percent of diversion.

Q. And that meant that 80 percent of the diversion came back with the, in the system in some form of return flow?

A. That is incorrect.

Q. What does that mean then?

A. After you satisfy the net irrigation requirements, then you have what is known as total return flow, and then you subtract out 20 percent of the diversion from that

total return flow, and then you subtract out 20 percent of the diversion from that total return flow volume, and you get a net recoverable return flow.

Q. Okay. And what monthly distribution of the recoverable return flow did you use as provided by Mr. Toedter?

A. I have a table.

MR. WHITE: I knew we'd get into the notebooks, Your Honor.

THE SPECIAL MASTER: I was afraid of that; a very thick one.

A. We did, however, as I pointed out the last time, it does show up in the computer printout, but it's just as easy to give a summary table.

Q. (By Mr. White) Would it be just as easy to show me what that is in one of the Hanover Exhibits? Why don't you tell me which of the Hanover Exhibits you're looking at?

A. I just have my own copy.

Q. Is that Hanover Exhibit 1?

A. Yes.

MR. ECHOHAWK: Could we have the title of that? I mean, is it the Little Wind or Big Wind?

MR. WHITE: It's the Big Wind.

MR. ECHOHAWK: Big Wind? And that's Hanover Exhibit what?

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MR. WHITE: It's the Big Wind.

MR. ECHOHAWK: Big Wind? And that's Hanover Exhibit what?

MR. WHITE: One.

A. In Hanover Exhibit No. 1, under the job control printout, we see Control Point No. 27, East Fork Wind River, dummy diversion. This is the dummy diversion concept that I spoke to during my last period of testimony. The percentages of those monthly return flows are shown under diversions, diversion equals, and then we get into the distribution of the monthly percentages, starting with the month of October, then going through the entire water year.

So beginning with the month of October, 6.9 implies 6.9 percent, and continuing through the rest of the month, it sums to a hundred percent of recoverable return flows.

Q. (By Mr. White) Did those percentages stay the same for each control point, or do they vary between control points?

A. Those stayed the same.

Q. And is the same thing true for all three studies?

A. That's correct.

Q. What is the basis of assuming that the percentage of return flow by month will remain the same at all of the control points within the system?

A. Well, that's an input that I received from Mr. Toedter. He'll speak to that.

Q. And you felt it was reasonable to rely on that sort of assumption, that return flow percentages stay the same throughout the system?

A. I felt so. We looked at some previous reports; the current Wind River study that the U. S. Bureau of Reclamation was doing, the old Owl Creek study, and some earlier studies that were done by the Corp of Engineers, and they went with a constant return flow percentage, and in lieu of better site specific information, that we felt was a legitimate decision.

Q. What information did you have, if any, from Mr. Toedter concerning the location of return flows?

A. I established the nodes and performed a preliminary breakout of the return flow areas contributing to those collection nodes. Mr. Toedter then went into my preliminary study and analyzed it in terms of any technical perameters that would impact that, for instance, if there was any barrier problems, this type of thing, and then he either accepted or modified the return flow boundaries as presented in one of the exhibits that's already been shown to the Court.

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Q Are the precise numbers which Mr. Toedter provided you shown in the computer printouts, which are on Hanover Exhibits 1 through 3?

A Precise numbers, I don't understand.

Q Well, the numbers which Mr. Toedter gave you and which you --

THE SPECIAL MASTER: Numbers like numbers of notes, numbers of percentages of returns?

Q (By Mr. White) Percentages or volumes which Mr. Toedter gave you, are those shown in other places aside from the location you just described in Hanover 1?

A The monthly percentages of return flow are shown in that common place. Whatever the dummy diversions was that was utilized in the respective operational study in the Big Wind case, I think it was Node 27, in the Little Wind case it was another node you just simply have to go to that particular node description where it says dummy diversion, go into the control card associated with that and you would be able to extract those monthly percentages.

MR. WHITE: Your Honor, let me get this map up for him.

THE SPECIAL MASTER: All right. Very well.

Q (By Mr. White) Ron, could you point out quickly the dummy control points, or the dummy -- the control points

which you used for your dummy run?

A Okay. Again, these are described in the control point handouts that are part of the Court exhibits as well as the schematics but to simplify things, it's Control Point 27 in the Big Wind System and Control Point No. 1 in the Little Wind System, and if you look at the computer printout in the fishery operational study for the Popo Agie, Little Wind, Big Horn operational study, it is also Control Point No. 1.

Q Mr. Billstein, I would like you to assume a couple of facts so I can ask you a hypothetical question. It may clear up for me exactly how you dealt with the return flows.

I would like you to assume that during June of 1950 you diverted 100 acre-feet at Control Point No. 4 in the Big Wind study group. What happens within the model to that 100 acre-feet to determine the amount and the location of return flows?

A Okay. What happens is that you cumulatively for a particular water year, add in all -- add together all the diversion quantities then you apply the net irrigation requirements or the depletions, then you apply the irrecoverable losses so you result in a volumetric net recoverable loss.

Q This is for the entire year?

A That's right.

Q Okay.

A Then you go back and distribute those flows on a percentage basis as supplied by Mr. Toedter.

Q Using the 6.9 percent for October --

A That's right.

Q -- and so forth.

And where are those return flows -- are those return flows assumed at Control Point No. 4 or Point 27?

A As previously pointed out in the other exhibits, there are certain control point nodes. The control point nodes designated as return flows control point nodes are the collection points for the respective diversions for the tributary area that returns to that node.

Q As a practical matter, however, return flow does not accumulate and return to the system typically at the concentrated point, a point of discharge, does it?

A Oh, certainly not. It continues along a reach of stream. Again, from a practical reasonable matter, I chose certain collection points simply from the purpose of analyzing water availability in reaches of streams. It wasn't important to me to make minor differentiations along that reach. I felt that I could make the proper conclusions

by respective nodes.that I had chosen.

* * * * *

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Q Is it true that -- I'm sorry, Your Honor.

THE SPECIAL MASTER: Let me ask a question right here, Mr. White. I think it is appropriate.

Is it true that none of the return flows on the projects that you have on this systems operations study map before us, 305, that none of the return flows join in with any of the return flows of the existing non-Indian projects, for example, the Ocean Lake return, which is all return flow of that project, and none of this on the new Indian project would join that water at all?

THE WITNESS: Our study was for Indian trust lands only, and we accumulated and accounted for diversion as well as return flow only relative to --

THE SPECIAL MASTER: Their land?

THE WITNESS: -- trust lands.

THE SPECIAL MASTER: Uh-huh. But as a matter of fact, doesn't the whole eastern portion of the North Crowheart Unit that's planned have a natural drainage along with that of the northwest portion of the Midvale Irrigation District?

THE WITNESS: Your Honor, there are certain portions of the North Crowheart Unit as planned that return to the Big Wind system a goodly portion that returns to the

Big Horn System via Fivemile Creek, Muddy Creek, perhaps Cottonwood Creek. We made a diffentiation in terms of our operations study as to what proportion of those flows return to the Big Wind versus the Big Horn, and only those that return to the Big Wind were accounted for in our operational study. The rest would be accounted for in the Big Horn River. With the definition that the Big Horn River begins at the confluence of the Big Wind and the Little Wind River.

THE SPECIAL MASTER: Why was that done that way? Why let the accountability for that return flow be further downstream?

THE WITNESS: Your Honor, what we were trying to do in the systems study was to evaluate what flows would be in the system. Given we only had a trust land irrigated base, and we were looking at the ability of a downstream node to have a water supply. Therefore, if in fact Mr. Mesghinna's plan was to drain the North Crowheart Unit away from the Big Wind system and into the Big Horn system, we would be double accounting for that flow, if we brought it all back cumulatively into the Big Wind system. Essentially, we would be giving ourselves an optimistic water supply rather than a realistic one, as defined by the irrigation plan of Mr. Mesghinna.

THE SPECIAL MASTER: I think I understand. Go ahead, Mr. White.

Q. (By Mr. White) Mr. Billstein, it couldn't be true, could it, that you have modeled return flows returning to the stream prior to the time the water was diverted and accounted for those return flows?

A. You go from water year to water year. In this particular case being that the diversions were constant and the same, you could apply the same monthly distributions from water year to water year. Also, the basic assumption was that you were in equilibrium at the beginning of the operational period.

Q. So, it is possible that you had return flows coming back to the stream before the water is taken out by diversions?

A. Under the assumption of equilibrium, long term equilibrium, it is not --

Q. It is not possible?

A. It is not the conclusion.

Q. Let's see, I want to make sure I understand. You're saying it is not possible in your study to have water returning before it is diverted, or would Mr. Toedter be the person to ask that question?

A. The flows in, say, water year 1946 that were diverted in

May and such would carry through the rest of the water year, '46, and into water year '47. Then you would go through the same cycle in water year 1947. The point is, we are using the same diversion quantities. Therefore, the cycle return flows should have been repetitive, and if we assumed at the beginning of 1946 that we had an equilibrium system such as we operated, using 1946 then again, we should be able to pick up the end of that previous year's cycle.

Q. Did you tell the Master that the return flows in your model from the eastern portion of the North Crowheart went to the Big Horn? I just didn't understand --

A. That's right, a certain portion of those.

Q. Does your systems operation model assume that diversions, at point of diversion, result in return flows at only one return flow node, or does it distribute return flows from one point of diversion over several return flow nodes?

A. The areas that were outlined on the return flow exhibit are sites specific to a particular tract of land, so every acre is accounted for only at the return flow node associated with that service point.

Q But isn't it true the return flows even from one acre are, as a practical matter in the real world, spread out so that they don't return to one particular node or point

of discharge?

A. They could. That was one of the technical reviews that Mr. Toedter performed. We took a look at the return flow boundaries that were established and defined whether it was reasonable that all the return flows for the series of acres within that return flow boundary could, in fact, be collected at that node.

* * * * *

Q. (By Mr. White) You spoke of increasing efficiencies through better management practices in order to deal with sporadic shortages in the system, and I'd like to ask you whether, when you increased your efficiencies to deal with those sporadic shortages, whether you also decreased your return flow for those years?

A. Well, in the initial operations study that was run where there were shortages, there was no result in decrease in return flow. Now, that's the reason that I ran the 45 percent efficiency scenarios, and 45 percent efficiency scenarios do take into account a similar decrease in return flow. So that secondary run, that was undertaken for those selected years, say in the Little Wind River system, did, in fact, take that into account.

Q. And that's true with respect to all your systems?

A. Just --

Q. All the study areas?

A. Just the 45 percent case that I presented, counsellor. In the Big Wind system, because the shortages were so minor, I didn't feel it was necessary to go through an exercise of, say, increasing efficiencies in the Wind River A Canal, and, therefore, and correspondingly decrease the return flows because I felt it wouldn't

make any difference to the conclusion.

Q. How about on the minor tributaries?

A. Well, there's no operational studies done on minor tributaries.

Q. How did you feel with return flows from one system that entered directly into another canal that don't get to the river, such as the Ray Canal return to the Coolidge Canal, or Dinwoody Canal return to the Wind River A Canal?

THE SPECIAL MASTER: Coolidge returns to the Wind River A?

MR. WHITE: Dinwoody to Wind River A.

A. Well, that goes back into the selection of the proper nodes and proper schematic. For the example, the first example you presented, counsellor, for the collection of the return flows from, say the Ray Canal that were reutilized in the Coolidge Unit, we had a collection point.

THE SPECIAL MASTER: Why don't you point at it on the map.

A. Collection Point No. 5, and Collection Point No. 5 does, in fact, serve as a study unit that collects the return flow that's diverted into the Ray Unit and is, in fact, reflected by means of the Trout Creek River system, and

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correspondingly reduced in the Coolidge Canal.

Q. (By Mr. White) So that control point is not on the river, but is on the canal, receiving canal?

A. That control point would be on Trout Creek, just about its confluence with the Coolidge Canal. And in a practical sense, what happens is Trout Creek comes directly into the Coolidge Canal, Coolidge Canal is capable of taking all the flow of Trout Creek, or they can use an overflow structure to allow some additional water to spill over and return down into the Little Wind. So historically, that's the way it's been utilized in the past, and we went ahead and build that into our system.

So you do have the capability of sending water down Trout Creek from Ray Canal or using that point only to collect return flows. In this operations study, counsellor, we chose Point No. 5 only to collect return flows, we didn't move water from, say Node No. 19 down Trout Creek to supply Coolidge. We allowed that water to move down South Fork and down into the primary or initial Coolidge diversion point.

Q. Did you do the same thing with the Dinwoody going into the Wind River A?

A. Okay. With respect to Dinwoody going into the Wind River A,

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there is no collection of return flow at any of these Dinwoody Bench Canal points, be it 8, 17 or 22. Those are points along the canal itself. So you do not utilize any return flow points along the Dinwoody A Canal.

Now, with respect to the ability to use water from Wind River A being supplied from return flows from Control Point No. 8, that is certainly an alternative that I could have used in the system plan, but I felt that the amount of return flow wasn't major, and therefore, I felt that I would collect all the return flow for ease of presentation at Control Point No. 24, simply a decision point for ease of presentation of the results.

The other thing is, you start getting into multiple or additional nodes, and we could very easily triple, quadruple the Hanover No. 1, in terms of computer printout, with no measurable increase to the accuracy of the information.

Q Mr. Billstein, if return flows from one canal get into another canal and it increases the water supply in that second canal, and if that increased supply water in the second canal reduces the amount of water which the second canal has to divert, did you reduce the diversion by

either the Coolidge Canal or the Wind River A to accomodate or account for the return flows that entered those canals along their reaches?

A. The systems study was set up so that all the requirements along the river system were met. We very seldom got into a situation where we had excess water, for instance, being diverted out of Coolidge above and beyond that which would be added to supply the needs from the return flow point.

We had a series of runs, counsellor, and basically reiterated back into a diversion amount coming into the Coolidge Canal which takes place at Node No. 4. So that very situation you talked about was, in fact, not occurring.

Q. How about on the Wind River A?

A. On the Wind River A, I did not program in any return flows coming back into the service area, so therefore, that's a moot question.

Q. Let me ask, jump back for just a moment. When you used the term "efficiency" during your direct testimony and during our colloquy when it was necessary to employ management practices to deal with temporary shortages, what do you mean by the term "efficiency", what kind

of efficiency are you talking about?

A. I'm talking about total system efficiency.

THE SPECIAL MASTER: Talking about what?

THE WITNESS: Total --

THE SPECIAL MASTER: Total?

THE WITNESS: Total efficiency, which would be a combination of conveyance as well as on-farm.

THE SPECIAL MASTER: On-farm.

Q. (By Mr. White) Did you assume, based on what Mr. Toedter provided you, that the return flows -- Excuse me, the diversions during one water year resulted in return flows or all the -- Excuse me, let me start again.

Did you assume that all the return flows from diversions during a particular water year returned during that water year?

A. No, counsellor, that's a cyclicle pattern. I was talking about, that the diversions during a particular water year would carry through the remainder of that water year and then into the following year until, say, the May period began again, because we had a constant water duty year to year, then one did not have to go in and manually modify this carry-over pattern.

Q. But your percentages beginning with 6.9 in October add

up to a hundred during any one water year, don't they?

A. Sure. Again, it's the same, the cyclicle pattern allows us to do that because you're diverting the same amount of water year after year, and you have the same distribution pattern.

THE SPECIAL MASTER: The debit in the fall becomes a credit in the spring?

THE WITNESS: Certainly.

THE SPECIAL MASTER: So --

THE WITNESS: Now, if we were changing efficiencies as such, then there would be a different bookkeeping task at hand, but in this particular case, we went with a common water -- water duty year after year, as defined by the Agricultural Engineer, and therefore, the percentages were able to be maintained.

Q. (By Mr. White) Mr. Billstein, isn't it true that the only way that you can use that approach is to assume that there is a common water duty year after year?

A. Certainly, otherwise I would have to mix modifications.

Q. As a practical matter in the real world, the water duty doesn't stay the same year after year, does it?

A. In a practical sense, I would agree with that, counsellor. Again, I was charged with analyzing water availability for a certain set of input data.

Q What assumptions were you directed to make in your study, which had you designed the study yourself, you would have done differently?

THE SPECIAL MASTER: Go ahead.

MR. ECHOHAWK: Could I have the question read back, please.

(Thereupon, the following question (was read back as follows: "Q (What assumptions were you directed (to make in your study, which had (you designed the study yourself, (you would have done differently?"

MR. ECHOHAWK: Objection, Your Honor.

THE SPECIAL MASTER: Well, let's assume that he asked are there some assumptions existing so, and if there are, which ones are they?

MR. WHITE: I agree, Your Honor.

THE SPECIAL MASTER: That's close enough.

MR. WHITE: It's like, when did you stop beating your wife; I apologize.

THE SPECIAL MASTER: We're far enough into the lawsuit. That's an interesting question.

THE WITNESS: I would have --

MR. ECHOHAWK: Your Honor, could I have a clarification as to what the question is?

MR. WHITE: Let me rephrase it.

THE SPECIAL MASTER: Take it again from, Are there --

Q (By Mr. White) Are there assumptions which you make such as the one we just discussed about the constant duty of water, which, if you were allowed a free hand in designing your system or your analysis, you would have reached or created different assumptions?

MR. ECHOHAWK: Objection, Your Honor, calls for speculation. If the question is limited to only the assumptions that he used that went into the study, that's one question, but if he asks a question as to what else he would have done had he done it a different way, is totally beyond the scope of direct, and it's speculation.

THE SPECIAL MASTER: I'm going to overrule the objection, Mr. Echohawk, because I think as a professional he has the right to consider alternatives that he might have used other than those that were cranked into his mode from other experts that were working with him, and if there were some, he might have done them differently. I think he can testify to that.

MR. ECHOHAWK: If he had -- My point is, if he would have had a free hand totally without direction from the lawyers or from the other experts or anything --

THE SPECIAL MASTER: No, totally --

MR. ECHOHAWK: He would have just gone -- No telling where he would have gone.

THE SPECIAL MASTER: Without the direction from his other co-workers from HKM Associates, that's the question.

MR. ECHOHAWK: My point --

MR. WHITE: We'll get to the other one later on.

MR. ECHOHAWK: He's asking Mr. Billstein to take a shotgun approach as to what things he would have considered, had he done it with no real guidelines.

MR. WHITE: Well, Your Honor, Mr. Billstein understands the question, there's no doubt in his mind that the question means --

THE SPECIAL MASTER: The answer may be -- I'm going to overrule the objection. The answer may be no, and we're all through with this line of questioning, but I overrule the objection. You may answer if you're any less confused now than you were at the beginning.

THE WITNESS: Talking about a purely speculative basis,--

THE SPECIAL MASTER: No, I don't want your speculation.

MR. ECHOHAWK: That's my objection.

THE SPECIAL MASTER: I would have sustained it if Mr. White was asking for speculation. Mr. White, will

you rephase the question one more time?

Q. (By Mr. White) Mr. Billstein, as with the assumption that the duty of water remains constant from year to year, are there other assumptions, or were there other assumptions which you used in your study which you were directed to use and which, if you designed the study yourself, you would not have used?

MR. ECHOHAWK: Objection, Your Honor, assumes facts not in evidence. I think we have to get established exactly what he was directed to do, what assumptions he was directed to use, and then we can go from there.

MR. WHITE: Okay. We'll take it from the beginning, we may be here ten days, but I can do that as well.

* * * * *

THE SPECIAL MASTER: I would overrule that objection, also I would like to hear the answer to the question, yes or no.

Will you read back that question, please?

(The above question was read
(back by the Reporter as
(follows: "Q Mr. Billstein,
(as with the assumption that
(the duty of water remains
(constant from year to year,
(are there other assumptions,
(or were there other
(assumptions which you used in
(your study which you were
(directed to use and which, if
(you designed the study your-
(self, you would not have
(used?"

A Well, with respect to water diversions, I would have taken a look at the acutal climatic information on a year to year basis to get some sense of feel for the varying water requirements from year to year and that, of course, would have ramifications in terms of the percentages of corresponding return flows if I chose to use a variable water duty.

There are a lot of studies, compact allocations, that are built upon the constant water duty and so without getting into an analysis of what those results would have shown me, I really don't know how much difference it would have impacted the study.

Q. (By Mr. White) Any other assumptions?

A A lot of that would depend on the impact that these variable water duties would have if they resulted in additional shortages or major shortages then one would get into some economic considerations. And, again, without having gone that route, I'm certainly not in a position to say whether, in fact, that would have occurred here.

Q Anything else?

A Nothing I can think of right now.

Q Mr. Billstein, with respect to the western part of the North Crowheart Unit, isn't it true that during the first few years after construction after the North Crowheart starts to be irrigated the return flow patterns, locations, timing and amount will be much different than the return flow patterns after the North Crowheart Unit has been in operation for several years?

A That's correct. It takes awhile for a new irrigation to establish an equilibrium situation and the return flow patterns to finalize or establish.

Q Didn't you assume, however, that equilibrium was reached in one year based on the 100 percent distribution of a water year of your return flows?

A That doesn't follow, Counselor. What we said is that we had an equilibrium situation and we operated the system

under an equilibrium situation. We took a base period to analyze a study unit. What we are saying is that that study unit was in a return flow equilibrium at the time that it went into the analysis.

Q So your study then assumes that -- or strike that.

The results of your study are based on the assumption that the system's in equilibrium, which means that the various projects and all the lands claimed as shown on Exhibit 305, have been irrigated for a number of years, is that correct?

A That's correct. I also looked at the -- what would occur if we essentially had no return flow from the North Crowheart, would that affect my conclusions relative to water availability for the agricultural claim. If, in fact, I had zero return flow such as what Counselor was speaking to, given that the whole North Crowheart project could be built in a very limited number of years and that limited number of years would be such that the like pattern of return flow had still not reached the Big Wind System. That did not make any difference to the water availability that I came up with.

Q Let me ask you this about that then: I would like you to assume solely for the purposes of this question --

A Uh-huh.

Q -- that it would take 20 years for all the lands claimed for irrigation as shown on Exhibit 305 to go into operation.

THE SPECIAL MASTER: Of all five projects?

MR. WHITE: All five projects as well as the historic. All of the lands shown on 305 -- 20 years before they are all being irrigated.

Q (By Mr. White) Isn't it true that your conclusions would be inapplicable to that 20-year period?

A Well, you have stated something that is totally unrealistic, Counselor. A goodly portion of those lands are in existing use. Everything you see in black and a goodly portion of that which you see in blue, are currently in use. What you're talking about is a small number of Type VII and Type VIII's and for all practical purposes, the future land base.

Q Okay. Well, let me for the purposes of this question agree with you and then ask you to assume that for the purposes of this question solely that it takes 20 years to get the rest of the lands in operation.

A Okay.

Q Isn't it true that the results of your study are inapplicable to that 20-year period?

A No.

Q Okay. Haven't you assumed, for purposes of your study, that the system's in equilibrium?

A That's right, Counselor, but then you have to go --

THE SPECIAL MASTER: You're duplicative and you're repeating things that you've already brought out, Mr. White, but if you don't proceed too far --

MR. WHITE: I think it is necessary --

THE SPECIAL MASTER: I just wanted to raise a note of caution.

THE WITNESS: Counselor, in the Big Wind System if we were to do away with all return flow, which is the alternative that you were just speaking to, we would still -- that does not impact the conclusion on the water availability because return flows are not critical for the 1868 priority case that we are looking at. It simply adds to the amount of flow, river flow remaining in the stream at selected points. That's the reason, for example, that I collect flow at downstream nodes such as 24 and 30 and 32.

Q Well, that may be true for water availability for irrigation purposes --

A Yes.

Q -- but is it also true for water availability for fish flows?

A It would have more of a measureable effect on water availability of fish flows. I would have to take a look at that hypothetical case and find out during each month what volume of return flow is contributing to the net river flow and then be in a position to make a conclusion on that basis.

Q I'm sorry, go ahead, I didn't mean to interrupt you.

A I suspect that in the reaches that we have major impacts for the agricultural claim that it makes little or no difference, it simply accelerates slightly that impact. The only meaningful review would be in the lower reach below the confluence of Bull Lake Creek and no, I haven't looked at it. Mainly because the vast majority of the lands, or a goodly portion of the lands, are already in use.

Q Ron, I direct your attention to what has been admitted as U.S. Exhibit C-281, which is the fish flow map. I think you are familiar with it.

What conclusions did you reach with respect to water availability for fish flows in reach or Stretch No. 6, as shown on C-281?

A The conclusion was that there was no impact.

Q Okay, how did you go about reaching that conclusion since it's outside of the study areas that are delineated on

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Exhibit 305?

A With respect to the operational study performed for the Popo Agie, Little Wind, Big Wind, Big Horn which we call the fishery study, we did have a node that showed the flow of the Big Wind System below its confluence with the Little Wind System and simply using the summary tables of remaining river flow at that point and comparing that against the recommended flows by Mr. Vogel, the conclusion was made on that basis.

Q Well, doesn't that conclusion assume then, the Boysen Reservoir isn't operated, doesn't fill?

A It assumes Boysen Reservoir isn't there.

Q That's right, Boysen Reservoir isn't part of the study, isn't that correct?

A That's right.

Q How about water availability based on lack of return flows in the Little Wind System. Were your results the same as for the Big Wind System?

A The first thing that should be pointed out in the Little Wind System, Counselor, is we only have a very small amount of future lands built into that. I think it is 1,700 acres, which I'll point out on C-305 as being this portion of the Big Horn Flats. The vast majority of the lands are historic in use, and we had a very small amount

of Type VII and Type VIII's. I believe the number was 3,700 to 3,800 acres, so again, the hypothetical situation that you pointed out, I certainly didn't consider at all because of the fact of the preponderance or the dominance of existing use in this particular study unit.

Q Mr. Billstein, I would like you to assume that there were two tracts of land, A and B, beside one another --

THE SPECIAL MASTER: A and B what?

MR. WHITE: Beside one another, immediately adjacent to one another.

Q (By Mr. White) And I would further like you to assume that A and B are now receiving full service irrigation, and I would like you to assume that for whatever reason, Tract B is no longer irrigated. Isn't it true that the elimination of irrigation on Tract B may have a significant effect on the return flows from Tract A?

MR. ECHOHAWK: Objection, Your Honor, it calls for speculation.

THE SPECIAL MASTER: I'm going to sustain that objection. It's fraught with so many imponderables. What size, what elevation, what pitch, what crop, what saturation all sorts of things, I think.

MR. WHITE: Your Honor, --

THE SPECIAL MASTER: I suppose the question, if you could work on it a little bit -- identical lands, identical characteristics, identical types and classes, identical size that type of thing?

MR. WHITE: I can do that, Your Honor.

THE SPECIAL MASTER: And both are irrigated from the same canal, both from the same on-farm system, both side by side on the same farm and B is no longer irrigated, does it affect the return flow of A?

MR. WNITE: I would like to adopt your question, Your Honor.

THE SPECIAL MASTER: Well, all right, go ahead. I think that might remove the objection. I tried to anyway.

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THE WITNESS: If, in fact, Tract B, which is the idle tract, was, say downstream and in position to consume some of the return flow that passed through it toward the return, a return flow node, then it may have some impact of increasing total irrecoverable losses. However, it should be pointed out that Mr. Stetson did evaluate efficiencies, what he called the historical efficiencies of the product, and you have that very same situation, so it is my feeling that that's already built into this.

Q (By Mr. White) Mr. Billstein, I'd like you to assume that there are tracts of land interspersed among your study area, which, if the claims of the United States are granted, would be dried up, and with that assumption, ask you whether or not your analysis included a review of the effect of those lands being dried up on return flow from both the historic and the future lands as claimed by the United States?

MR. ECHOHAWK: Objection.

THE SPECIAL MASTER: I'm going to sustain the objection. We can assume that the decree will result in the fact that there will be thousands of more acres opened up and given water than is now, but that's hypothetical and speculative. We can assume that the report, if sustained by the Court, will result in just what you

said, Mr. White, some lands going to be dried up, but I think the question is to -- has an element of improbability and speculativeness that is outside the scope of both the direct, and too, ventures into some areas that don't make a meaningful area toward probative evidence, so I'm going to sustain it.

MR. WHITE: Let me try it a different way, Your Honor.

THE SPECIAL MASTER: I thought you would.

Q (By Mr. White) Mr. Billstein, to what extent did you analyze, as part of your systems operations study, the effect on return flows from any parcels of land currently irrigated which might be dried up as a result of the claims of the United States being granted?

MR. ECHOHAWK: Could I have the question read back?

(Thereupon, the following
(question was read back as follows:
("Q Mr. Billstein, to what extent
(did you analyze, as part of your
(systems operations study, the
(effect on return flows from any
(parcels of land currently irri-
(gated which might be dried up
(as a result of the claims of the
(United States being granted?"

MR. ECHOHAWK: For point of clarification, Mr. White, are you asking about the impact on non-Indian

lands?

MR. WHITE: No, I'm not.

THE SPECIAL MASTER: No.

MR. WHITE: I'm asking whether or not he took into consideration --

THE SPECIAL MASTER: Just on the reservation.

MR. WHITE: -- the effect on return flows from non-Indian lands being dried up.

THE SPECIAL MASTER: Trust lands.

MR. WHITE: Yeah, return flows from trust lands.

THE WITNESS: I believe I answered that one to the point that we didn't modify the overall volumes or the percentages. In part of the consideration, of course, was that Mr. Stetson did give us long term project efficiencies, and these very same type of things do occur in the project.

THE SPECIAL MASTER: Yes, but his reason for this having occurred in his studies were not based upon denials of a decree.

THE WITNESS: Certainly not, Your Honor, but in fact, there's land going into active and idle status all the time.

THE SPECIAL MASTER: All the time.

MR. WHITE: The point is, Your Honor, Mr. Stetson

didn't indicate that his conclusions were based on any assumptions concerning lands going in and out of active or idle status. More particularly, he did not indicate that there were any assumptions based on what would happen if the United States' claims were granted.

THE SPECIAL MASTER: That's right. That's what I said.

MR. WHITE: The purpose of the question, which I think I should be allowed to explore a little further, is to deal with the validity of the study, which does not include some, perhaps negative effects of other lands being dried up that are now in operation.

THE SPECIAL MASTER: You may pursue that point a few more minutes, if you can bring out --

Q (By Mr. White) Mr. Billstein, did you assume or did you make any preliminary determinations of what lands would be dried up if the United States' claims were granted?

A. No.

Q Having made no such determination, how can you be certain that the effect on return flows from those lands being dried up has been accurately modeled in your study?

MR. ECHOHAWK: Objection, Your Honor. The question

is irrelevant. If the lands are not in production, the water remains in the stream.

MR. WHITE: He's missed the whole point of the question, Your Honor.

THE SPECIAL MASTER: I'll overrule the objection. He may answer, if he's able to.

A. It was a point that was considered early on, and we felt that the 20 percent irrecoverable loss that we did utilize in the study was a conservatively high one, and that it did take into account some contingencies for such examples as you presented, counsellor.

Q. (By Mr. White) Can you say with any certainty that the conservative nature of the 20 percent value takes into account all the contingencies that would result?

THE SPECIAL MASTER: He said it takes in those contingencies.

MR. WHITE: I thought he said "some", Your Honor, and I wanted to find out just how sure he was.

THE WITNESS: Research of literature, published reports such as the SCS puts out what they felt were acceptable return flow percentages, were down into the five and six percent. Some of the other early studies on Owl Creek, Shoshone Project, got into the 10 and 15 percent of diversion. We felt that using the 20 percent

gave us some flexibility.

THE SPECIAL MASTER: You felt that operation was fair to other users other than Indians and was on the down side or conservative side of your operations?

THE WITNESS: We felt that we could have used a smaller percentage and been optimistic on the amount of return flow. We went with a higher number to make our water availability determinations as --

THE SPECIAL MASTER: Free of error?

THE WITNESS: Yes.

THE SPECIAL MASTER: Let me ask some questions, Mr. White.

But did anybody in HKM Associates, you or your co-workers, to your knowledge, crank into any of your studies the imperative results of non-Indian use of this water as well as Indian use and the return flows of both Indian and non-Indian use as to the integrated effects upon the river system?

THE WITNESS: There's been no integrated analysis, Your Honor. We've only been asked to analyze water availability for the government claim.

THE SPECIAL MASTER: That's understandable, but unfortunate because it is one system, and it is one river, and it is one area.

MR. WHITE: We might take a whack at that, Your Honor, when our case comes up.

THE SPECIAL MASTER: Secondly, one more question that falls right into it. You have predicated every bit of your study, have you not, upon an assumption of necessity that this is going to give an 1868 right to water so you can proceed to work with that water, as you crank in the other matters that are important, what's irrigable, what's arable, practically irrigable, what's economic, and so on?

Let us assume that a court reviewing my work sustains a finding that with respect to a new or future area north of the Big Wind like the North Crowheart Unit, it will have an 1868 date, all right, but it will be impressed with an obligation that it cannot use water that would be in detriment to those down in the project, Midvale Irrigation District, who took their land and titles from Indians as a result of the 1905 decision.

You gave no thought whatever to what that would do to the fact that the acreage in North Crowheart can or cannot be PIA or can be diminished in their efficiency, in an economic justification, did you? Your work was always based on an 1868 period?

THE WITNESS: That's right.

THE SPECIAL MASTER: No qualification as to bad

years, no need to share with others on bad years?

THE WITNESS: That's right. We showed we had very few shortages at all during the entire period of record, and those that we did have we could manage. The object, of course, was to find out whether in fact the government claims, as presented to the Court, could be served.

THE SPECIAL MASTER: By the water available?

THE WITNESS: With the first priority.

THE SPECIAL MASTER: Okay, Mr. White, thank you. We've been at it over an hour, anybody want a break?

MR. ECHOHAWK: That would be fine with me.

THE SPECIAL MASTER: Okay, let's take ten minutes.

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THE SPECIAL MASTER: Shall we proceed?

Okay, on the record, please.

Q (By Mr. White) Let's turn for a few minutes to the return flow -- strike that. You already answered that.

THE SPECIAL MASTER: Incidentially, before we get going, before I interrupt you, let me go off the record for just a second.

(Off-the-record discussion.

Q (By Mr. White) Mr. Billstein, let me touch on something that was discussed during Mr. Donnell's cross-examination. Let me ask you to assume that you have a large canal that serves thousands of acres of land at the present time, but let me also ask you to assume that of those thousands of acres that are being served under that canal on a few hundred acres are trust lands, and let me also ask you to assume that those trust lands are located toward the end of the canal. Isn't it true if the non-trust lands under that canal were dried up that the duty of water which you have assumed for the trust lands would no longer be applicable?

MR. ECHOHAWK: Objection, Your Honor, it calls for speculation. The question is vague --

MR. WHITE: It doesn't call --

THE SPECIAL MASTER: I'll overrule the objection.

I think it is an accurate and scientific question.

A Again, the duty of water was assigned by another expert, and I assume that he was probably cross-examined on this same matter.

Under Counselor's hypothetical example it would be very difficult to divert flow from several hundred acres when the capacity of the system was designed for several thousand and get flow to the end of the canal from a practical standpoint.

Q (By Mr. White) Doesn't that situation exist though on the Reservation?

MR. ECHOHAWK: Objection, Your Honor.

THE SPECIAL MASTER: Where? Well, on the Reservation -- well, it is too vague.

Q (By Mr. White) Are you aware of anyplace on the Reservation which you have analyzed in your studies, where that situation exists?

A Again, Counselor, the purpose of my study, going back to the basics, was to analyze is there water available in the stream by stream reach relative to the water requirements as testified by other experts in the case, or could we serve the water requirements as defined by the agricultural consultant as well as some of the miscellaneous mineral requirements that Dornbusch and Company developed.

So again, that was input data and certainly has nothing to do with my role in the study.

Q Doesn't that situation exist for these parcels in the withdrawal area that I am pointing to now, roughly north of the -- or the confluence of the Big and Little Wind?

MR. ECHOHAWK: Objection, Your Honor, these questions were properly addressed to either Mr. Stetson or Dr. Mesghinna and as Mr. Billstein pointed out --

THE SPECIAL MASTER: I would be inclined to sustain the objection.

MR. WHITE: Well, the purpose of inquiry, Your Honor, is to determine whether or not it is reasonable for this expert to rely on the conclusions given to him by other experts and I would expect without -- I'm sure this tips off the witness but I would suspect were we going into this cold, the witness would indicate that had he done that work rather than being directed to rely on the conclusions reached by other experts, he would have, in some way, tried to account for the fact that these isolated parcels down at the end of these long canals are going to have a vastly different duty of water. If the intervening land is dried up it is going to take a heck of a lot more water to get -- in other words, they don't share the canal water anymore.

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THE SPECIAL MASTER: Your question is based on sort of vague and speculative if's. It is to iffy, Mr. White.

MR. ECHOHAWK: It assumes facts not in evidence.

THE SPECIAL MASTER: Of course.

MR. WHITE: That it is going to be dried up?

THE SPECIAL MASTER: The acreage that you were just pointing to along the road to the north and east of Riverton, doesn't constitute one-tenth of one percent of the total irrigable lands on the Reservation, I don't think. So it is a minute thing. We are back again to the earlier stages of this lawsuit where we were questioning areas and we were spending hours and hours on 3.2 acres here out of a 1,400-acre tract.

MR. WHITE: I might say, Your Honor, it is an illustration of a problem that can be followed up to more significant acreage, but it is a stark example and I would like to try the question again to see if I could avoid the speculative nature of it.

Q (By Mr. White) Mr. Billstein, --

THE SPECIAL MASTER: I think he answered, but you go ahead one more time. You attempt --

MR. WHITE: I'll try it with a general question.

Q (By Mr. White) Mr. Billstein, in your analysis, is it true that you assumed that the duty of water even for

isolated parcels such as we have described, isolated meaning that they are isolated from other trust lands, is unaffected by the drying up of non-trust lands along the canal between the point of diversion and the trust lands themselves?

MR. ECHOHAWK: Objection, Your Honor.

THE SPECIAL MASTER: I'm going to sustain the objection or I would object to the question myself. If the isolated tract of trust lands are dried up and the claims of the United States adversely affected thereby by lands that will be withdrawn and no longer irrigated lands that will be dried up, that's your duty to show that they will be dried up and you can do that on your case.

MR. WHITE: I'm entitled --

THE SPECIAL MASTER: I think you're going beyond the scope of his direct examination in impressing this point. You may make an offer --

MR. WHITE: Maybe I can ask it a different way, Your Honor.

Q (By Mr. White) Mr. Billstein, did you make any assumptions with respect to the effect on the duty of water for isolated tracts resulting from intervening parcels between the points of diversion and the isolated tracts being

dried up?

MR. ECHOHAWK: Objection, Your Honor.

THE SPECIAL MASTER: Well, his answer is going -- he's answered it for you on a theory, he's answered it for you on a hypothesis and he's answered it for you to the best of his ability, Mr. White. I think he answered -- I'll overrule the objection. You may make your offer of --

MR. ECHOHAWK: Is the objection overruled?

THE SPECIAL MASTER: I mean I'll sustain the objection. You may make your offer of proof.

MR. WHITE: I am unable to make an offer of proof, Your Honor. I don't know what he did, this is the only person that can tell us.

Q (By Mr. White) Mr. Billstein, did you take into consideration or account for any return flows from the Ray Canal System to the North Fork of the Popo Agie?

A There is a small amount of return flow, I believe it's less than 200 acres that is served under the Ray Canal that the return flow patterns showed that they would return to the Popo Agie System. That acreage was broken out and the return flows allocated to the Little Wind System. They did not include the area that would return, in fact, to the North Fork of the Popo Agie. The area

was so small that it wasn't included in the fisheries study.

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Q. (By Mr. White) With respect to the manageable shortages which you previously testified, did you indicate the carry-over soil moisture would contribute to the the solution of those sporadic shortages?

A. In terms of the Big Wind and Little Wind Study Units, we did not get into carry-over soil moisture. It was simply a function of increase in demand by increase in the efficiency.

Q. Did you consider carry-over soil moisture with respect to the minor tributaries?

A. There was some considerations there.

Q. What considerations, describe that? What calculations did you make with respect to the carry-over soil moisture on the minor tributaries?

A. I believe we used a figure of three inches.

Q. And how did you derive that value?

A. It was taken off of one of the curves of available water capacity for, I think, a light soil. It was felt to be conservative by our agricultural people.

Q. Which curve, what curve are you talking about?

A. I can't recall the publication that it came out of.

Q. Do you have a copy of that curve with you?

THE SPECIAL MASTER: He can't recall the publication it came out of, he could hardly have a copy of it

with him, if he can't recall the publication it came out of, Mr. White.

MR. WHITE: Could I still ask the question, Your Honor, because he might have forgotten where it came from but have it with him.

THE SPECIAL MASTER: It would be absurd for you to ask that question. It would be the same as if you asked him, did he bring a book along that he hasn't read yet and didn't know about. He doesn't know about it. How could he have a copy with him?

MR. WHITE: Then I would move to strike his testimony because he's unable to produce the facts and data upon which he --

THE SPECIAL MASTER: Objection overruled. He simply doesn't recall the professional publication from which this was taken.

Q (By Mr. White) Did you yourself select that value?

A No, that was supplied to me by one of my agricultural engineers.

THE SPECIAL MASTER: Would you yourself or did you?

MR. WHITE: I asked him, did he.

THE SPECIAL MASTER: Oh, I beg your pardon.

Q (By Mr. White) I'm sorry, I didn't hear your answer.

A. I said, no, it was supplied to me by one of my agricultural engineers. I asked him what range of soil texture he was dealing with, and he said that he was dealing with a light texture, and that three inches was a, he felt it was a conservatively low number for the area of consideration, which is the minor tributaries. As such, we decided to use that.

Q. Which agricultural engineer was that?

A. Mr. Randy Taylor.

Q. How did you use carry-over soil moisture in reaching the conclusions that you reached concerning the minor tributaries?

A. It wasn't used to any great extent. In terms of reviewing the relationships between water supply and water demand, going into those months where water supply decreased to the point where it could not accomodate water demand, available soil moisture was simply added to the budget to reflect that there would be additional number of days during the respective month when that recession took place, that the crop would have water available to it.

Q. Did you analyze or did you determine or did you include in your analysis any replenishment of that soil moisture content during that particular irrigation season in which

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it was considered?

A. Yes. We took a look at whether in fact the soil profile was getting, or the lime base was getting a hundred percent service during a preceding month or two, and if, in fact, it was, then we used the soil moisture figure. If it was not getting replenished or there was not sufficient supply to meet demands for the preceding month or two, then it was reduced or dismissed.

Q. Isn't it true that the HEC-3 program which you used in your operations study is a program that was designed for reservoir system analysis?

A. That's an application of it. That's a primary purpose of the federal agency that developed it, which was the Corp of Engineers, because they were charged with having to analyze power in the major river systems that they had administration over. So, naturally, they would build that type of analysis very prominently into the program.

Q. If that's the case, why did you not consider the operation and storage of water of Bull Lake?

A. This particular case, Bull Lake was built by the federal government, it was not used specifically on the trust lands that were part of the claim, with the possible exception of some of the minor tracts in the Midvale and LeClair and Riverton Valley areas. We felt that we

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could not go into Bull Lake and take advantage of that storage water, that we would have to work from direct flow.

Q. So then Control Point 29 in the Big Wind Study Area, you assumed natural flow conditions and discharges into the river and ignored any storage in Bull Lake; is that correct?

A. We took no advantage of storage.

Q. Which --

THE SPECIAL MASTER: As a matter of fact, the reservation and the Indians have virtually nothing to do with controlling the gates and releases at Bull Lake, isn't that right?

THE WITNESS: That's absolutely correct.

Q. (By Mr. White) Does that mean that you assume, for purposes of your study, that Bull Lake would not store water?

A. Storage was not built into the plan at Bull Lake.

Q. Are you familiar at all with the current Bull Lake operations?

A. Somewhat.

Q. Do your studies indicate whether or not Bull Lake would be able to fill, in whole or in part, during your study period?

MR. ECHOHAWK: Objection, Your Honor.

THE SPECIAL MASTER: I'd sustain the objection.

MR. WHITE: On what grounds, Your Honor? Maybe I can rephrase the question.

THE SPECIAL MASTER: It was not considered in their studies, he answered that. He felt he had no jurisdiction or right to consider it.

It's water that belongs to the Arapahoe -- it's function and control rests with Midvale Irrigation District. I was about to give away the water there for a minute.

MR. WHITE: Sorry, Your Honor, it's already given away.

Q (By Mr. White) Did your study analyze the operation -- Excuse me, I already asked you that.

You did model the operations of Washakie Reservoir, didn't you?

A. That's right.

Q. Is evaporation loss considered as part of your operation?

A. Certainly.

Q. How was that considered?

A. We used the pan evaporation information at Morton, which is in the vicinity of Pilot Butte. By reviewing the relationship between Morton and Fort Washakie, felt that

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there was approximately 90 percent of the evaporation applicable at the Fort Washakie area, so we reduced Morton Station by roughly .9, and to go from pan evaporation to lake evaporation, I used a co-efficient of .71. I think it came from the Climatic Atlas, 1968.

THE SPECIAL MASTER: I would call that anticipating your next three questions and answering them.

Q. (By Mr. White) How did you run the reservoir in terms of the timing, temporal distribution of storage?

A. Well, the physical input characteristics that are built into the HEC program has storage, elevation, area. You also have to check outlet capacity to make sure that you're not asking for releases which are more than that particular physical system has the ability to deliver.

And also analyze spillway capacities for the same reason. You build that all together into an operational set of criteria, and as you either release or accumulate inflows, then the system reacts to that in terms of either raising or lowering the elevation, spilling if necessary. It's a hydrologic balance.

Q. Specifically with respect to Washakie, when did you store water in your model?

A. When did we store water as part of the plan? One thing to recognize about Washakie Reservoir is that it's a

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very small reservoir in relation to the drainage that it is sited on. It has a storage capacity of about 8,000 acre feet, and I believe the natural flow estimates at that location are about 80,000 acre feet. So it obviously fills every year.

Historically, what's happened is that you keep the releases down, draw the reservoir down until roughly May or June and then try to store as much flood surcharge as possible to keep the spillway discharges down to as low a volume as possible. So to answer your question, counsel, May, June, it always fills.

* * * * *

Q Did you ever have a situation in your analysis of Washakie Reservoir where there was a conflict between storage and satisfying direct flow diversions?

A I don't exactly understand your question.

Q Was there ever a situation where there was only enough water in the river for storage or for diversion?

THE SPECIAL MASTER: What would the storage requirements be?

MR. WHITE: To fill the reservoir.

THE SPECIAL MASTER: Who requires storage at Washakie, was it wildlife?

MR. WHITE: I don't know, Your Honor.

THE SPECIAL MASTER: Well, can you elaborate on your question?

Q (By Mr. White) Well, let me ask you this: Why is water stored at Washakie?

A Washakie Reservoir is an irrigation service facility, in times of low flow there is a small amount of incremental storage that is utilized to furnish minimal needs at the town of Fort Washakie.

THE SPECIAL MASTER: And to answer his question, do you know of any times when there was a conflict between a storage requirement of water for Fort Washakie and its duty as an irrigation --

THE WITNESS: Your Honor, I believe my earlier answer to the fact that it fills every year due to the spring runoff, snowmelt runoff responds to that issue. It, in fact, fills every year. There is no conflict. Once it is full then you utilize the available storage as part of the Little Wind Unit of the Wind River Federal Irrigation Project.

Q (By Mr. White) How did you schedule releases from the reservoir?

A Release schedules are based on the water requirements of the system that we operated.

Q But specifically, how did you schedule the releases and what schedule did you develop for Washakie Reservoir?

A That schedule varies from year to year. The reason for that is because you go into Washakie Reservoir the HEC-3 Program allows you to designate the control point nodes where you have water requirements that are to be serviced from Washakie Reservoir. So what the facility does is search in the upstream to the downstream direction and where it does need releases above and beyond but can be furnished by local or direct flow, it correspondingly releases so it is not a firm release schedule. It has to vary from year to year relative to the water supply from year to year.

Q Did you place any limits on storage in Washakie Reservoir in terms of storage carry-over from year to year?

A Counselor, it fills every year. There is no --

Q You have no carry-over storage built in?

A It fills every year.

Q Is any allocation made for power generation?

A No power generation. This was operated as a single purpose irrigation facility with the possible of furnishing local flow water supplies to the town of Fort Washakie.

Q You are sure there is no carry-over storage from Washakie Reservoir?

A Are you talking about is there storage that is not totally utilized --

Q Uh-huh.

A -- in the course of a year, is that how you're defining carry-over storage?

Q Yes.

A Okay, Counselor, what I felt your carry-over storage definition was the fact that in a lot of reservoirs you have certain zones and that zone is built up over time to guard against long term drought, and therefore, you have the particular zone in a storage facility where you have what is called carry-over storage, but under your definition is there cases where we have storage remaining

at the end of an operational year, for example. Is that what you are asking me?

Q Uh-huh, yes.

A Yes, there are.

Q What amounts did you assume to be in storage during -- or in carry-over storage as we have mutally defined it, from year to year?

A Again, that is a function of the operation of the system. The operational constraint that we used was that at Control Point 27, which is the final major diversion on the system, that there be releases met to furnish those water requirements at Subagency Unit and only that. So, if in fact, there is carry-over as we defined the storage in the system, and that requirement has been met, that means that there is extra water in the system that we could have sent down the system and utilized for such things as maintenance or fishery flows.

Q Do you know of any year in which the carry-over storage of Washakie Reservoir was as much as 7,940 acre-feet?

A Are we talking about a month, a particular month, Counselor?

Q Pick a month in the carry-over period.

A Okay. Well, I still think we're not communicating. You're saying carry-over period is any month of operation

of the reservoir, I believe is what you're talking about.

Q Well, let's pick the month of January. Are you familiar with any year during your study period in which 7,940 acre-feet were in storage in Washakie Reservoir?

A In January?

Q In January.

A That was really of no importance to me to record that kind --

THE SPECIAL MASTER: If you don't know, just say you don't know.

THE WITNESS: I don't know. I suspect that --

THE SPECIAL MASTER: Uh-huh.

THE WITNESS: I wouldn't think that it would be.

Q (By Mr. White) Let me ask you a similar question with respect to Ray Lake.

A Okay.

Q Do you know of any year during your study period wherein the month of January there were 7,140 acre-feet in storage in Ray Lake?

A In January?

Q In January.

A I can't recall that, no.

Q Mr. Billstein, I'm going to hand you an excerpt from the United States' Statement of Claims, which contains the

first page as well as Pages 14, 15 and 16, and I have opened it to Page 15 and I would direct your attention to about a fifth of the way down the page where it says reservoir maintenance. Isn't it true that your systems operation study did not consider or include the claims of the United States for reservoir maintenance as shown on Page 15 of the Statement of Claims?

A I did not build in an operational parameter to keep the level of Washakie and/or Ray Lake at the capacity so specified, no.

Q Would you turn back one page to Page 14. At the very bottom of Page 14 there is a claim for the water to maintain the level of all lakes within the Reservation in their natural state except Bull, Ocean, Boysen, Ray, Washakie and Pilot Butte. Did you find that statement?

A Yes, I do.

Q Was that claim included in your systems operations study?

THE SPECIAL MASTER: Were those the bottom four lines of Page 14, Mr. White?

MR. WHITE: Yes, sir. I'm sorry.

A No cateloging of all the natural lakes in the Basin was made to establish whether, in fact, the water level was maintained throughout.

Q (By Mr. White) Did your system allow Washakie Reservoir

to fill, release and refill during the course of an irrigation season?

MR. WHITE: I'm sorry, I'll withdraw the question if you want to ask him --

THE SPECIAL MASTER: No, go ahead.

A There are agricultural demands that take place in May, June and July when Washakie Reservoir is at or close to maximum capacity. I don't know the relationship as to whether the direct flows below Washakie could have satisfied all of those irrigation requirements or not. It is possible that there may have been some releases from the reservoir in July, perhaps June, possible May.

It certainly wouldn't have turned the reservoir over once, I know that.

Q But in part, it could have?

A There may have been some release out of there, uh-huh.

THE SPECIAL MASTER: Mr. White, --

MR. WHITE: Yes, sir.

THE SPECIAL MASTER: I have a problem and maybe you can help me with it or maybe the witness can. I realize I should have the full statement and I do have --

MR. WHITE: I have the copy somewhere, Your Honor.

THE SPECIAL MASTER: No. Now reading, Page 14 is your Page 2, but at Page 14 of the claim I interpret the

last four lines to read that the United States is asserting a claim for water to maintain the level of all the lakes within the Reservation except Ray Lake and Washakie Reservoir --

MR. WHITE: That's what I meant to suggest to the witness, Your Honor. I didn't mean to mislead him.

THE SPECIAL MASTER: So then I realize when they come up with a reservoir maintenance claim on Page 15 for the water to maintain the levels of Washakie at its total capacity, and at Ray Lake at total capacity, that claim is in direct conflict with the claim they made one page earlier.

THE WITNESS: I don't think --

THE SPECIAL MASTER: What do I hear from you, Mr. Echohawk, but silence?

MR. ECHOHAWK: No, Your Honor, that's not -- they are not in conflict.

MR. WHITE: I would stipulate that they are a cumulative claim, Your Honor. I didn't mean to suggest that to the Court and in one place the claim is for natural levels for all lakes except several specified and then in the next page they go on to say and say, but with respect to a couple of those specified ones we claim specific levels.

THE SPECIAL MASTER: I see. I see.

MR. WHITE: I would love to be able to ding them on that, but I don't think I ought to.

THE SPECIAL MASTER: All right.

MR. ECHOHAWK: In regards to the maintenance of all of the natural lakes that is part of the aesthetics and wildlife claim.

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THE SPECIAL MASTER: All right. As a practical matter, how can there be a reservoir granted for water to maintain the levels of the lake at 7940 or volumes of lakes at 7940 and 7140, where their duty, from year to year, serves a given acreage with given water duty? That's what this is all about, and control of the reservoir is up to management, systems management. This area is not up to a decree awarding water.

You know, you can't ask a Court to say that you're going to have water for sufficient acreage of so many areas in this area, and there shall be at the same time sufficient water to guarantee levels of reservoirs. You're running the reservoir, not us. You see what I'm saying?

MR. ECHOHAWK: Yes, Your Honor.

THE SPECIAL MASTER: And if you can help me with that, I would be grateful to you. As we get nearer to a decree, that's my problem, because management will determine levels of the lake.

MR. ECHOHAWK: I believe that's correct.

THE SPECIAL MASTER: And management will maintain releases of water too.

MR. ECHOHAWK: I believe that's correct.

THE SPECIAL MASTER: All right, Mr. Echohawk, thank

you for that.

I didn't mean to interrupt you any more than is absolutely necessary, Mr. White.

MR. WHITE: That's fine, Your Honor. I have my script, and I follow it religiously; interruptions don't matter.

Q. (By Mr. White) When you were discussing the releases from Washakie, Ron, did you mean to suggest that releases were made for fisheries purposes?

A. No.

Q. Okay.

A. In reference to that, when I was talking about Control Point No. 27, what I'm saying is you can't simply go to the computer output and take a look and see that at Control Point No. 27, that the stream is essentially dried up or it could mean that they're all water requirements. What you have to do is see, yes, it did meet the water requirements, and that was the constraint that was applied upon the systems study.

What you have to do then is back up to the reservoirs, be it Washakie Reservoir and Ray Lake, and find out how much remaining storage is there to come up with an additional perspective of what additional water could also be moved down the stream channel.

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And I said one of the possible uses of it was additional maintenance flows or fishery flows.

Q. Is it possible from your computer output to determine which facilities received the water released from either Washakie or Ray Lake?

A. The control points that are part of the operation from those facilities are designated on the Hanover exhibits.

Q. Could you show me? I'm sorry, I'm sort of dense when seeing these things.

We're referring to Hanover Exhibit 3?

A. Okay. South Fork Little Wind River, Washakie Reservoir serving Control Point 6, 8, 10, 11, 19, 12, 7, 4, 9, 13, 15, 27, 29. So those particular nodes listed here that have diversions would, in fact, be part of a possible release schedule from Washakie.

Q. Let me ask you a question right here. Is it possible to know, from the computer output, how much of the, any release from Washakie Reservoir was diverted at any one of the control points you read off? For example, Control Point 6?

A. Well, okay. Control Point 6 is a bad example, that's in fact Washakie itself.

Q. Right.

THE SPECIAL MASTER: That's in fact the reservoir

itself?

THE WITNESS: That's Washakie itself.

One would have to go in with the schematic, take a look at what's known as the local flows, this column or Column 1 in the printouts, plat those and work down from upstream to downstream, then superimpose on the additional releases, and that would be the only way that you could do it.

There's no printout specifically that says so much goes to this node or that node. You would have to work that out.

Q (By Mr. White) Do you know whether or not the control points listed for Little Wind, Washakie Reservoir in Hanover 3 actually receive water released from Washakie Reservoir now or historically?

A All of the control points listed are in fact physical facilities within the Little Wind Unit.

Washakie Reservoir as well as Ray Lake were built specifically to develop storage water for the use of the Little Wind Unit. The use of that storage water is discretionary, depending on need. There are no water storage contracts, per se. It is up to the judgment and the administration of the Bureau of Indian Affairs to utilize both the direct flow resources of the Little

Wind System, together with the storage releases of Washakie Reservoir and Ray Lake to meet the demands of the lands requesting service.

I would assume that some time over the, over the past that it's possible that releases from Washakie Reservoir could have been applied to each one of those diversion points that we've delineated.

Q Did your study on Owl Creek, Ron, take --

THE SPECIAL MASTER: You took a two hundred mile jump.

MR. WHITE: We may come back, but we are into another area of inquiry. I apologize, Your Honor.

THE SPECIAL MASTER: No apology necessary, I'm glad to see you moving ahead, moving on to other areas.

Q (By Mr. White) Did your study of water availability in Owl Creek consider the availability of water out of the storage capacity in Anchor Reservoir?

THE SPECIAL MASTER: In what?

MR. WHITE: Anchor Reservoir on South Fork of Owl Creek.

A No.

Q (By Mr. White) Why not?

A Same reason that we didn't use Bull Lake Creek. The fact that the Owl Creek Study Unit or service unit, that was

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developed to receive water from Anchor constitutes a multitude of acres, in excess of 10,000 acres, I believe, and that the Indian use area was only a small portion of that. Therefore, we didn't feel that we were in a position to command storage out of that facility, so, therefore, we simply went back to the direct flow, again, serving the 1868 water right priorities.

Q. So was your approach similar to the approach you took for Bull Lake then, you just assumed that Anchor Reservoir wasn't there; is that correct?

MR. ECHOHAWK: Objection, Your Honor. He misstates the witness. The witness said that he couldn't use it, it's not that it wasn't there.

Q. (By Mr. White) Let me ask him, did you assume that Anchor Reservoir was there in filling or did you assume it wasn't there or wasn't filling?

A. We used the direct flow.

THE SPECIAL MASTER: It went to the direct flow of the mainstream of Owl Creek.

Q. (By Mr. White) And that is as if Anchor Reservoir is not there, is that correct?

A. We have shown that we could serve the 1868 priority from Anchor Reservoir -- I mean from the direct flow resources,

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so that would be by-passed water anyway, you wouldn't have storage water. So in effect, it's the same thing, we assumed it wasn't there.

Q. Now, with respect to Anchor and Bull Lake, assuming that they are there, isn't it true that so long as water is stored by those facilities, there would be evaporative losses? And if so, did you consider those evaporative losses in your study?

THE SPECIAL MASTER: That confounds me. They are there, and they do have evaporative losses.

MR. WHITE: Perhaps I could restate the question.

THE SPECIAL MASTER: That's all right. They are there, Mr. Billstein knows that, and they do have evaporative losses. Were those evaporative losses considered in your study?

THE WITNESS: No. Again, we were talking about serving 1868 priority rights out of direct flow, therefore, we aren't dealing with storage water.

THE SPECIAL MASTER: Thank you.

THE WITNESS: That should be by-passed water.

THE SPECIAL MASTER: Would you define "by-passed water".

THE WITNESS: That would be releases from, pass through releases through a reservoir to meet direct flow

water right requirements.

THE SPECIAL MASTER: But is there a possibility that the claims you have can be diminished by that evaporation?

THE WITNESS: First of all, we have a legal issue as to whether that evaporation --

THE SPECIAL MASTER: Not legally, I mean physically, topographically, rather than legal issue-ish.

THE WITNESS: If there are evaporative losses, that, of course, affects the overall water supply. Again, it's my feeling that with the first priority water right, that that's not, certainly not jeopardizing us.

THE SPECIAL MASTER: You're back to legal. I could care less about the legal rights. Right now, physically, is it possible that your claim for water in the trust lands that are on the Owl Creek area portion of the reservation, is it possible that your water duties on those trust lands can be diminished by evaporation at Anchor Reservoir?

THE WITNESS: Evaporation at Anchor Reservoir would affect the water supply, and our lands are downstream from Anchor Reservoir.

THE SPECIAL MASTER: That's all I wanted to know.

That's what Mr. White wanted to know, I think.

Q. (By Mr. White) Isn't it true that your systems operation study did not include the construction of future storage facilities?

A. That's correct.

THE SPECIAL MASTER: Let me ask a question that has to be asked right there.

Let's assume that an air of great good will would overtake the people of the United States and of Wyoming, and it was decided that there would be a dam built according to the specification with which you are very familiar at Blueholes. Have you made any studies as to the effect that would have on downstream users or where the evaporative losses would be suffered or apportioned?

I know you have studies as to the net annual contributions to usage, net annual yield for that dam, but do you have any, have you had any studies or have you given any consideration whatsoever in your studies? You probably have not, is that a fact?

THE WITNESS: In the system operations study, no. We have looked at the site and have a feel for storage capacity of the site to translate that into yield. You then have to get into a fairly sophisticated analysis of

water rights, priority of water rights, exchange of water right agreements, conjugal or conjunction use with Bull Lake Creek, exchange waters with Boysen Reservoir, impact of releases from Boysen, say for hydro-power, whether some of that could be exchanged over a long period of time. So to get into, on an actual, final yield number, Your Honor, a lot of effort is yet to come by someone.

THE SPECIAL MASTER: That effort has already been expended by the Bureau of Reclamation, but none of that work went into your systems operation study; is that right?

THE WITNESS: That's right. Further, you must recognize that the Bureau of Reclamation, of course, did not take into account the future land claims of the Tribe or the new additional lands, the sevens and eights, and such that are being projected by the Tribes as coming on as practicably irrigable acreage.

THE SPECIAL MASTER: Of course, that was your function, but theirs was to come to a conclusion as to what would be annual beneficial yield, and they did that.

Go ahead, Mr. White.

* * * * *

A Under certain assumptions, yeah.

Q Well, Ron, isn't it true that you conducted fairly extensive studies as to reservoir site potential?

A Yes.

MR. ECHOHAWK: Objection, Your Honor, it is beyond the scope of direct.

MR. WHITE: Well, it was within the scope of the Master's question.

THE SPECIAL MASTER: Let me think about that. I don't recall all of the direct.

MR. ECHOHAWK: It has absolutely nothing to do with any sort of reservoir site analysis.

THE SPECIAL MASTER: Let me sustain it because it goes off into areas other than on the case. I will sustain that objection.

I took you off into this deep reservoir, and I might as well get you back onto the mainstream of our case.

THE WITNESS: I appreciate that.

THE SPECIAL MASTER: These are called hopeful asides that judges take into the settlement areas and back again into the hard facts.

MR. WHITE: I just thought you might be interested, Your Honor.

THE SPECIAL MASTER: I know.

Q (By Mr. White) What did you do with Raft Lake as part of your systems study?

A Nothing. Raft Lake in its natural state is still there. There was no dam storage of any sort artifically built into the study, no.

Q Did you include the evaporation of the natural lake?

A The stream flows of Mr. Keene would have had all the depletions above the stream flow point on the North Fork of the Little Wind, which would have included the Raft Lake area.

MR. WHITE: Your Honor, do you want to take a short break or just press on until noon?

THE SPECIAL MASTER: Why don't we go on for another ten or fifteen minutes and we'll take an early lunch break -- or take a regular lunch break then, unless you --

MR. WHITE: I'm at a natural stopping point, but I can get into the next area.

THE SEPCIAL MASTER: It is 11:30. Let's adjourn until one -- I'll be here at 1:15, we can start then or 1:30.

(Proceedings recessed, (11:27 a.m.

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