EXHIBIT B

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF DISTRIBUTION OF)
WATER TO WATER RIGHT NOS.)
36-02356A, 36-07210, AND 36-07427)
(Blue Lakes Delivery Call).)
_____)
IN THE MATTER OF DISTRIBUTION OF)
WATER TO WATER RIGHT NOS.)
36-04013A, 36-04013B, AND)
36-07148 (SNAKE RIVER FARM);)
(Clear Springs Delivery Call).)
_____)

CONTINUED DEPOSITION OF KARL J. DREHER, P.E.

Volume II, Pages 158 - 404

November 1, 2007

REPORTED BY:

COLLEEN P. KLINE, CSR No. 345

Notary Public

THE CONTINUED DEPOSITION OF KARL J. DREHER, P.E., VOL. II was taken on behalf of the Blue Lakes Trout Farms, at the offices of the Idaho Department of Water Resources, located at 322 E. Front Street, 6th Floor, Boise, Idaho, commencing at 8:20 a.m., on November 1, 2007, before Colleen P. Kline, Certified Shorthand Reporter and Notary Public within and for the State of Idaho, in the above-entitled matter.

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EXHIBITS

(Exhibits 78 through 82 marked.)

KARL J. DREHER, P.E., VOL. II, previously first duly sworn to tell the truth relating to said cause, testified as follows:

EXAMINATION

QUESTIONS BY MR. STEENSON:

Q. Good morning.

A. Good morning.

Q. Okay. We're back on the record. My name is Dan Steenson. I represent Blue Lakes Trout Farm in this matter. Karl, you remain under oath.

Karl, could you turn in deposition exhibit books to Exhibit No. 4.

A. (Witness complying.)

Q. Do you recall the process by which the Department obtained authority for and from the SRBA Court to proceed with interim administration and form Water District 130 and other water districts?

A. Certainly, I recall generally the process. I don't know whether I recall all the specific steps and the timeline.

Q. Do you recall the State of Idaho filing a motion with the SRBA District Court seeking

authority --
A. Yes.
Q. -- from the court to conduct interim administration?
A. Yes.
Q. And this Exhibit 4 titled "Motion For Order of Interim Administration and Motion for Order for Order Expediting Hearing." I'll represent to you that the State describes the process that it has envisioned for interim administration.
I would like you to turn, please, to page No. 7 -- actually, page No. 6, and read the text under the heading Roman numeral II at page number 6 through to the next section. And I don't mean read into the record. Read to yourself.
A. Okay. What I'm looking at here, Exhibit 4, it says, "Motion for Order of Interim Administration," and there is no page 6. So I'm not sure I'm looking at the right thing. There is a brief in support --
Q. I'm sorry. Turn to the "Brief in Support." You are right.
A. (Witness complying.) All right.

Q. The brief was covered by the motion in the exhibit.
A. Okay. And what part now do you want me to read?
Q. Turn to page 6, and under the heading Roman numeral II, read that section to yourself clear to the next page, Roman numeral III to the next section.
A. (Witness reading.) Okay.
Q. Are you in agreement with the process that's described in that section heading with respect to the anticipated administration of water rights?
A. Well, the process for administering water rights is not dealt with in this section. It just talks about before you can administer, you have to have an accurate list.
Q. And are you in agreement that the partial decrees that are discussed in that section represent an adequate list for the water rights for purposes of interim administration?
A. Yes.
Q. At the end of that section heading, there is a sentence that reads, "Upon entry of an order for interim administration, the creation of

water districts and the distribution of water thereunder will occur in accordance with the normal administrative mechanism created by Chapter 6, Title 42, Idaho Code."
Can you describe what is meant by the normal administrative mechanism that is described in Title 42 of the Idaho Code?
A. Well, this is a reference to, you know, the whole process that's outlined for the creation and the operation of water districts pursuant to Chapter 6. I mean, the normal administrative process is outlined in Chapter 6.
Q. Okay. And could you summarize for us then, in your view, how water rights are normally administered in the water districts?
A. Well, water districts have watermasters that function under the supervision of the director of the Department of Water Resources. And certainly, the director can delegate that authority to regional managers and such.
But the water districts or the watermasters distribute water among rights in accordance with the instructions and the rules and that are issued by the director of the Department or its designee.

Q. Okay. So normally, if a call or a request for delivery of water comes to a watermaster, what would a watermaster normally do as the next step?
A. It depends on whether there has been a process established for administering those water rights. And certainly, in a surface water stream, generally that administration has occurred for some length of time, and the process is pretty mechanistic.
Q. Can you describe it for me?
A. Well, if there is a senior right that's not being filled, and as we talked about yesterday, the senior is in a position of diverting his -- whatever part of the right is not being filled, if he's in a position of diverting that water and applying it to beneficial use, then the watermaster would curtail a junior to supply that water.
Q. And is that, though abbreviated, a complete summary of what the administrative process would be --
A. No.
Q. -- in terms of a surface water district?

A. No, that's not complete.
Q. What's missing?
A. Well, the watermaster would typically make these distributions, or change the distribution on a daily basis, and would go back the following day to reassess whether the senior was getting the water needed, or whether he was getting too much.

Often when these changes are made, in some instances more water gets distributed to the senior than they are entitled to. So the watermaster makes adjustments, typically, on a daily basis until the proper distribution is obtained.

Often, though not always, the watermaster presumes that the water provided to the senior will be beneficial use, and may or may not conduct an investigation. Certainly has the authority to conduct that kind of investigation, but often it's presumed, because the investigation has been conducted in some manner in the past.

Q. And is the watermaster required to adjust headgates, because flows vary from day to day, week to week, and so forth?

A. Only in part. Because not only do the flows vary, but as the adjustments are made -- and it depends on the location, of course -- but there can be some length of time needed for the changes to sort of stabilize. But during the daily process, there can be variations in flow as well.

Q. So I take it, specifically, in a surface water system, there can be di-yearly channels in flow; is that correct?
A. That's correct.
Q. And monthly changes in flow as well; is that correct?
A. That's correct.
Q. And I take it that the frequency with which the watermaster would adjust, change headgates would depend on the variations in flow; and assuming, of course, that the calling senior continues to need the water that they called for; is that correct?
A. Not entirely. I mean, the variations in flow during a daily period are such that they are generally not large enough that would warrant the watermaster to go back and make an adjustment other than on a daily basis.

Q. Yes. In other words, from one day to the next?
A. That's correct.
Q. Not necessarily during the course of a single day?
A. That's correct.
Q. And with respect to the water rights that watermasters administer in their normal process, they are represented, are they not, by decrees, licenses, and permits?
A. Yes.
Q. And in the normal administrative process, what does the watermaster do, if anything, to determine the amount of water that a calling senior is entitled to based on a decree, a license, or a permit?
A. Well, because the investigation often has been made in the past as to how much water a senior needs, typically, the watermaster presumes that the quantity that's been licensed or decreed is the quantity that's needed, but not always.
Q. Okay. So is it accurate to say that the watermaster does not question the amount of water stated in a decree or a license in terms of its statement of the entitlement of the water

user to water presuming that the water user needs, or can put the water to beneficial use?
A. No, I don't think that's true. I mean, the watermaster doesn't question the quantity that has been decreed as the maximum amount that's authorized to be diverted. But the watermaster could question whether that amount is needed.
Q. And what kinds of investigations or queries might the watermaster make to determine whether or not the water is needed?
A. Well, I mean, it's a very fact specific situation. And as I indicated, often the watermaster presumes that the full quantity is needed, but not necessarily. You know, in Water District 36 A, as an example, the watermaster could question whether a surface water right was fully needed by someone diverting from a spring before a junior would be curtailed.

But, again, I think the typical operation in the surface water system is that -- unless there is some reason to question how much is needed, the watermaster would presume that the full amount authorized by the license of decree would be distributed.

Q. Now, the determination of the need would involve, would it not, a consideration of the use as authorized by the right; isn't that correct?
A. Certainly.
Q. In other words, for irrigation the question would be: You're calling for water. Are you, in fact, going to apply the water to fields that you intend or need to irrigate?
A. Could include that, yes.
Q. What else might it include?
A. Well, some of the systems have multiple uses, for example. So in some instances, I mean, we have canals that also have hydropower facilities on them. And so there could be an inquiry as to what purpose is the water being diverted? Is it to irrigate fields? And if the water isn't needed for irrigation, it still may be authorized to be diverted for hydropower purposes.
Q. Let's take aquaculture, for example. I assume you recall the distribution of water that you instructed the watermaster of Water District 130 to effectuate as between Clear Lakes and Clear Springs Foods facility?

A. Yes.
Q. And do you recall the determination of need that your instructions directed the watermaster to conduct in that case?
A. Well, initially, when the call was first made, I asked for a statement from Clear Springs that the water was needed and would be put to beneficial use. And then we followed that up after the distribution was made. I asked the watermaster to go out and confirm that the water was being beneficially used.
Q. And did that occur to your satisfaction in that case?
A. Yes.
Q. And in that case, the order contemplated ongoing administration; did it not?
A. It did.
Q. And contemplated ongoing administration in order to provide Clear Springs continuous delivery of its 200 cfs right at that location; isn't that correct?
A. Uh-huh, that's correct.
Q. And that did occur from the date of your instructions through the last date of your employment with the Department; did it not?

A. Yes.
Q. And so far as you know, it's ongoing today; correct?
A. Correct. And the watermaster is supposed to -- I don't recall if it was on a monthly basis or what time period, but the watermaster in that case, because both parties have a need for the water, the watermaster is to continuously, or on a periodic basis continuously confirm that the water is, in fact, being beneficially used.
Q. Now, does the determination of need, or the determination that the water will be put to beneficial use, vary depending upon the source of supply?
A. Not so much depending upon the source of supply. It depends on the history of administration. If water rights had been administered for long periods of time, you know, there tends to be less inquiry as to the need, and whether the water is being put to beneficial use.
Q. Sure. Is that because there is an understanding within the Department of the history of the use, and the use going forward?

A. Well, there is an understanding that historically that quantity of water has been beneficially used.
Q. But the examination of need, I take it, wouldn't change, for example, if the water right was from a surface water supply or a ground water supply?
A. The principle is the same regardless of the source of supply.
Q. And is the application within the Department the same, the application, that is, of that principle?
A. It is the same, but -- the principle is the same. But its application, at least for ground water, as rights begin to be administered that historically have not been administered, there may be a more extensive inquiry, initially, before water is redistributed from a junior to a senior.
Q. Do you mean then that there would be a more extensive inquiry into -- because ground water rights have not been historically administered -- into the need for, and beneficial use of water by ground water rights that have not previously been administered?

A. No, both ground water rights and the senior rights.
Q. But by "more extensive," you don't mean that the nature of the inquiry would change? It's still an inquiry into how the water is used, and will the water be applied to the use as authorized by the right; correct?
A. Right. And as time passes, and there is more experience with the administration, presumably the inquiry would lessen just as it has in the administration of surface water rights.
Q. And I would like you to turn to the newly marked deposition Exhibit No. 78. And this document is entitled, "Defendants' Memorandum in Response to Motions for Summary Judgment." It's filed in the district court proceeding that resulted from a complaint filed by American Falls Reservoir District No. 2, and others, against the Department and yourself. I assume you recall this matter?
A. Yes.
Q. And if you turn to page 67 where there are signatures of Counsel, I take it that those persons, Phillip Rassier, Candice McHugh, and

Michael Orr, were counsel representing you and the Department at the time of this filing of this memorandum, Deposition Exhibit No. 78?
A. That's correct.
Q. Are you familiar with the course of proceedings in that case?
A. Yes.
Q. Would it be fair to say that the memoranda and other pleadings filed on your behalf in this case represent the views of yourself and the Department, at least at the time of the filing?
A. I would have to say that's correct, at least in a general sense. And most likely in the most specific sense, but I don't exactly know what issue you are wanting to probe.
Q. Well, we'll get there. Bear with me just a moment here.
MR. STEENSON: Let's go off the record for a moment here.
(Discussion held off the record.)
MR. STEENSON: Back on the record.
Q. (BY MR. STEENSON) Could you turn to page 35 of Exhibit No. 78.
A. (Witness complying.)

Q. And at that page, beginning at the second line, there is a statement, "The Rules do not permit the Director to look behind the decree, they simply require as part of the administration of the rights to determine whether the water being called for is presently needed to achieve the beneficial uses for which the senior water right was established. If so, the full right is delivered. If not, then only that amount of water presently needed under the senior water right is delivered."
And, obviously, in this case, the reference to "the Rules" is the Conjunctive Management Rules; do you agree with that statement?
A. Yes.
Q. And I take it really, the singular issue for the watermaster when reading a decreed right and determining how much water to deliver in terms of the uses, whether the water is needed and will be put to beneficial use; is that correct?
A. That's correct.
Q. Now, beyond that, as you discussed yesterday, the rules identified factors for

determining material injury. And among those rules, there was indication that the watermaster needs to determine the amount of water available at the source of supply; correct?
A. Yes.
Q. And that would be part of the normal administrative process, whether a surface water district or on a ground water district, that is for the watermaster to measure the flow, and determine the amount of water that is available; correct?
A. That's correct.
Q. And then after conducting the determination, and whatever investigation is necessary to establish need, the watermaster's next step then, as you described it, would be to curtail juniors diverting water from hydraulically-connected water sources within the water district; isn't that correct?
A. That's correct.
Q. Now, yesterday there was discussion of your May 19th, 2005 order issued in response to the Blue Lakes call. And that order is in Deposition Exhibit No. 11, and I would like to turn your attention to that exhibit at this time.

A. Before you ask your next question, in your prior question, you didn't talk about whether or not mitigation was being provided. And that's part of the normal administration as well.
Q. Sure.
A. The junior can continue and is not curtailed if, in fact, the out-of-priority depletions are mitigated, whether it's a surface water source or a ground water source.
Q. Sure. Now, as I recall the discussion yesterday, you said that you endeavored in issuing these orders to follow the rules very carefully in responses to this Blue Lakes water delivery call and others that were filed contemporaneously; is that correct?
A. The rules and statutes, and to the extent there were issues that hadn't been addressed in the rules or the statutes, that we would apply case law. But we did do it very carefully. And we did it the same in all the calls that were made.
Q. Okay. And if you could turn to page 8 of Exhibit No. 11, looking at the section heading, it looks like after background

discussion at pages 1 through 7, your first step was to examine and discuss the delivery call that was made and the water rights; correct?
A. Correct.
Q. And is that investigation and examination covered by some portion of the rules?
A. I'm not following?
Q. You refer, for example, in paragraph 35 to Rule 10.04.
A. Yes.
Q. This discussion and this analysis that you conducted under the section heading at page 8, is it pursuant to certain portions of the Conjunctive Management Rules that you can refer me to, other than Rule 10.04?
A. I'm not sure what matter of the investigation that you are concerned about? I mean, certainly, beyond the Conjunctive Management Rules, I mean, the watermaster is not going to distribute water to a water right that is not there, for example. So, you know, it's a normal part of the normal process of administration is confirming what rights exist to which water is being sought to be distributed to.
Q. Sure. And so at the time as indicated

by paragraph 34, I take it that what you did to confirm the water rights, was to look at the partial decrees for Blue Lakes' three water rights; am I correct?
A. That's correct.
Q. And do you agree that the water rights are -- the partial decrees are conclusive as to the nature and extent of the water rights described in the elements therein?
A. Yes.
Q. Okay. Then under the next section heading in this order, at page 10, the section heading entitled, "Authorized Diversion Rate For Water Rights Nos. 36-02356A, 36-07210, and 36-07427," and it lists the water rights there. The discussion that you give there under that heading, is it based on one or more of the Conjunctive Management Rules?
A. I can't say it's based on a specific rule. But I can say that it's not outside of the provisions of the Conjunctive Management Rules.
Q. Okay. Could you turn to, I think, it's Deposition Exhibit No. 37, a copy of the Conjunctive Management Rules. And identify for me which, if any, portions of the rules pertain

to this discussion, beginning at page 10 of Exhibit No. 11?
A. Again, I'm not saying that there is a specific rule that I followed in doing that analysis. But the analysis is not outside of the rules.
Q. Do you mean, it's within the rules?
A. Well, the rules provide -- they provide a number of specific factors that are looked at. But, you know, they also, in general, frame out how ground water is going to be administered. And this investigation is not outside of the constraints provided by the rules.
Q. Which factor of constraint provided by the rules pertains to this analysis?
A. Well, this analysis goes to -- was done trying to describe what the quantity element of the decreed right -- what that meant. It was, in fact, a maximum authorized rate of diversion.
And the difference -- the reason for the analysis is that the difference is that these, the sources of supply for these rights, does vary significantly seasonally. And that was a factor that existed at the time that the rights were established. So it's simply doing an

analysis of what the quantity element means.
Q. Okay. So I take it then that under this heading, none of the discussion pertains to a consideration of the quantity of water that Blue Lakes needs, or would put to beneficial use; is that correct?
In other words, this isn't an analysis of need for water under this section?
A. And the section that you are referring to is Findings 45 through 51?
Q. Correct.
A. Yeah, this does not relate necessarily to how much water is needed by Blue Lakes, or how much they would put to beneficial use. This analysis goes to under what conditions can they call for the distribution of water to their rights.
Q. Now, is this then outside the normal administrative process that you describe, whereby watermasters look at the water rights represented by decrees, licenses or permits, and then make the determination of need, or the extent to which the user will put the water to beneficial use? And then based upon that determination, then administer junior ground water rights as

warranted in the decree, license or permits allowed?
A. The principles are the same. It's not outside the principles, but there are some differences. Here you've got a source of supply that has significant variations. And unlike other surface water rights held by canal companies, for example, they don't have storage that they can rely on to make-up for the variations.
So in a surface water right stream with water rights typically held by canal companies, as variations occur that would diminish the water that can be diverted by the canal company, the quantity remains the same, except it becomes storage water. Here that option doesn't exist.
Q. Are you aware of canal companies in the Boise Valley, for example, and elsewhere, that other surface water right users don't have storage and rely entirely on natural flow; correct?
A. There are some, sure.
Q. And the watermaster in a surface water right district administering water rights to deliver to natural flow users, surface water

right users who don't have storage, they would follow the administrative process that you describe? That is, consult the water right, evaluate need, and then proceed with administration; right?
A. Correct.
Q. And in the normal administrative process that I just described, they would not conduct an analysis of flow variation in order to determine how much water to deliver; would they?
A. They could.
Q. Okay. And that would be then only to the extent of determining what water is available at the time of the call; correct?
A. Correct.
Q. And it wouldn't be for the purpose of determining what the water right, quote/unquote, "means"?
A. What the water right needs?
Q. Means.
A. Means?
Q. Yes.
A. I'm not sure I understand your question.
Q. Okay. Fair enough. This discussion

that we've been talking about at pages 10 through 11 paragraphs 45 through 51, again, first of all, does not pertain to an analysis of need, or the extent to which the calling senior will put the water to beneficial use if it's delivered?
A. That's right.
Q. As you describe, it pertains then only to determining what the quantity element of a water right, as you described, means?
A. Of these particular rights to -- I shouldn't say, "these particular rights," because it applies to these particular rights. It applies to all the other rights, in my view, that rely on these highly variable spring flows for the source of their supply.
Q. Would this analysis apply only to variable spring flows, or would it apply to any variable flow in the state of Idaho?
A. Well, certainly, the principle here does not single out spring flows. But this situation is somewhat unique. Where springs vary like this, the uses, they are not all non-consumptive. There is some irrigation uses, of course. But generally, the uses are non-consumptive. And the rights were established

with the variation in place. The variation existed when the rights were established.

Q. Now, in surface water system, flows vary seasonally; do they not?

A. They do.

Q. And they vary both as a result of natural causes and human causes by way of diverting water and so forth?

A. They do.

Q. So the same statement that you made with respect to these rights being established in the context of variable flows would apply to virtually any water right in the state of Idaho; isn't that correct?

A. Certainly.

Q. Now, in the normal administrative process, prior to the issuance of this order, have you ever instructed a watermaster to conduct this type of analysis to determine what the water right means?

A. Well, again, in the -- you know, and I agree that there are exceptions to this. But in most instances -- many instances, if not most instances, a typical surface water right holder will have storage that compensates for the

variability. So as the seasonal variation occurs and flows diminish, they begin using storage water as opposed to natural flow.

Q. Well, what if you don't have storage, then what?

A. Well, then -- well, I'm not sure which junior rights you are referring to. But one of the differences here is that -- at least as I understand the situation that you are trying to describe -- you have senior and junior surface water rights that are diverting from the same source. And it seems like you are trying to make that analogous to the junior and the senior rights that are diverting from hydraulically-connected sources, but different sources, and they are not the same.

Q. No, I'm not trying to describe the situation. I'm trying to understand the analysis you are applying here, and how it applies to water rights in the state of Idaho. So let me ask the question this way:

In this Blue Lakes order, May 19th, and in the other orders you issued in response to calls for water by spring users in the Thousand Springs area, are these the first instances in

which, to your knowledge, the Department has engaged in an analysis of seasonal variation to determine what a water right means in response to a call for water?

A. I don't know whether it's the first or not. But what I'm trying to --

Q. No, I'm asking about your knowledge. To your knowledge?

A. To my knowledge?

Q. Yes. This was the first time this was done?

A. I don't have any knowledge that it's the first time or not the first time. I mean, certainly, in the situations of administration that I faced during my tenure here, this is the first time we had to go through this kind of analysis.

Q. So it's the first time, as far as you know, this analysis was done in response to a water delivery call?

A. But the reason is because the rights for which curtailment or administration were sought were from a different source. That was the reason.

Q. And why does that reason support? Why

does the fact that the junior water rights here were from ground water, support an analysis of the variability of flows in order to determine what Blue Lakes' water rights, as you say, mean? In order to interpret the -- I take it -- let me go at it this way.

If I understand what you are doing in this section of the order is, you were interpreting the quantity element of Blue Lakes' water rights; correct?

A. No, it's not that simple. It's not just interpreting the quantity. It's interpreting a quantity for the purposes of administering junior-priority ground water rights that you are diverting from a different source.

Q. Now, would this analysis be performed outside the context of administration in order to determine the nature and extent of the water right?

A. I'm not sure I understand the question, what you mean.

Q. Okay. Is the situation where Blue Lakes calls for delivery of water, the only context in which the analysis we're discussing at pages 10 and 11 of the order would be performed?

A. Well, we're ships passing in the night, I guess. Because what this situation were -- if you had a junior right and a senior right diverting from the same spring source, then these variations are -- you know, you administer the two rights as the flows go up and as the flows go down.

But here, when you are seeking the administration of junior-priority ground water, the ground water didn't cause the variation. And so it's important -- you know, what I'm trying to say is, you simply don't curtail junior rights, because there is a variation in the source of supply.

Q. Okay. When you say, "the ground water didn't cause the variation," Blue Lakes' springs discharged from the Eastern Snake Plain Aquifer; don't they?

A. Yes.

Q. So the variability in Blue Lakes' springs, and consequently, in Alpheus Creek is necessarily a consequence of variability in the flow of water from the aquifer; isn't that correct?

A. Yes.

Q. So any factor that would cause the water level in the aquifer to vary, would be a cause of the variation of Alpheus Creek; isn't that correct?

A. State that again.

Q. Okay. Any factor, whether it's ground water diversions or canal seepage that would affect the level of the aquifer would affect the discharge of the springs; correct?

A. Not necessarily in the same way.

Q. Okay. What do you mean by that?

A. Well, you know, if you had a ground water diversion immediately above the source of springs for Alpheus Creek, the pattern of that ground water diversion could have some affect on the pattern of spring discharge. But if you are a ground water right that's further removed, the further back you go in general, the less the pattern of ground water diversions has an effect on the pattern of spring discharge.

Q. Okay. At page 10, in paragraph 47, in the third or fourth line, you clearly identify variations in timing of ground water withdrawals as a factor that affects intra-year variations from the discharge of springs; don't you?

A. It's qualified. It says, in close proximity to individual springs, which is just what I described. If you have a ground water diversion in close proximity to the spring, it could affect the timing.

Q. Right. And in paragraph 46, you clearly describe that you clearly reference, "overall variations between years in the discharge of springs in the Thousand Springs area result from differences between the amounts of ground water depletions and recharge to the ESPA above the springs"; correct?

A. Correct.

Q. So clearly, you are acknowledging that ground water depletions have an effect on the variability of spring flows; correct?

A. They can have.

Q. And they do, don't they?

A. It depends on where the ground water depletion has occurred.

Q. Okay. Let's talk about Blue Lakes, the springs that Blue Lakes relies upon. Do you have an opinion as to whether or not ground water depletions affect the variability of the discharge of Blue Lakes from the north rim of the

Canyon?

A. If they are in close proximity.

Q. Did you make a determination of whether or not there are any ground water withdrawals that are in close proximity?

A. Well, there are some in reasonably close proximity, but they are not all in close proximity.

Q. So at least some ground water withdrawals are affecting the variability of Blue Lakes' springs flows; correct?

A. To some extent. However, when you look at least at the history of variability that we have, it is not clear that the appropriation of ground water in close proximity of springs is the major factor relating to the variability. It has some effect. But the effect may be small compared to the other factors that effect variability.

Q. Such as canal seepage?

A. Sure.

Q. And are there any others that you had mentioned in terms of factors that affect the Eastern Snake Plain Aquifer; and therefore, and thereby, affect the variability of spring flows

from the aquifer?
A. Well, it's incidental recharge from surface water irrigation, not just the incidental recharge from canal seepage. It's the bigger amount of incidental recharge from surface water irrigation.
And if you look at the -- you know, to get a sense as to the relative magnitude of these things, you know, Finding of Fact No. 3, does give some average annual amounts for these various factors. And, you know, you see that the incidental recharge from surface water irrigation is generally about 3.4 million acre-feet across the whole Eastern Snake Plain Aquifer. Precipitation is 2.2 million acre-feet. And those to together is 5.6 million acre-feet, which is more than twice the depletions from ground water irrigation.
Now, that's in general across the whole plain. But the point is that the variability is reasonably the result -- primarily the result of other factors besides ground water depletions.
Q. And how do you know that?
A. Just because of the magnitude of the numbers.

Q. In the order in paragraph 48, you state that the interactions between factors that affect variability in spring flow are not presently quantifiable; correct?
A. Only in general.
Q. But at the time of the order, you didn't have information in order to quantify the factors that affect variability; correct?
A. No. Generally they can be quantified. How they interrelate then is much more difficult.
Q. So how they interrelate could not be determined at the time of the order?
A. Not in a quantified way. In a qualitative way, I think we can have some discussion.
Q. Tell me what you can tell me as of the time of the order, describe for me the extent to which you were able to qualitatively quantify -- quantitatively qualify the factors that interact and affect variability of the spring flows that come from the Eastern Snake Plain Aquifer.
A. Well, in terms of ground water depletions, we looked -- or I looked at the available measurements to see if there was any

indication that the ground water depletions were exacerbating the already occurring variability or not. And I could not identify, at least I could not identify any significant indication or trace that ground water depletions were causing -- were the significant cause, or were contributing in a significant way to the already existing seasonal variability.
Q. Okay. And then let me follow-up on your answer, your prior answer.
Did you subsequently, to the issuance of the May 19th, 2005 order, obtain additional information to then form the understanding of your variability?
A. Well, we continued to look at measured spring discharge, you know, to see if there were any changes that should be reflected in subsequent administration. And so, I mean, yeah, we looked at measurements, spring discharge measurements subsequent to the order, but still could not identify any variation that we could contribute to ground water depletions.
Q. And turning to page 11, paragraph 49.
A. You know, significant variations attribute to ground water depletions, obviously,

they have an effect.
Q. Obviously, ground water depletions have an effect on spring flows; correct?
A. Sure. But the effect is not so large that you ignore the variability that's always existed, and simply look at curtailing junior-priority ground water rights, because the spring flow is diminishing due to seasonal variability.
Q. But at any point along the variable flow curve, if you will, ground water pumping is affecting the quantity of the discharge; correct, at a spring flow?
A. It depends on where the ground water depletion is, whether it has an effect or not.
Q. Okay. Then at page 11, paragraph 49.
A. Okay.
Q. I take it from that paragraph that you, as of the time of the order, did not have any information from which you could determine what the inter-year variations of the Blue Lakes' springs were at the time Blue Lakes' water rights were appropriated; is that correct?
A. No, that's not correct. We couldn't specifically quantify a portion of the variation

was due to ground water. We can quantify the variation. You can do that just simply by looking at the measured discharge. You can quantify how the springs are varied.

Q. Let's look at this last sentence. It says, "There are no known measurements, nor any other means, for reasonably determining the intra-year variations in the discharges from springs comprising the source for these water rights on the dates of appropriation for these water rights."

A. Okay.

Q. I don't see any qualified reference there.

A. I misspoke. What this statement refers to is, there was no quantification of the variation at the time that these rights were established. The variations that we have that we can quantify, begin with when measurements began being submitted to the Department.

But having said that, these rights, like many of the other spring rights, the field examination for beneficial use was intentionally made during the seasonal maximum discharge of the springs.

Q. How do you know that?

A. Because of the dates when the field inspection --

Q. How do you know it was intentional?

A. I don't -- I don't recall for these particular -- whether it was these particular rights or not. But there are a number of spring rights, where there is correspondence in the water right file, where the applicant was requesting that the field -- the beneficial use field exam be made at a particular point in time when the springs were near their maximum point of discharge.

Q. Okay. But you did review, as you indicated in this order, that you reviewed the files that the Department had pertaining to the license and permitting, and licensing of the Blue Lakes rights; correct?

A. That's correct.

Q. Okay. Did you see any such letter that indicated that the owners of the Blue Lakes facility at the time were making the kind of request you just described?

A. I don't recall. I have to go back and look at the file to see if there was any such

communication there. But I know that I've seen a number of instances of such communication for the permitting and licensing of rights that were discharged from springs.

Q. Just because somebody else may have done it, doesn't mean you can impute it to the owners of Blue Lakes at the time; can you?

A. No, of course not.

Q. So you are not doing that here; are you?

A. No. But I am suggesting that there is no reason to believe that the licensing for these rights was done differently than any other right.

Q. There is just no reason to know one way or the other is there, Karl?

A. I would have to go back and look at the file then to see what kind of communication was or was not occurring. You know, from my perspective the point -- the issue that's at stake here is without ground water depletions, the springs are going to have annual variations with or without ground water depletions.

And if these spring rights are going to be administered in as simplistic fashion whereby juniors are not allowed to divert any time that

the quantity is not being met, then ground water -- I mean, if knowing what we know today, then under that kind of a system, you would never allow ground water appropriations to occur, because there are already times when the maximum authorized amount for diversion isn't being met, even without any ground water diversions.

Q. And your statement pertains to administration. It doesn't pertain to the meaning, or the nature, or extent of Blue Lakes' water right; does it?

A. No, I think it has some applicability there. But the quantity element is the maximum amount authorized to be diverted when it's available.

Q. And so in your view in this case, was it necessary for you to consider the variability that you did in order to understand then the nature and extent of Blue Lakes' water right?

A. Understand the nature and extent? Yes.

Q. Do you know what --

A. Sure.

Q. Okay. So if this consideration of seasonal variability were necessary for you to understand the nature and extent of a water

right, why wasn't it addressed in the adjudication?
A. Well, I'll answer that first, and then I'll try to backup again. But the quantity element in the adjudication simply is the maximum amount authorized to be diverted. And for spring rights, or any other surface water right, or ground water rights, for that matter, the quantity element does not define the seasonal variability, whether it's a seasonal variability, seasonal variability in spring discharge, seasonal variability in stream flows, seasonal variability in ground water levels. It's not addressed, and not specifically defined by the quantity element, because the quantity element is the maximum amount that can be diverted. It's not a constant quantity entitlement. That's not what it is.
Q. If I understood your testimony, you felt the need to go back in time and ascertain to the extent you could, the seasonal variability in Blue Lakes flows in order to determine what quantity of water they were entitled to under their water right; isn't that correct?
A. Only -- not what quantity -- not

what -- the maximum quantity they were authorized. I mean, that's settled by the decree. The maximum amount that they are authorized to divert is settled by the decree. However, as I've said before, Blue Lakes was seeking the administration of junior-priority ground water rights diverting from a hydraulically-connected source, but not the same source.
Q. Is the quantity element of the decree different, or interpreted differently by the Department when administration is sought, as opposed to when administration is not sought?
A. Well, the only reason for the Department to investigate the quantity element is when administration is occurring, or alternatively, I suppose, if the transfer is filed.
Q. Okay. That really wasn't my question.
My question is: Does the Department view the quantity element differently in the context of the right to divert water without curtailing junior ground water rights, as opposed to the right to divert water when administration is sought by way of curtailment by junior ground

water rights?
A. I'm not sure I understand the question.
Q. Okay. You explained the basis for considering seasonal variability as Blue Lakes making a call for delivery of water from a hydraulically connected ground water source; correct?
A. Yes.
Q. If Blue Lakes hadn't made the call, and just an ordinary day in the water district when Blue Lakes was diverting water, would the watermaster or you feel it necessary to consider seasonal variation to determine if Blue Lakes was diverting the amount of water that they were entitled to divert?
A. Only if Blue Lakes was seeking to divert more water than the maximum amount they were authorized to divert. It's not happening right now, of course. But it's possible for the spring discharge to exceed the quantity element.
And we have instances where spring users at times have diverted the water that was there, even when it exceeded the quantity element.
Q. That can happen with anyone?

A. Sure, of course.
Q. It's not unique to spring water users?
A. That's absolutely correct.
Q. Could you turn to Deposition Exhibit No. 2, please.
A. (Witness complying.)
Q. And look at the decrees for Blue Lakes' water rights, and specifically at the quantity element.
A. (Witness complying.) Okay.
Q. Now, each of these decrees under the quantity element has a diversion rate; correct?
A. Yes.
Q. It also has an annual volume expressed in acre-feet per year; correct?
A. Yes.
Q. Now, I'll represent to you -- and I didn't bring my calculator. Maybe we can get one -- but I looked at the analysis that was done by the Department to derive the annual volume, and they use the factor of -- they rounded the conversion factor of 1.9834 to 1.98 to convert this rate to the number of acre-feet per day, and then multiplied that number by 365 to derive the annual volume.

So given that representation, do you recognize that the annual volume here represents a diversion of 45 cfs, 24 hours a day, 365 days a year?

A. It's certainly -- the magnitude of the numbers are consistent with what you described --

Q. In other words --

A. -- but, again --

Q. In other words, if you took 45 cfs, and multiplied it by 1.98, and multiplied it by 365, you would get 32,521.5?

A. Which, again, is the maximum volume authorized to be diverted if it's there.

Q. But it's authorized to be diverted --

A. If it's there.

Q. We're going to confuse the court reporter if we keep interrupting each other.

A. All right.

Q. It's the amount of water that's authorized to be diverted 24 hours a day, 365 days a year; isn't that correct?

A. If, in fact, it's there.

Q. And if it's not there, what amount is Blue Lakes entitled to under, for example, 36-07210?

A. They are entitled to divert what's there when they are in priority.

Q. Okay. So does "in priority" mean when a -- junior ground water rights are curtailed? What do you mean "in priority"?

A. Well, generally, it's in priority from the same source. And it gets, again, more complicated when you move from administering water rights in the same source to administering water rights between sources that are hydraulically-connected, but not the same source.

Q. Why is that, again?

A. Why is it more complicated?

Q. Why is it more complicated? Let's take a tributary stream and tributary surface water right source. Is the situation more complicated just because you look upstream to administer water rights from any connected source, or is it just because here in this circumstance, we're looking upstream to curtail ground water rights?

A. When you are administering between tributaries, it gets more complex. But generally, in surface water systems, administering between tributaries is not as complex as administering between a surface water source and a ground water source.

Q. Okay. Can you explain that complexity to me?

A. Well, it has to do with the -- it's fully described in the orders. It has to do with the effects of ground water depletions on the hydraulically-connected surface water sources, which are much different than the effects of tributary sources on another surface water stream.

Q. Now, turning back to Deposition Exhibit No. 11, to page 13, under paragraph 60.

A. (Witness complying.)

Q. Do you recall these data as data that were collected by Tim Luke at your request?

A. Yes.

Q. Now, in reviewing this diversion data, did you take the time to compute the annual volume that was being delivered to Blue Lakes as a result of the flows that you referenced in this table?

A. No.

Q. Now, given your discussion in paragraph 60 of the data in the table, and your statements in paragraph 64, that Blue Lakes' 1971 priority

water right is being filled by the 2004 flows. Does that mean that for purposes of administration, these flow rates that you reference in the table for 2004, are the flow rates that Blue Lakes is entitled to under its 1971 water right for purposes of administration?

A. I had to re-read Finding 64. Restate the question now for me, please.

Q. Okay. Is the upshot of Finding 64 that the daily inflows listed in the table in paragraph 60 for 2004, the date the flows that Blue Lakes' 1971 priority water right entitled it to receive for purposes of administration of hydraulically-connected junior rights?

A. Well, again, I've said it before, that these seasonal variations exist with or without ground water diversions. And if you were to interpret the quantity element of the right as being the maximum amount that Blue Lakes is entitled to, then you would never have allowed any ground water development, because Blue Lakes' right already wouldn't have been filled during some time of the year. And under that theory, you couldn't allow a junior to come in.

Q. Then was the right licensed

incorrectly?
A. No, the right was not licensed incorrectly. The right was licensed at the quantity, which was the maximum amount that they were entitled to divert if the water was there.
Q. And the value of the water right really is determined, and the rubber hits the road, if you will, in times of administration; isn't that correct? What a water right means is really put to the test when the water user who owns the water right calls for distribution of water?
A. Well, the value of a water right really is inherent in the priority date in the authorization to make beneficial use. The administration doesn't increase or shouldn't decrease the value of a water right.
Q. Shouldn't; right? The administration should not decrease the value of a water right; should it?
A. That's correct.
Q. Now, in this table, you reference "Maximum Daily Flow, Average Daily Flows, Minimum Daily Flow." In paragraph 64, your conclusion takes into account the variations that have existed since the date of appropriation.

Which of these flows, maximum, average, or daily, are you relying on in drawing the conclusion that you drew in 64? Is it the maximum, the average, or the minimum?
A. I have to reread it again. (Witness reading.) Well, it says it in the finding itself. Reading the last portion of the finding, "The quantity of water available," et cetera, "is currently sufficient to fill this right at the authorized diversion rate of 45 cfs when the inflows in Alpheus Creek are at seasonal highs."
Q. Okay. And are those seasonal highs represented in the table?
A. Yes, they are.
Q. Okay. Which numbers are they represented by?
A. The seasonal highs are reflected in both -- in all three, the maximum, average and minimum daily flows.
Q. Okay. So to define the amount of water right water that Blue Lakes is entitled to for purposes of administration during any given month, which of these columns do I look at; the max, the average, or the minimum?
A. Well, the table defines the amount of

water that's available. It doesn't define the amount of water that Blue Lakes is entitled to.
Q. Okay. You say that the amount of water available is sufficient to fill Blue Lakes' water right?
A. At the seasonal maximum.
Q. Okay. And what months of the year in the table are you referring to?
A. Well, it appears that the seasonal maximum generally occurs in October or November.
Q. Okay. So does that then mean that the water supply, the quantity of water available at the source of the water right, that is water right 36-07210, is insufficient to fill the right the rest of the year?
A. It's insufficient to provide that quantity during the other times of the year, or can be.
Q. So the water right isn't being filled 10 months of the year; correct?
A. With or without ground water depletions, it's the same result.
Q. The answer to my question is, "yes"; isn't that correct? The water right is not being filled, according to this data that you include

in paragraph 60, 10 of the 12 months of the year; correct?
A. I wouldn't characterize it that way, that it's not being filled.
Q. How would you characterize it?
A. I would characterize it that the quantity of water available during 10 months of the year is less than the maximum quantity authorized to be diverted.
Q. And therefore, the water right is not being filled; correct?
A. Well, but the implication, when you add that additional characterization, is it's not being filled because of junior-priority diversions. That's the implication. And I'm saying that the quantity of water is less than the maximum amount authorized to be diverted because of variations, over which the junior-priority ground water users aren't causing.
Q. Now, junior-priority ground water diversions have both short-term and long-term effects on the Eastern Snake Plain Aquifer; don't they?
A. Yes.

Q. And you've described those yesterday as transient and steady state?
A. Correct.
Q. And you've also said that over time, the effect of a ground water diversion is fully expressed in spring flows. It's just a question of how much time it takes?
A. I'll call it the average of the effect reaches steady state. But there still can be -- even at steady state, there can be some seasonal variation around the steady state average.
Q. Okay. So ground water pumping generally in long term has the effect of lowering the level of the aquifer, if the depletion by ground water pumping is not compensated -- my term, if you will, probably not technically accurate -- but compensated for by seepage and other inputs of water to the aquifer; isn't that correct?
A. When a significant amount of ground water withdrawals -- and I guess we could argue about what "significant" means. When a significant amount of ground water withdrawals and associated depletions occurs, there is a

lowering, if you will, of ground water levels until steady state conditions are reached. At which point, the ground water levels no longer recede.
Q. In your order documents your view that the aquifer has generally been declining in overall level, if you will, again my terminology --
A. Yes.
Q. -- lay talk terminology -- since the middle part of the last century?
A. That's -- generally, I agree with that statement.
Q. As represented by the -- I don't remember what attachment, maybe Attachment C, to this and other orders to include that aquifer levels increased from around 1900 to a peak of around 1950, and have been declining since that time; right?
A. I believe that's Attachment A on most of these orders, and it's not ground water levels that are portrayed. It's spring discharges that's portrayed.
Q. But the spring water discharge is a direct consequence of ground water levels; isn't

that correct?
A. For the most part, but not necessarily entirely.
Q. So that trend that you show in spring discharge also reflects the overall trend in aquifer levels in the Eastern Snake Plain; correct?
A. With the qualification, overall. There are locations probably where ground water levels have not decreased in a similar fashion, and there may, in fact, be several locations where they have increased.
Q. Sure. But you included the attachment to portray the overall situation; correct?
A. Yes, of spring discharge.
Q. And spring discharges overall affected by the Eastern Snake Plain overall?
A. But, again, it's not everywhere. It's overall.
Q. Okay. So then, overall, pumping by ground water users affects spring discharges at any time of the year, any and every time of the year overall?
A. Well, they can affect it at any time of the year.

Q. Do you have any opinion as to whether or not that is occurring in the Eastern Snake Plain Aquifer?
A. Well, it certainly occurs at some locations.
Q. Do you have an opinion as to whether it's occurring at the location of Blue Lakes' springs?
A. Now, are we speaking of depletions? Are we speaking of variability? What is it that is occurring?
Q. Decline in the aquifer resulting in a decline in trend of spring flows since the middle part of the last century.
A. Yes.
Q. Is that occurring? Has that been expressed in Blue Lakes' springs, in your opinion?
A. I would have to look back at the -- and I don't have the attachment in this exhibit (indicating).
Looking at Attachment C to the order, which shows the total diversions from Alpheus Creek, it appears that the decline is not exactly consistent with the overall decline shown in

Attachment A.
Q. There is a decline; correct?
A. It depends on what period of time you look at. It appears that if you look overall from when data became available and consistently beginning in about March of 1995 through September '04, there has been some decline. But, again, if you look at the time period from the abnormally high values shown in 2001, it makes the decline look more significant since 2001.
But when you look overall from 1995 to 2004, there is some decline apparent, but it would appear to be less in magnitude than the overall decline reflected in Attachment A.
Q. And how would you describe the overall magnitude? You say the decline at Blue Lakes' springs was less than the magnitude of the overall decline? Can you quantify that comparison for me?
A. Well, I'm using your characterization of the decline, the general decline shown in Attachment A since 1950.
Q. All right. And I would like you to turn to what's been newly marked as Deposition Exhibit No. 82. And I'm going to represent to

you that these are tables in the draft that I prepared based on your table in paragraph 60 at page 13 and 14 of the May 19th, 2005 order.
A. To table where? Excuse me.
Q. I prepared Deposition Exhibit No. 82 based on the table in paragraph 60 of your May 19th, 2005 order.
A. Okay.
Q. Okay. And I'll walk you through this exhibit, and ask you some questions about it. This is Exhibit 82.
You recognize the summary of the water rights at the first page at the top to be an accurate summary of Blue Lakes' water rights; is that correct?
A. Without a calculator, I can't check the volume numbers. But other than the volume, the summary, in terms of the number and the priority rate and rate of diversion, it appears to be correct.
Q. So assuming I did the math correctly, and the aggregate volume of Blue Lakes' water rights as stated in their decrees is 142,415.24 acre-feet, thereabouts?
A. If the numbers are correct, that would

be the maximum volume that Blue Lakes could divert if the water was there.
Q. And that's stated in Exhibit 82; correct?
A. I didn't do the math. I am taking your word that -- and I looked back in the order to compare your priority dates and numbers with what was in the order, and I don't have the annual volumes in the order.
Q. Okay. They are in Deposition Exhibit No. 2, if you want to turn to that, at least for water right 7210 and 7427.
A. (Witness complying.) Okay. I'm not seeing the volume for right 36-2365A.
Q. That's not there.
A. Okay.
Q. I'm just asking you whether you'll suspend your disbelief --
A. I don't have any disbelief.
Q. -- and accept that they are accurately represented.
Now, what I did here in the first page is to -- in the first column under "Average Daily Flows," simply list the average daily flows for the years 1995 and 1996 and for the year 2004,

that you listed in paragraph 60 of the May 19th, 2005 order.
And what I did was I multiplied those numbers by 1.98 to derive the average daily volume under each year. And then I multiplied those numbers by the number of days in the month to derive monthly volumes, and then by addition to derive the total volumes of water represented by those numbers for each year. And that is for 1995 to 1996, the available flow provided Blue Lakes 107,198 acre-feet and 2004 provide 95,538 acre-feet.
Now, again, without asking you to accept my math, you would recognize, wouldn't you, that the volumes of water available to Blue Lakes in 1995 and 1996 and 2004, are substantially less than the volumes of water stated in their decrees?
A. Well, they are substantially less than the maximum volume authorized to be diverted. But that maximum volume authorized to be diverted is a hypothetical number, that assumes that the discharge at those rates would be constant, which it's not.
Q. Are you saying the numbers under the

quantity element in the decrees are hypothetical numbers?
A. No, they are calculated, just as you described earlier. They are based upon the rate, times the conversion factor of 1.98, whatever it is, times 365 days a year. Assuming that that discharge would be available 24 hours a day, 365 days a year, which it's not.
Q. And do you believe the decrees are binding upon the Department of Water Resources in their administration of water rights?
A. Certainly.
Q. Now, the graph I prepared then is then based on the flow rates you included in paragraph No. 60. And you can check the plots to verify that I have correctly placed them in this graph from the average daily flow column that you reported in paragraph 60.
And I would like to see if you concur with me in a few observations about these flows based on this table. One is that the pattern of variability during the 1995, 1996 time frame and the 2004 time frame is similar, seasonally similar?
A. There is some differences, but the

overall shape, I suppose, is similar. But, for example, if you look at the 1995, 1996 distribution, it would appear that the decline -- the seasonal decline from April through -- oh, it looks like July, is less steep than the seasonal decline in 2004.
Q. Sure. And then would you also concur with me, that it's clear that the overall flows, the annual flows at Alpheus Creek have declined from 1995, 1996 to 2004?
A. Remind me, again, what are you plotting here? Is it the maximum, the average, or the minimum?
Q. The average.
A. Well, it certainly appears that the average flow in 2004 is generally less than the average flow in 1995 and 1996.
Q. And with respect to average flow, do you recall how you calculated average season flow on a monthly basis?
A. I would assume that for that given month, they would take the average daily flow for each of the days during that month, and then divide it by the number of days by the month.
Q. This wasn't a calculation that you

made? It was one you received from Blue Lakes?
A. Well, I don't recall if it's one I received directly from Blue Lakes, or this is a result of calculations made by Tim Luke.
Q. Okay.
A. Because what we received from Blue Lakes, I believe, was the average daily flows.
Q. Okay. So certainly the average daily flow on a monthly basis has declined during the ten years prior to 2004?
A. Well, I mean, we're looking at two years. And I agree with you that -- I mean, assuming that these plots are accurate, and I don't dispute that you would plot them inaccurate. I mean, I don't think you would do it inaccurately.
So all you can say, I think, is that the average daily flows on a monthly basis in 2004, are less than the average daily flows on a monthly basis than what is shown for 1995, 1996.
MR. STEENSON: Okay. I want to mark a new exhibit, please.
(Exhibit 83 marked.)
Q. (BY MR. STEENSON) Okay. Do you recognize Deposition Exhibit No. 83 to be a field

examination performed for Water Right 36-7210?
A. Well, this appears to be the field exam, but often -- I don't remember if this was the case with Blue Lakes or not -- there was often a staff memorandum that was prepared to evaluate the field exam, and so I don't know if this -- if I -- I don't know that this is the complete documentation of the field exam or not, but it certainly appears to be part of it.
Q. Okay. And I'm going to hand you what I'll represent to you is a copy of the related documents that I downloaded off the Department's website related to 36-7210. You know how when you go on the website, you can click on different --
A. Sure.
Q. Tell me if there is additional documentation than what I'm handing you that you think would be part of the field exam?
A. Well, initially, it appears that the document titled, "Blue Lakes Trout Farm Calibration of Staff Gage" would be related as part of the field exam.
Q. Let's pull it out and add to it the exhibit.

A. (Witness complying.)
Q. Is there any other document that you think --
A. I'm still looking. Well, there is an additional letter that's related to this calibration of the staff gage that I don't know if it -- I mean, it's part of the same thing.
Q. Is it relevant to you to the field exam?
A. It certainly may, because it explains some differences in measurements over time.
Q. Okay. Let's include that with the exhibit as well.
A. But what I'm not seeing in here is any sort of a staff evaluation of the field exam, and I can't tell you if such a document exists in the water right file or not, but it may.
Q. Okay. Now, looking at the field exam in Exhibit No. 83. Karl, clear over here (indicating).
A. (Witness complying.) Okay.
Q. The second page, it's a single page at the top, has the statement, "Date of exam, March 1, 1977." Do you see that?
A. I see that.

Q. Do you recognize this to be a standard form that the Department has used in the past for field examiners to report their findings from the field exam?
A. You know, it looks to be the form that was used at the time. I can't tell you if that same form is used or not. So I don't know that I would call it a standard form. But it appears to be the form that was used at the time.
Q. At the time?
A. Correct.
Q. Now, under the heading, "Measurement Calculation," do you see the report of a measurement of 190.4 cfs?
A. Yes.
Q. Okay. That would indicate then, that at the time of the field exam in March of 1977, there was available for diversion by Blue Lakes 190.4 cfs; isn't that correct?
A. I don't know. This would appear to say that -- I don't know if this is the amount that was divertable by Blue Lakes, or the amount that was divertable by Blue Lakes in combination with -- is it, Pristine Springs?
Q. Sure.

A. I can't tell that they've subtracted the amount for Pristine Springs out of this. So I would not say right now that 190.4 was the amount available to Blue Lakes.
Q. Okay. But it would be perhaps more correct to say, that 190.4 cfs was the flow of water available at the point of diversion, whether it was for Blue Lakes -- whether it was shared with Pristine Springs or not?
A. That's what this would appear to indicate, yes.
Q. And, again, you reviewed this field exam when you prepared the May 19th, 2005 order; correct?
A. Well, to the extent this -- well, if this was in the water right file, I would have looked at this, along with other documents that may not be here today that may be pertinent.
Q. Okay. Then looking back to my graph in Exhibit No. 82. If you were to -- if you are able to, to plot that data point for 1977. Could you plot it for me? I'll give you a blue pen, if you would like.
A. (Witness complying.) Okay.
Q. Okay. I'm encouraged by that, because

I put it in the same place. So I must be doing something right.
A. Okay. We've simply put a quantity and a time. That's all that we've done.
Q. Okay. And then could you then write, as I'm going to do here, "3-1-77" next to that point, so we have a time frame for it?
A. (Witness complying.) Okay.
Q. Okay. So clearly March 1, 1977 was at or closer to the time of the appropriation of the water right -- well, it's closer to the time of the appropriation of the water right than in 1995, 1996, or the 2004 date; isn't that correct?
A. Yes, that's correct.
Q. The time of the appropriation is 1971. And 1977 being six years later; correct?
A. Correct. That appears to be, yes.
Q. And at the time, as I understand your discussion of the May 19, 2005 order and from other statements you've made, by the time we get to the '70s, when these aquaculture and spring water rights were being appropriated, we were at the peak, or making our way toward the decline of the overall level of the aquifer from the highs that you had depicted in the middle part of the

century around the '50s?
A. I'm not sure I understand the question. But before we go on, I want to make clear that this point of 190.4, from the information you've given me, I can't determine whether that is the water available to Blue Lakes, or whether it includes the amount that would have been diverted to Pristine Springs.
Q. Sure.
A. And the reason for the significance of that is that, these other lines that you've drawn on this exhibit representing the average daily flows for the months, average for the month, between -- comparing them between 1995 and 1996 and 2004, those are flows that were strictly available to Blue Lakes, do not include the Pristine Springs diversions.
Q. So then I take it that to the extent that they don't represent the Pristine diversions, you would add 25 cfs to each data point in the 2004, and 1995, and 1996 plots; right?
A. Correct. I don't know if it's exactly 25 cfs, but it's on that order. Yes.
Q. Sure. It's the amount you mentioned in

the order; right?
A. Yes.
Q. Now, I want to turn then, your attention then to Deposition Exhibit No. 81.
A. But I'm wondering, Dan, before we go on, for completeness, if we shouldn't also note, in addition to the date, that the quantity includes the diversion to Pristine Springs?
Q. Does the field exam say that?
A. No.
Q. So we don't know one way or the other? It may, or it may not?
A. I think we know.
Q. How do you know that?
A. Well, if we have the entirety of the water right file here, I think we could show that it does include it. Because in the beginning, when these measurements were submitted, they weren't separated out. They were combined. And I think I could demonstrate that with the water right file, but I don't have it.
Q. Okay. We can certainly get it here; couldn't we?
A. I don't know. I don't know where it is. If it's in the State archives, you are not

going to get it here quickly.
MR. RASSIER: I think Chris went to see if it's available.
Q. (BY MR. STEENSON) And maybe I can short circuit this by asking you to look at Deposition Exhibit No. 80.
A. (Witness complying.)
Q. My understanding of Deposition Exhibit No. 80, and I'll represent to you that the highlights are in the electronic file that I received, either from the Department or downloaded from the Department's website.
I understand that these miscellaneous measurements to be those that you referenced in your order at paragraph No. 58 at page 12. And by "order," again, I mean, the May 19th, 2005 order, page 12, paragraph 58. You have to go back one, Karl.
A. It's 58?
Q. Yeah. It's the sentence that starts out, "The USGS."
A. Okay.
Q. Do you recognize these measurements?
A. They appear to be what I was referencing. But, again, when you hand me a

document out of context in terms of the rest of the file, I can't tell you with certainty that this is the document.
Q. Could you look through the document and --
A. Well, like I say, it appears to be what I was referencing.
Q. It's just you don't recall for sure; is that --
A. Well, no. Actually, it looks similar. But I don't know if there were other parts to this document that were in the water rights file that, you know, I just can't tell. It appears to be what I was referencing.
Q. Okay. Fair enough. Then if we go back in the document to the very last page, where the structure of the Blue Lakes system was drawn, and there is a legal description of the location. And then immediately in the preceding paragraph, we see dates in the 1950s and discharge measurements; do you see that?
A. I'm looking at the last page. Is that what I'm supposed to be looking at?
Q. No, the immediately preceding page.
A. Oh, okay. (Witness complying.) All

right.
Q. And then these measurements, as you turn back towards the front of the document, range from the 1950s to the early 2000 time frame. Do you recognize that?
A. Yes.
Q. Now, this document reflects flows in the system at the right and left channel, and at the canal diverting to the fish ponds. If you begin with the second to last page, in the 1950s, substantially over 200 cfs; isn't that correct?
A. That's what it indicates.
Q. Okay. And there is an indication that the canal diverting to a fish ponds on March 17, 1950 diverted 23 second feet. And then, for example, there is a page a few pages back, where there is a measurement of April 4th, 1973 indicating a diversion at the fish pond channel at 197 cfs; isn't that correct?
A. That's what it says.
Q. So these measurements would be indicative of substantially higher flows in the '50s, '60s, '70s, as we get into the time when these water rights were appropriated, then exist today that are available in the Blue Lakes

diversion; isn't that correct?
A. Well, I believe that's correct. I mean, you know, you can, I guess, get a similar result by simply comparing what I indicated in Finding 58. The last sentence assumes Pristine Springs was receiving its full authorized quantity of 25.3. Blue Lakes Trout was receiving 184.7 cfs of the total 210 cfs diverted from Alpheus Creek into the Perrine Ditch on November 10, 1980.
So if you compare the 184.7 cfs that Blue Lakes was assumed to be receiving in 1980, and you compare that with what existed in November of 2004, you know, the maximum amount in 2004, November of 2004, was 153.85 cfs. So there is certainly less water, apparently, available in 2004 than there was in 1980.
Q. And would you agree with me, that it looks like from these measurements, that there was more water available in the '50s than there was in the '60s? More water available in the '60s than there was in the '70s. And more water available in the '70s than there was in the '80s, and so on as we go forward in time?
A. I don't know about that.

Q. Certainly, from Deposition Exhibit No. 80, we can see higher flow measurements recorded during the '50s than were recorded during the '60s. And consequently, similarly higher flow measurements recorded in the '60s than were recorded in the '70s. And a continuation of the similar trend as you proceed through the decades toward the current -- for the most recent measurements in early 2000; right?
A. Well, I don't -- I mean, I'm looking at these numbers. I haven't plotted them out. It appears that during each year, that there were measurements made generally when the springs were at their minimal discharge, and measurements made generally when the springs were at the maximum discharge.
And, you know, I think you could reach the conclusion that it looks like there has been a general decline. But, you know, I would have to really see what the magnitude of the decline has been. You would have to plot these out.
Q. And you didn't do that when you issued this order on May 19th, 2005?
A. No.
Q. Why not? Wouldn't that be important to

have done?
A. Well, that's in part -- essentially, that's what I -- I didn't plot them out, but, essentially, I reached the conclusion that the water availability is less in 2004 than it was in 1980.
Q. Okay. So certainly then, these numbers in paragraph 60 are not indicative of flows existing at the time of appropriation; are they?
A. No.
Q. They are much lower; aren't they?
A. They are lower. You know, I mean, again, if I look at November of 2004, the flows available in November of 2004 were 153.85 cfs, and comparing that to the flows available in November of 1980, which was 184.7 cfs, it appears that they are lower. I don't dispute that.
Q. Okay. And the measurements from 1980, is that contained in Deposition Exhibit No. 80?
A. Well, I believe it is, although there is a discrepancy of one day. There is a measurement that is reported on November 6th, 1980, indicating that the diversion to the Perrine Ditch was measured at 210.1 cfs, and in Finding 58, I refer to a measurement of 210 cfs

on November 5th, 1980. Oh, excuse me. Wait a second.

It appears that the date has been incorrectly stated in Exhibits 58 and 59 by five days.

Q. What should the date be, then?

A. Well, and I'm not sure. I talk about a measurement made on November 5th in Finding 58. And when I look at Exhibit 80, I see a measurement made on November 6th of 1980 of 210.1. But in the last sentence of Finding 58 and then continuing into Finding 59, I refer to a date of November 10th, which appears to be a misstatement. It should be presumably November 5th or November 6th. But I don't know that it's substantial in terms of looking to see whether there has been a decline or not.

Q. Okay. So you think the measurement in Exhibit 80 that you may be referencing is a 1996 measurement?

A. It appears that it may be, yes.

Q. Okay.

A. Because the quantity measured of 210.1 is essentially what I refer to as the 210 cfs in Finding 58 on November 5th.

Q. Are you sure of that, or do you think there was perhaps some other measurement that you relied upon from November 6th, 1980?

A. I don't know, because I don't have the entire water right file. I can't go back and see all the documents that I would have looked at.

Q. And with respect to this document, do you see any indication that water was being diverted to Pristine or its predecessor?

A. Well, in Finding 58, I said it's assuming Pristine Springs. I don't know that you can make that determination from this document. So I made an assumption that it was.

Q. Why did you make that assumption?

A. Well, I must have made the assumption, because I thought it was reasonably supportable.

Q. But you don't know?

A. I would have to go back through the entire file and recreate the rationale for this finding.

Q. We may need you to do that, because the Department has indicated that you are the only person who can speak to the substantive finding in this order. And nobody else can --

A. Well, I wrote the order, so...

Q. Yes. And I've spoken with Tim Luke about this information, and he indicates that he doesn't know. Is there anyone else within the Department?

A. No.

Q. Okay. And by 1980, is that a time frame when the levels of the aquifer are in a stage of decline from the historic highs that you described from the 1950s?

A. Well, the accumulative spring discharge from the Thousand Springs Reach, as shown on Attachment A by 1980, were less than they were in the 1950s.

Q. Okay. So then with respect to seasonal variations, I've asked you to look at Exhibit No. 81. And from the data that is shown there, and I will represent to you that this was provided by the Department as one of the documents that was relied upon in the issuance of the May 19th, 2005 order. Do you recognize this document?

A. Well, it appears to be the document that I relied on in preparing Attachment C to the order.

Q. Okay. So while the level of the peaks

and the valleys may change, the pattern of variation from year to year is a similar pattern; is it not?

A. It appears to be, yes.

Q. Okay. And with respect to Exhibit No. 80, when you observed that some of the measurements were taken at seasonal lows, what months of the year were you referring to? Were you referring to the March measurements at the seasonal low periods?

A. Not necessarily the absolute low periods, but generally near the seasonal lows, the March numbers.

Q. And is it your opinion then that the seasonal highs generally, over time, at least back -- at least during the period of these measurements in Exhibit No. 80, occurred in the October, November time frame?

A. Yes.

Q. Okay.

A. And the seasonal lows occur, apparently, in the March, April time frame.

Q. Okay. Then it's absolutely the case, is it not, that the measurement for field inspections for Blue Lakes Water Right 36-7210

taken in March of 1977, was not taken at a seasonal high period, as you had previously assumed?

A. I'm not sure I assumed anything about the March 1st, 1977 number.

Q. Well, previously, you testified that you assumed that the Blue Lakes, like others, were intentionally having field examiners come out at seasonal high flows to establish as great a quantity for the water right as possible. That's what you said; right?

A. I had said, in general. And then we talked about -- we had an exchange, and I concluded there was no basis for me knowing whether that was intentional on Blue Lakes' part or not.

Q. Now, based on the field exam, we now know that it was not the case, that the measurement occurred at the seasonal high period of the flow in 1977; correct?

A. That's what it appears to be.

Q. Okay.

A. The measurement date that is there, and that would have been not during the time period when the springs normally would be at their

maximum.

Q. So in 1977, the maximum flow would have been something higher than 124 cfs?

A. Presumably, that's correct.

Q. And then as we can see from my drawing in Exhibit No. 82, the springs at that time in 1977 would be on the decline in their seasonal flow pattern; right?

A. Which exhibit are you referring to?

Q. On Exhibit 82, my drawing of the third page.

A. Okay.

Q. So the part of my question was that given the seasonal pattern of flow that has been occurring over the many last decades, that measurement at the time of the field exam was taken at a time when the springs were in a declining annual trend; is that right?

A. I'm not sure what you are basing that on. Again, I will go back to Attachment A, which shows the accumulative spring discharge, and, you know, if you look across the period from the 1950s through 2004, there overall has been a decline.

When you look in the time period around

1977 when this measurement was made, there was a period of time where it looked like there was an -- I'll call it transitional stability, and then the declines began to occur again.

So I don't know at what point you are trying to get to, quite honestly.

Q. Just for the annual variation of flow from January through December --

A. Yes.

Q. -- as you've attempted to depict in your order of paragraph 60. Again, given that the annual pattern of flow has been fairly relatively consistent; right?

A. Yes.

Q. Then the March 1st, 1977 measurement would have been taken at a time during 1977 when the flows were on their way towards a low from a high period?

A. For the annual variation?

Q. For the annual variation.

A. Yes, that's correct.

Q. Okay. So then looking at my diagram, if you were trying to infer flows in 1977 to get some kind of a general idea of what the annual variation would be, you would take the flow

pattern like what we see in '95 and '96 and 2004, and lift it up, wouldn't you, up to this higher point in 1977? So that you would see an annual flow pattern, like what we see in the other years, but including this March 1, 1977 measurement; isn't that correct?

A. Almost. I think you would have to do that. You would have to subtract the 25 cfs from the March 1st, 1977 measurement.

Q. Okay. Now, even subtracting the 25 cfs, the annual flow pattern existing then in 1977, and certainly then, of course, in 1971, when the water right was applied for, would be much higher than the combined decreed diversion rates for Blue Lakes' first priority water right, and its second priority right 7210, than what I plotted there at 170 cfs; isn't that right?

A. I'm sorry. You are going to have to state that again.

Q. Let me walk it in steps then. Looking at the graph, there is a straight line there at about 145 cfs where I referenced the priority water right 02356A?

A. Yes.

Q. And its second priority water right

07210?
A. Yes.
Q. And that correctly reflects that the decree identifies the diversion rate of 145 cfs; isn't that correct?
A. Yes.
Q. Okay. Now, given the annual flow pattern that would have existed in 1977, and given the March 1st, 1977 measurements, and even deducting the 25 cfs from that Pristine may have diverted, the annual flow pattern certainly would have not dipped below this combined amount of 145 cfs; would it?
A. I don't think that you can make that conclusion based upon one point.
Q. Okay. How many points do you think you need? Given your prior testimony that the annual flow pattern is consistent through the years.
A. Well, but remember, you know, we compared the annual flow pattern for 1995 and 1996, and compare that with 2004, I noted that there were differences.
Q. Okay.
A. Even though there is kind of a general pattern that appears similar. So I don't think

you can say, you can from one point determine what the pattern was or was not in 1977.
Q. Sure. And looking back to your table in paragraph 60, and looking at your March 19th, 2005 order, the average daily flow, your report there for the month of March in 2004 is 134 cfs; correct?
A. Correct.
Q. That certainly is not indicative of the quantity of water available to Blue Lakes to divert in March of 1977 based on the field exam; right?
A. Yeah, probably not. Yeah.
Q. Is there any doubt that it's not indicative?
A. Well, I mean --
Q. Is there any doubt that it's actually 56 -- approximately, 56 cfs less than the flow that was available to Blue Lakes as documented by the field exam in 1977, when the appropriation was verified by the Department?
A. Well, there is no question that 134 is less than -- I'm not sure what number you want to compare it with?
Q. The March 1, 1977 figure.

A. Which is 190. And if you subtract off the 25, that would be 165 cfs. And if you compare that to 134 cfs, 134 is less.
Q. Yes. Again, if you assume that the 190.4 measurement reflects diversion by Pristine as well?
A. Right, and that's the assumption I made in Finding 58.
Q. Okay. So then, certainly, that measurement from March of 2004 is not indicative of the water that was available to Blue Lakes at the time of appropriation; correct?
A. I think that's correct.
Q. Okay. Doesn't it also follow that these flows from 2004 in the table are not indicative of the flows that were available during the course of the year in 1977 or 1971?
A. Likely not. But we don't have the actual measurements. We didn't get actual measurements on an average daily basis for the months until 1995.
Q. Right. But one of the actual measurements that we have that was the basis for the licensing of the water right, was from March of 1977, and shows flows are way higher; correct?

A. Well, it shows -- if you assume that it includes the 25 cfs being diverted to Pristine, it would be 165 cfs available in March, which is, you know, it's hard telling. That was March 1st. So I don't -- you know, there is not much difference between February 2004 and March 2004, it's about 134.
So that would indicate that making the assumption that 25 cfs was being diverted to Pristine, then there would have been in 1977, assuming the measurements are compatible, which that's another assumption here. I don't know for certain that the measurements that were being taken and reported in Exhibit 80, in fact, use the same methodology at the same locations as the measurements that have been reported since 1995. I don't know that.
Q. That's a problem inherent upon going back to data that's 30 years old, and trying to interpret it; correct?
A. Yes. Sure, that's true.
Q. One of the reasons to recognize the decrees as they are stated, because you were not there when the water was appropriated in the first place; correct?

A. Well, I've never said that we are going to look to the maximum quantity that's authorized to be diverted as stated in the decree. That we're going to look -- that we're going to do anything different than that. That is, and has been, the maximum quantity that can be diverted.
Q. Okay. So in March of that year, given this March 1, 1977 measurement, how much water is Blue Lakes entitled to for purposes of curtailing hydraulically-connected junior water rights?
A. At what? What date?
Q. In March of the year.
A. Of March of what year?
Q. Any year. Again, we've established that when the water right was appropriated, there was enough water in March to deliver the full 45 cfs; correct?
A. A full 145 cfs; is that what you are saying?
Q. But the water right that we're actually focusing on in paragraph 64, 7210 is for 45 cfs; right?
A. Yeah.
Q. And we've established that the amount of water available at the time of appropriation

for that water right was 45 cfs in March; right?
A. In March. But Water Right 36-7210 was not appropriated in 1977. It was appropriated in 1971.
Q. Right. The field exam was in 1977 verifying the beneficial use in the amount of water that was available at the time; right?
A. I see what you are saying.
Q. Isn't that correct? Potentially, there was more water available in 1971 since the flows of the springs have been declining; right?
A. Yes, I agree with that. Potentially, there was more water available in 1971, I agree.
Q. So when we look at paragraph 64 of your order, you say you are taking into account variations in spring flows that have existed since the date of appropriation to conclude that the amount of water available to Blue Lakes in 2004 was adequate to fill its 45 cfs right. Isn't that what you do there?
A. When the flows in Alpheus Creek are at the seasonal highs.
Q. So is it your conclusion that Blue Lakes is not entitled to 45 cfs through the months of January through September?

A. No.
Q. Then why do you say that the water right is being filled in those months, when substantially less than 45 cfs is available for that right?
A. I didn't say the 45 cfs is available during those months. That's not what I said.
Q. Okay. So then during the months of January through September, it sounds to me like what you are saying is, number one, Blue Lakes' 45 cfs water right is not being filled?
A. I'm not using that terminology. I'm saying the water was not available for Blue Lakes to divert at the 45 cfs rate.
Q. During 2004; correct?
A. Correct.
Q. But that amount of water was available to Blue Lakes, at least in March of 1977, at the time of appropriation; correct?
A. Uh-huh.
Q. Okay. So isn't Blue Lakes entitled to, at least during March of the year, the full 45 cfs, and isn't the Department obligated to curtail juniors to deliver the full 45 cfs in March given that that's what was available to

Blue Lakes in March at the time of appropriation?
A. Well, I understand the argument you are making.
Q. No, I'm asking you a question.
A. Sure.
Q. And I would like an answer.
A. Well, you are inferring water availability that, you know -- I mean, it's reasonable, but I can't say that that amount of water would have been available during those -- during that time period based upon one measurement. I don't know. I would have to look -- I would have to -- where is the rest of the months? Show me what the annual variation was in 1977.
Q. Well, did the Department collect data to make those determinations back in 1977?
A. No.
Q. It doesn't exist then; right?
A. Well, Blue Lakes may have it. I don't know. Of course, the measurements were not required until the measurement act was passed by the legislature in 1994.
Q. Sure. So are you imposing now a standard that didn't exist at the time the water

rights were appropriated?
A. No. Even in my initial response to Blue Lakes when the delivery call was made was, give us all the measurements that you think you have that would be pertinent to making the factual determination.
Q. And they are reported to the Department on a regular basis; are they not?
A. But we've only got them in since 1995.
Q. And you are aware that there are USGS day stations at the Blue Lakes springs at Alpheus Creek where data has been collected all the way back to the 1950s; correct?
A. During one or two months of the year.
Q. So you have the data that was collected?
A. Only during one or two months during the year. I don't know if they collect data during the other months or not?
Q. Right.
A. We used what we had.
Q. Okay. So you are willing to assume that Pristine was diverting water when you have no basis for knowing that one way or the other; correct?

A. Well, the basis for making the assumption is that the measurements were generally reported combined in that.
Q. How do you know that? Where does it say that the Pristine's diversion is --
A. It doesn't.
Q. Okay.
A. But we know later in time than this that they were combined, and it wasn't until 1995 that they began to be separated.
Q. Okay. So you have no basis for inferring that water supply in any time of the year, when Blue Lakes water right was appropriated, was less than necessary to deliver 45 cfs; do you?
A. During any time of what year?
Q. At the time of appropriation -- this is a phrase you use in your order. You use the phrase "time of appropriation"?
A. Yes.
Q. So at the time of appropriation, you have no basis for inferring that there was less than -- that the water supply was less than adequate at any time during the course of the year to supply the full cfs; do you?

A. I don't know that I inferred it was less at the time of appropriation.
Q. Then how can you say that the water supply in 2004, when it's adequate only two months during the year, to deliver the full right is sufficient to fill the right?
A. At the time that Alpheus Creek is at the seasonal high. I've never said anything different.
Q. Does the water right entitle the user to delivery of the water only when the flows are at seasonal high?
A. If the water is available you could divert the quantity other than the seasonal high.
Q. Okay. And if curtailment of junior water rights is required to deliver the water, is the entitlement only to the water when it's at seasonal highs?
A. I don't think I've ever said that.
Q. Okay. So what is the import? What is the reason for you to make reference to seasonal highs here, such that the end result is that Blue Lakes will get delivery of its 45 cfs by administration only during two months of a 12-month period of the year?

A. Well, even if you make the supposition that 7210 may have been filled for more than two months of the year at the time of appropriation, I mean, what about 7427? I mean, it seems like the path that you are on is saying that Blue Lakes is entitled to 145 cfs year round, even though it never existed year round.
Q. How do you know that it never existed year round?
A. Well --
Q. On what basis do you draw that conclusion? You have said --
A. Even --
Q. You have said that you don't have a full set of data from the water source at the time of appropriation; correct?
A. Right. I think I said, "even if it's not available."
Q. Okay. And the data point that we had looked at that was the basis for licensing the water right that wasn't at seasonal highs, show that adequate water was available during the time of appropriation of this water; correct?
A. At that point in time, sure.
Q. So the information that you do have all

supports the contrary conclusion that the water supply was adequate at 1977 or 1971 to supply this water right?
A. I disagree with that conclusion.
Q. On the basis of what data?
A. One point. You can't make that conclusion on one point, one measurement.
Q. Are you making that conclusion on the 2004 flow data?
A. Making what conclusion?
Q. Are you drawing the conclusion that the water supply was inadequate at the time of appropriation based on the 2004 flow data?
A. No.
Q. Are you doing it on the basis of the 1995 and 1996 data?
A. No.
Q. On what basis are you drawing your conclusion?
A. I'm not drawing the conclusion.
Q. Okay. Then you have to take the decree to mean what it says; don't you? That Blue Lakes is entitled to 45 cfs 24/7, 365; don't you?
A. If it's there, they can divert it.
Q. And if --

A. But you are saying, they are entitled to it. And the quantity is the maximum authorized rate. It's not an entitlement.
Q. So what duty is imposed on the Department then to administer junior rights in order to deliver the water represented by the decree?
A. Well, I mean, if curtailing or administering junior-priority rights will result in a meaningful quantity of water to the senior, then the Department has an obligation to administer those rights. And that's exactly what we were attempting to do.
Q. And that proposition doesn't have anything to do with seasonal irrigation; does it?
A. Oh, yes, it does. Because you don't administer junior rights in an attempt to deliver water that wouldn't have been there anyway.
Q. But you don't know what water would have been there any way in 1977; do you?
A. We don't have as much data from that time period as we do now.
Q. But the field exam we looked at shows that there was substantially more water than would be necessary to fill that 45 cfs right at

the time of appropriation; correct?
A. Well, it shows that at one point in time.
Q. Okay. And don't your decisions have to be based on the information you have, rather than on negative inferences from information you don't have?
A. It's not based on negative inferences from information we don't have.
Q. So you have no basis to infer in 1977, that there was not adequate water to supply the 45 cfs right at any time during --
A. I didn't make that kind of inference.
Q. And you can't; can you?
A. Nor did I.
MR. RASSIER: Do you want to take a break now, Karl? It's 11:00.
THE WITNESS: It's 11:00?
MR. RASSIER: Yeah.
THE WITNESS: Sure.
MR. STEENSON: Okay. We can take a break.
(A recess was had.)
MR. STEENSON: Okay. Back on the record.

Q. (BY MR. STEENSON) I want to conclude on this issue. I think you understand its significance, Karl, because it appears to me, and it appears to Blue Lakes, that as a result of this finding, its 45 cfs right entitles it to priority distribution of no more than the flows that are referenced in paragraph 60; is that correct?
A. I don't think that's correct. You keep talking about what Blue Lakes is entitled to. And that is not what the quantity element of a water right is.
Q. What is a water right? Is a water right an entitlement or not?
A. It's an authorization to use water for a defined beneficial use.
Q. It's a right?
A. Sure, it's a real right, a real property right.
Q. It authorizes or entitles the person to use -- to divert water from a source within the state of Idaho for the beneficial use stated therein; correct?
A. Yes, up to that amount. The water was defined around a beneficial use, not the

quantity.
Q. Okay. But irrespective of that discussion of what a "right" means. The question is: What amount of water -- if Blue Lakes is receiving 134.9 cfs average during the month of February, it's not receiving the decreed amount; correct?
A. Correct.
Q. What amount is it entitled to? What amount can it call for under the 45 cfs right in, let's pick March, of the year?
A. Well, as we've spent the last hour or more debating back and forth, it is not as simple as you want to make it. It's more complex than just, we're not getting this quantity; therefore, you curtail the junior.
It is not that simple. Because of the fact that the juniors are diverting from a different source, not the same source. Hydraulically connected, yes. The stream variation is of a different character than the variation in normal stream flows. I mean, stream flows go up and down, certainly.
As these fish propagation rights -- and I'm generalizing now, as they were appropriated,

you know, certainly, some of the earlier rights were filled all the time. And as rights were added at facilities, at some point, rights weren't filled all the time because of the variation. And that variation existed at the time the rights were appropriated. It exists today. And it has to be -- it is an aspect of how these rights are administered.
Q. So if Blue Lakes under its first two rights is entitled to 145 cfs, or its rights say that much, and in March, it's receiving 134, is it short? Is it in a position to call for the Department to exercise its responsibility to administer water rights, or not?
A. A right holder can always request administration. I mean, that's part and parcel of what you can do. But I guess I'm trying to come at it a little differently.
A senior right holder is not entitled to seek the curtailment of junior-priority rights unless that curtailment will result in a meaningful supply of water for the senior. That's a general principle that applies in ground water systems, in surface water systems, and that's the principle we're trying to apply.

Q. Okay. Let's just talk about March of the year. March of 2004, Blue Lakes is receiving 134 cfs, according to your table, on an average basis. Do you see that?
A. Mm-hmm.
Q. Okay. Is that amount of water adequate to fill its water right, its two water rights, the first priority and the second priority water rights in March, 134.07 cfs?
A. It's less than the -- let's see. Yeah, it's less than the sum of the first two rights, which is about 145 cfs. So this is less.
Q. So why isn't it the case then, that based on March 2004, 134 cfs, that junior water rights are subject to curtailment to the extent that they are affecting -- adversely affecting the flow of water to Blue Lakes' point of diversion in March of the year?
A. Well, if the junior right is adversely affecting the quantity of water that otherwise would be available to the senior, and that quantity is within the maximum amount authorized, they are entitled to seek administration. I've never said they weren't.
Q. Okay. So then why do you not apply the

1971 priority water right here to the administration call provided in this order? Why do you essentially take it off the table, say it's being filled, and say that only Blue Lakes' third priority water right will be recognized for purposes of administering junior ground water rights?
A. That's the determination that we made at the time, is that the 1971 right was being filled when Alpheus Creek was at its seasonal highs. But clearly the third right was not, clearly.
Q. I understand the determination that you make. But is it your position that the second priority right is being -- strike that question.
You recognize that aquaculture facilities operate by diverting year round to raise fish?
A. They divert water year round to raise fish. Most divert more water at times of the year than others, because the water is not available.
Q. Okay. And you realize that the lifecycle of fish, and requirements of the fish is such that they require constant flows of water

throughout their lifecycle?
A. I'm not a fish person. So I know fish need water, but that's about the extent of, you know, what I know. I'm not a fish propagator. That's not my knowledge basis.
Q. So you don't know how aquaculture facilities beneficially use water?
A. Well, in general, you know, I can't -- I know that the facilities use variable amounts of water during the year, and that they adjust their operations accordingly.
Q. I'm going to conclude here, you would be happy to hear, on this point. But I just want to make sure I have this right.
Based on your observation of seasonal variability and flows during the '96 time frame and the 2004 time frame, you've determined that the seasonal variability existed at the time of appropriation; correct?
A. Correct.
Q. Okay. And you've determined that that seasonal variability was such that Blue Lakes' 45 cfs right is satisfied on an annual basis by seasonal maximum flows that are sufficient to deliver 45 cfs; correct?

A. I'd state it differently.
Q. Okay.
A. I would try to reach some mutual understanding here. When looking at these first two rights -- or, no, all three rights, looking at all three of Blue Lakes' rights, it was clear that the first one was not being injured. Okay?
It wasn't clear that the second one was being injured. But it was clear that the third one was being injured, because of the seasonal variability. That's really the determination that's made here. The third one is being injured. The first one isn't. It's not clear that the second one is being injured.
Q. Okay. In looking at the majority of the graph, the majority of the year there is not enough water to deliver that second priority right in 2004; right?
A. Correct.
Q. So why is it not being injured during those months of the year when the water supply is not adequate to deliver 45 cfs?
A. I just tried to say, we don't know that it is being injured, because we don't have -- we don't -- we can't use one point to reconstruct a

seasonal variation, and then conclude that there was sufficient water to fill that right at the time of appropriation. We don't know.
Q. You know --
A. We know that the seasonal variation existed at the time of appropriation. We know it exists today. We know that the first right wasn't being injured. We know that the third one was.
Q. Looking back at Exhibit 80. If you can turn to the page where there are the measurements of 1977.
A. (Witness complying.)
Q. Do you see that there is an October measurement there, and a March measurement there in 1977?
A. Yes.
Q. Do you see the March 3rd, 1977 measurement to the Perrine Ditch is 205 cfs?
A. Yes.
Q. And that measurement was taken two days after the Department's field inspection measurement; is that correct?
A. It appears that it was, yes.
Q. That's 15 cfs more than the 190 that

the Department measured; correct?
A. Apparently.
Q. Wouldn't that indicate that the 190.4 cfs measurement represents the amount of water that Blue Lakes was diverting, and does not include the amount of water that was going to Pristine's predecessors?
A. No, I don't think it says that. I don't think you can determine that.
Q. Do you think the diversions of the Perrine Ditch increased by 15 cfs over the course of two days?
A. No. All I'm saying is, these measurements, it is tough to go back that far in time and decipher what these measurements mean.
Q. Okay.
A. And let me give you an example using this data in this exhibit. March/April has generally been the low point for the spring discharge. October/November has generally been the high point. Yet, in 1977, on March 3rd, it's reported that Perrine Ditch was diverting 205.7 cfs. Yet on October 31st, the Perrine Ditch was only diverting 177 cfs.
Q. And from that, you conclude?

A. It just shows that it's difficult to infer much of anything from these early measurements, other than what the numbers mean themselves. If these numbers are intended to represent seasonal variation, I guess that's what you are trying to imply from this, then the October '77 measurement in October is out of phase with the March measurement. There is something inconsistent here. And yet you want to infer consistency from something that is inconsistent.

Q. These are the measurements that you relied upon --

A. I looked at one point in time to see what the maximum amount of water had been diverted. You know, I was looking to see if Blue Lakes diverted the maximum amount that it was entitled to, and it had.

Q. Why were you doing that?

A. To confirm that it was making full beneficial use of the quantity that it was authorized to divert.

Q. Wasn't that done in the adjudication?

A. No, the adjudication determined what was the maximum amount that was authorized.

Q. Determined the maximum, confirmed the beneficial use; did it not?

A. Yeah -- umm --

Q. Isn't that what the adjudication is for?

A. Well, the adjudication defines the beneficial use that can be made, and then the elements are the constraints to the use of water for that beneficial use, and the quantity is -- element is one of those elements that constrains how much water can be diverted for the defined beneficial use.

Q. And licenses are issued based on actual beneficial use?

A. Sure. But we know as time goes on, that in some cases -- I'm not saying the case of Blue Lakes. But for some reason, whatever reason, people reduce the amount of beneficial use they are making, and they consequently use less water.

Q. Then one of the tasks assigned to yourself, when you were working for the Department, by statute was to do an investigation to determine the nature and extent of beneficial use --

A. Correct.

Q. -- of the water right, and to make a recommendation to the SRBA --

A. That's right.

Q. -- that was based on the --

A. That's right.

Q. And that would include a determination if there has been a forfeiture --

A. No.

Q. -- or substantial change in the use of the water right after the time of licensure, so that the water right would be recommended for less than the -- to the court for less than the usually established amount; isn't that correct?

A. No, that isn't correct.

Q. So --

A. In the instances where rights have been licensed prior to the adjudication, the recommendation was for the licensed amount.

Q. Okay. So you didn't do investigations with respect to the licensed water rights?

A. Not if it had been licensed. We didn't do any further investigation beyond the time that the license was issued.

Q. Was the choice that you and the

Department made with respect to how you were going to meet your statutory duties; correct?

A. That's correct.

Q. Okay. And so nonetheless, however, you met the statutory requirement to investigate the nature and extent of beneficial use of each water right, your recommendations would be in accorded a prima fascia weight? They are presumed to be accurate, unless someone could produce contrary evidence; correct?

A. Right.

Q. And unless that occurred, and the court decided otherwise, the water right was decreed so that it represented each of the elements consistent with its historical beneficial use; correct?

A. Correct.

Q. Now, here, this issue is different than seasonal variation. You are looking at -- as you say in paragraph 59, you look back in time and it shows 1980 to find a diversion rate that as you say, is the maximum amount of water known to have been diverted from Alpheus Creek.

So you are coming up with a number there that is contrary to the decreed amount of

the Blue Lakes' water rights, the aggregate amount of 197.06; right?
A. No, that is not what we're doing.
Q. In paragraph 59 isn't 184.7 different than 197.06?
A. Sure. But the 197.06 is the decreed amount. That's the maximum amount that Blue Lakes is authorized to divert.
Q. Why did you conduct this investigation to determine the maximum amount of water known to be diverted?
A. Well, there is a difference between the maximum amount that a right holder can divert, and the amount that he might divert. This was simply a picture of how much was diverted at one point in time subsequent to the right being appropriated.
Q. What's the purpose of this number in the order?
A. It was simply one aspect of how the right had historically been used. It's just one aspect of it.
Q. And then in the order you conclude that 184.7 cfs, and page 27, paragraph 31, you conclude that for purposes of administration 183

cfs is based on this prior determination you made of the historical --
A. Which one?
Q. Paragraph 31 at page 27.
A. Okay.
Q. You are making a determination of material injury there; aren't you? You say down in the paragraph, "Material injury will cease when." And it goes on, and it says, "seasonal maximum reaches 183 cfs."
So there you are saying that the full extent of Blue Lakes' injury is relieved, is satisfied when Blue Lakes receives 183 cfs, and that's less than the decreed amount?
A. Correct. And all that this is saying is that; whereas, Blue Lakes is authorized to divert up to the maximum amount of the water right for the various reasons, which you are free to disagree with, obviously, but for the rationale laid out here, we were only going to curtail junior-priority ground water use to provide the 183 cfs.
Q. Why?
A. For the various reasons that are laid out.

Q. Because of your determination back in paragraph 59 of page 13, that 184.7 cfs is the maximum amount known to be diverted by Blue Lakes?
A. That's correct.
Q. So you are determining how much of the right you are going to recognize for purposes of administering junior ground water rights --
A. No.
Q. -- to be 183 cfs?
A. No. We're saying that Blue Lakes is entitled to curtailment of junior-priority rights to provide the 183 cfs.
Q. And why not 197.06?
A. Why not the 197?
Q. Yes.
A. Well, in part -- I mean, part of it had been subordinated. We're not going to curtail junior-priority -- well, maybe the current person would. I wasn't willing to curtail junior-priority rights to provide water for a portion of a right that had been subordinated.
Q. Okay. How much had been subordinated?
A. It's the one point, whatever, cfs.
Q. That was subordinated to whom?

A. It was the country club. It was the nighttime irrigation.
Q. So that was an agreement by Blue Lakes that it would not call for curtailment of the country club's water right to the extent of one point cfs?
A. And you probably will disagree with this principle. But a right holder doesn't have the right to select who he's going to curtail. I mean, you can't selectively subordinate.
Q. Why not?
A. Because it puts more of the burden on the juniors.
Q. You mean, I can't as a water user agree for whatever reason, maybe Phil pays me a whole bunch of money, to say, leave my water right alone when it comes to curtailment to deliver water to you. I say, "Okay."
A. Of course you can.
Q. I can make that individual agreement with Phil?
A. Of course, you can.
Q. And you are saying that affects whether John's water right is going to be curtailed to deliver my water --

A. No.
Q. -- that agreement with Phil?
A. It could. I mean, here's the situation, I guess, you've got right holder A with the senior-priority diverting from the source, right holder B junior-priority, the same source. Right holder A's right isn't being filled. Let's say, it's 10 cfs, that it's short 10 cfs, and the 10 cfs could be diverted and beneficially used.

Right holder B, the junior, is diverting 10 cfs. And but for a subordination agreement, right holder B would be curtailed. But right holder A has said, okay. I'll agree to an exchange for whatever consideration not to seek your curtailment. Instead I'm going to go to right holders C, D, E, and so on. We're going to curtail them to, so I get my 10 cfs.
Q. What's wrong with that?
A. You can't do that.
Q. What statute, or case, or rule --
A. Because --
Q. -- or rule provides the principle that you just enunciated?
A. It's not in the rules. It's not in the

statutes. It is a principle of administering water under the prior appropriation system.
Q. What --
A. You can't impermissibly shift the burden to juniors that otherwise wouldn't have been curtailed, but for your subordination.
Q. From what case do you get that principle?
A. Oh, I think there is case law. I can't recall right off the top of my head what case I would point to. But I think there is case law on that.
Q. There is no statute that --
A. No, there is no statute.
Q. And there is no rule that supports that principle?
A. Not that I'm aware of.
Q. Okay. So notwithstanding that theory, that covers 1.3 cfs.
A. Uh-huh.
Q. Still 183 is 14.06 cfs less than the decreed amounts of Blue Lakes' water rights. So what is the basis for the remainder of the water right that you are not recognizing the remainder of the water right for purposes of

administration?
A. No, it's not that we weren't willing to recognize it. We recognized the quantity as the maximum amount to be diverted. Fine.
Q. But for purposes of administering --
A. No, for seeking the curtailment of juniors.
Q. However you want to put it.
A. Yeah, I determined that it wasn't appropriate to curtail juniors for a quantity that had not been diverted.
Q. And that is on the basis of this finding in paragraph 59?
A. Not only that. I mean, go to your own information from 19 -- what was it -- 77 --
Q. Uh-huh.
A. -- where you pointed to 190 cfs. I still think it's the right assumption, if you will, or the reasonable assumption is to assume that Pristine Springs' 25 cfs is included in the that 190. And if that's the case, then the amount Blue Lakes was diverting was 165 cfs.
Q. So was it licensed incorrectly?
A. It was licensed the way it was licensed. And, you know, whether it's incorrect

or not, that's the license.
Q. The conclusion from your observations is that it was licensed incorrectly; right?
A. I didn't say that. I just said it was licensed the way it was licensed.
Q. Do you believe the licensed amount was correct.
A. I don't know. It was licensed the way it was licensed.
Q. The aggregate licensed amount was 197.06 cfs; correct?
A. They were licensed the way they were licensed. And in other rights that we've investigated, we know that there have been licensing errors.
Q. So this is a licensing error?
A. I didn't reach that conclusion.
Q. But you --
A. I just said, I can't tell you why it was licensed at that amount.
Q. But you don't think --
A. But it was licensed at that amount. That was the basis for our recommendation to the SRBA. And that quantity as decreed is the amount, the maximum amount that Blue Lakes is

authorized to divert, period to divert.
Q. It's not the maximum amount that's authorized to call for; was it, under your version of findings?
A. In my view, to seek curtailment. That's correct.
Q. So its priority does not apply --
A. Sure, its priority applies.
Q. -- there is a difference between -- no. The effect of priority is as against other water users; correct? The purpose of priority is for distributing water in times of shortage; correct?
A. Correct.
Q. So the import of Blue Lakes' priority is the extent to which it will be recognized in times of shortage by the Department for purposes of delivering water; correct?
A. We're not talking about the priority. We're talking about the quantity associated with the priority.
Q. But what you are saying is, you will only administer Blue Lakes' priority as against junior ground water right users to the extent of 184.7 cfs; correct?
A. Actually, to the extent of 183 cfs.

Q. Correct. So you have deduced the decreed amount of the water right that you will recognize for purposes of administering Blue Lakes' priority has against junior ground water rights?
A. That's your characterization. That's not mine. My characterization is, it's not appropriate to seek the curtailment of junior rights in distributing water in an amount that has not been previously diverted to beneficial use.
Q. So the difference between the way I put it, and the way you just put it, is you are saying that Blue Lakes isn't entitled to make a call for enforcement of its priority against junior ground water owners for any more than 183 cfs?
A. Again, that's your characterization, not mine. Blue Lakes is entitled to make a call any time that it believes junior-priority rights are interfering with its senior right.
Q. So then the real issue is whether it's the Department's responsibility to respond to the call?
A. That's the issue.

Q. Okay. So your conclusion is, the Department's obligation to respond to the Blue Lakes call to curtail junior ground water holders extends only to 183 cfs, because of your finding that Blue Lakes hasn't used more than that in the past, and subordinated 1.3 cfs to the Country Club; is that correct?
A. That's correct.
Q. Okay. Are you familiar with the reconstruction of American Falls Reservoir in 1977?
A. Generally.
Q. Do you know that that occurred in the fall of 1977?
A. I don't know when it occurred. I know it occurred in about that time frame.
Q. So that may have affected the October 1977 measurement?
A. It may have, or it may not have. I don't know. Lots of things could have affected that October 1977 measurement.
Q. Just like Pristine's predecessor may or may not be diverting water it was entitled to; correct?
A. Well, we believe it was.

Q. And the same kind of bare assumption without any supporting information?
A. I disagree with that. I've reached that conclusion based upon the entirety of what was in the water rights file.
Q. Okay. And, again, this October 1977 measurement shows that there was still a sufficient amount of water being diverted into the Perrine Ditch in October of 1977 to deliver the full 45 cfs to the second priority of Blue Lakes right; isn't that correct?
A. That would appear to be correct.
Q. So from the two data points that you have from different seasons of the year for 1977, showing that there was adequate water to fill the full decrees of the licensed amount of that water right; correct?
A. At two points in time, that's correct.
Q. Now --
A. Or I should say, it appears to be correct at two points in time.
Q. Okay. Now, with respect to the Eastern Snake Plain Aquifer, in your experience has the Department ever distinguished between natural and artificial ground water in the aquifer for the

purposes of administration?
A. No.
Q. Okay. In other words, once the water is in the aquifer for purposes of distribution, it doesn't matter where it came from, whether it came from seeping through a canal, or seeping through a stream that was fed by natural flow from the mountains; correct?
A. Well, it matters, but it's still subject to appropriation.
Q. And still subject to priority distribution; correct?
A. Sure.
Q. And for those purposes, it doesn't really matter where the water came from in terms of the Department implementing its responsibilities of the law?
A. It can matter. I'll give you another example, I suppose. If you have a significant amount of leakage from a canal that can be -- and the canal owner, for whatever reason, chooses not to capture that leakage and apply it to beneficial use, an appropriator can -- under Idaho law can appropriate that water as waste water.

And I think it's important when that appropriation is made to recognize what the source of that water is, it's waste water. And it can affect how the right is subsequently administered. Because in this hypothetical example, the canal company repairs whatever was contributing to the leakage, and the waste water is no longer there. Can the holder of that waste water right seek the curtailment of junior-priority rights? Generally, no, unless they are from the same source of waste water.
Q. But as between two appropriators, whatever water is there, whether it's there by waste or some other means, priority distribution applies?
A. Certainly.
Q. You distribute in accordance with priority?
A. Sure.
Q. Now, with regard to mitigation, during the hearing last year, it was petitioned for reconsideration for the extent of the credit that it was given for its '05 mitigation. Do you recall that hearing?
A. Well, in general, I don't.

Q. Do you recall being the Hearing Officer for that hearing?
A. Sure, I was, but that doesn't mean I remember aspects of it.
Q. I'm just asking if you recall it?
A. I recall the hearing.
Q. Okay. And do you recall a statement you made at the end of the hearing, that in your view, mitigation that is offered as an alternative to curtailment, the curtailment has to be as real as curtailment?
A. Yes.
Q. Can you explain what you mean by that, or meant at the time?
A. Well, I think it's pretty simple. That, you know, to the extent curtailment would produce a meaningful amount of water to the holder of a senior right that's being injured, if that out-of-priority depletion is going to be mitigated such that the out-of-priority diversion can continue, then the mitigation has to produce an equal amount of meaningful water supply to the senior as would have curtailment.
Q. In other words, it has to have an equivalent effect of curtailment?

A. That's another way to put it, yes.
Q. Okay. Now, in your order on page 28, as I understand it, in addition to identifying curtailment as an outcome, you offer three mitigation alternatives. And I want to confirm that with you.
On page 28, under paragraph 1, in the middle of the paragraph. There is a sentence that in part reads, "Must submit a plan or plans to the Director to provide mitigation by offsetting the entirety of the depletions for the ESPA under such rights."
A. Yes.
Q. I'll call that mitigation alternative number 1. Now, does that mean offset the entirety of consumptive use of water under the identified ground water rights, whatever they are?
A. Yes.
Q. Okay.
A. Another way to look at it is, you completely mitigate the depletions of the aquifer. It's a pretty high standard, but you completely mitigate depletion of the aquifer. That's what that phrase meant.

Q. And did you have any ideas about how that would be implemented? How it would be met?
A. I did not.
Q. And with respect to the second method, as I understand it, it was deliver a specific quantity of water to Blue Lakes' headgate?
A. Correct.
Q. Is that correct?
A. Correct.
Q. Based on your 20 percent assessment that the Blue Lakes' springs flow and the Alpheus Creek flow would have been 20 percent of the reach of what it was; correct?
A. Correct.
Q. And the third method was to mitigate, basically, to the reach, and do that over time -- up to, in this reach, up to 51 cfs?
A. Correct.
Q. And the standard that you mentioned before of certainty applies to any one of these mitigation alternatives; is that correct?
A. Correct.
Q. And is it your view that the ground water users met their obligation in 2005?
A. What they proposed, when they proposed

it, you know, what we finally -- and I don't remember exactly what we finally approved. But what we finally approved would have been based upon a determination that we expected it would provide the equivalent amount of water to curtailment.
Q. And in the after-the-fact accounting, did you find that they provided the amount of mitigation required?
A. I don't recall.
Q. Okay. And then with respect to 2006, what, in your view, happened with respect to the mitigation that was supposed to be provided by ground water users in 2006?
A. I don't recall. I would have to go back and look at the history of what happened. I just don't remember.
Q. Okay. Now, yesterday you talked about mitigation being evaluated in terms of its steady state effects; is that correct?
A. Correct.
Q. So I take it then that the mitigation plans were not to be evaluated in terms of their transient effects; is that correct?
A. I'm not sure that's entirely correct.

You know, in an effort to keep this as straightforward as we could, given the myriad of complexities, the assumption essentially was made that if the effects were equivalent at steady state, they essentially would be equivalent during the transient conditions prior to steady state.
Q. Okay. So the mitigation provided in 2005, for example, 10 cfs, that was evaluated at steady state; correct?
A. Right.
Q. So each of the year's mitigation was to be evaluated at steady state?
A. Correct.
Q. Okay. And then similarly, performance after the fact was evaluated at steady state using the model?
A. Correct.
Q. Now, I would like you to turn to Exhibit 35. I know you weren't involved in preparing this order, because it was issued this year. I want to ask you a question, and see if you can answer based on what your testimony and your involvement in mitigation prior --
A. I have to tell you, I've never seen

this, of course.
Q. You've never seen it?
A. No.
Q. Well, maybe it's better that I just ask you this: The water that would result from a mitigation activity in a year at steady state, as you discussed, would be evaluated over the course of many years; correct?
A. Yes.
Q. So under the mitigation options that you offered, it wouldn't be appropriate to evaluate a mitigation plan only in terms of its first-year benefits, of the benefits that would result from the mitigation activities that occurred in the same year?
A. Well, that isn't the framework that I set up in the orders that I issued, but I'm not prepared to say it would be inappropriate. I mean, the general principle that you are trying to apply is that in any year, if out-of-priority diversion and depletion is going to occur, then the amount of that depletion that causes injury needs to be replaced. And if it's not replaced, then curtailment should occur.
Now, I don't know the context of that

question. But is it inappropriate to do it on the year-by-year basis? Not necessarily. What I did is I looked at mitigation at steady state, under the assumption that each and every year up to steady state, would essentially be equivalent to curtailment.

Q. Okay. So --

A. But that doesn't mean that you couldn't craft a mitigation -- a different type of mitigation on a year-by-year basis through time, address the amount of that particular year.

Q. So the obligation for 2007, for example, you know from your prior order is 30 cfs for the reach that Blue Lakes is in; correct?

A. I believe that's correct, yes.

Q. So for whatever was to be proposed for 2007, would have to produce either at steady state, or during whatever time frame is desired, 30 cfs to the reach; isn't that correct?

A. Well, under my order, it would have had to produce 30 cfs at steady state conditions under the order that I issued.

Q. Now, have you heard the anecdotal evidence the term was used the springs' users -- that I have heard springs' users give

that they observed their springs to decline from the beginning of when the irrigation season starts to occur when the pumps go on?

A. I believe I've heard that assertion, yes.

Q. During your time with the Department, have you or the Department done anything to follow-up and investigate those reports further?

A. We have.

Q. Okay. And what did you do?

A. Oh, boy. It was a study that, I believe it was Tim Luke, that we asked to have done. I think it was Tim Luke. If it wasn't Tim, it was somebody in his section.

But essentially what we did, or what I asked him to do was to install hour meters on the pumps, which would then record the time, the specific time that those pumps went on, and then state the specific time when the pumps went off.

And then the evaluation that was to be conducted to see if we could detect or discern any correlation between when the pumps went on, as documented by the hour meters and measured spring discharged, to se whether there was any correlation in the diminishment of spring

discharge with when the pumps went on. And as I recall, we could not detect any pattern in any spring complex.

But, you know, there were, not surprisingly, right holders that did not allow us to put on hour meters. As I recall, there were some that didn't allow it. And we perhaps could have found some statutory basis for mandating it. But we didn't -- I don't recall that we pursued it. So we put the hour meters on the pumps where we could.

Q. And finally, there has been a characterization of your May 19th, 2005 orders as emergency orders. Is there a statutory or regulatory provision for the issuance of emergency orders by the Department that you know of?

A. I believe so. I'd have to look at the order to see what we cited. You know, I believe that the applicable statutory provision is Idaho Code 67-5247.

Q. Is that referenced in your order?

A. Yes, it is.

Q. At what paragraph?

A. Page 31, the top of the page.

Q. Okay. And the order in any case was, I take it, within the process provided by the Conjunctive Management Rules; is that correct?

A. As I understood the rules, that is correct.

Q. Okay. So if -- it wasn't an emergency in terms of your application of the Conjunctive Management Rules; was it?

A. I'm not sure I understand your question. I mean, the emergency was, we were at the beginning of the irrigation season. The senior right holders needed some certainty as to what was going to happen. The junior right holders needed certainty as to what was going to happen. That was the emergency.

Q. So it was an emergency only in terms of timing? In other words, in the normal administrative process, as you've described it, watermasters administer water rights according to the decrees, licenses, permits without the director issuing an order; isn't that correct?

A. Not in all cases.

Q. But normally?

A. No.

Q. Was it normal for you, while you worked

for the Department, to issue orders before leases go, for example, administer water rights in the Boise?

A. Not in the Boise -- not -- generally, not in the Boise. But in Big Lost, we generally issued an order every year instructing the watermaster how to determine and apply the Futile Call Doctrine. And it was done by order. And it was most every -- not absolutely every year, but most every year we did that.

Q. And you didn't issue an order in the Clear Lakes versus Crystal Springs situation; did you? At least issue instructions --

A. No instructions.

Q. -- an order that was subject to itself appealed by its terms?

A. Sure, it was subject to appeal.

Q. In fact, you were very careful in those instructions to notify the parties that they were instructions related to the watermaster and not an order?

A. Sure. But those instructions still represented a determination, that if an entity disagreed with that determination, they were entitled to a hearing pursuant to Idaho Code.

Q. And do the Conjunctive Management Rules specifically provide the issuance of an order before water rights are administered under its provisions?

A. I think the correct answer there is, no, they don't require that it be done, but they don't preclude that it be done. And so in this particular case, with the string -- string -- with the sequence of delivery calls that had been made, you know, I wasn't precluded from the Conjunctive Management Rules for issuing the instructions in the form of an order. And that's what I chose as providing the most complete possible due process for all involved.

MR. STEENSON: Okay. Thank you, Karl.

MR. SIMPSON: I'm next.

EXAMINATION

QUESTIONS BY MR. SIMPSON:

Q. Karl, almost good afternoon. I'm John Simpson, again, for the record, representing Clear Springs Foods.

Karl, with respect to the investigations that you undertook once the delivery calls were made, and you've recited this morning and then yesterday, the documents you

looked at, flow data, Department files, information available to you. At the time, you completed those investigations, did you believe you had sufficient information and data to make the determinations you made in the orders?

A. I'm trying to think of how best to characterize it. Did we have all the information we would have liked? No. Did we feel that we were required to take action based upon the information we had? Yes. I suppose whether it's sufficient is up for debate.

Q. Well, once you received the information that you had, and you conducted your investigation of the Department files, did you then go back and request additional information from Clear Springs?

A. In all instances, the first response to the delivery call was to request information from the right holder making the delivery call. So I don't know at what point -- did we go back at is later point in time and ask for more information? The request for information was ongoing.

And, you know, any Department staff, senior right holder, Clear Springs, or ground water folks affected by the order, they were all

free to give us additional information at any time that would be pertinent. And, in fact, if that information was supplied and warranted amending the order, we would have amended the order.

Q. But to the best of your knowledge, once the initial disclosure of information, or before the disclosure of information by Clear Springs was made by the Department, the Department did not then go back and seek additional information, or subsequent to the initial order, amend the order?

A. We didn't amend the order based upon any information that Clear Springs would have provided subsequently. But, again, the initial request for information was ongoing in my view, which made any subsequent requests unnecessary.

Q. Do you recall yesterday the testimony you gave regarding the model cells, and the more information and the more results you look across the number of cells, instead of looking at one cell, the more accurate the estimation within a particular subreach? Do you recall that testimony?

A. Yes. I don't know that you completely

accurately re-characterized it.
Q. Generally.
A. But I remember the testimony.
Q. The general testimony?
A. Yes. Uh-huh.
Q. All right. And is that because in a particular cell, that, obviously, the data points that you have may be limited, so in terms of looking at more than one cell across a reach, it may give you a better estimation?
A. A better estimation of what?
Q. Of the results from a model run.
A. Well, the results of a model run are generally better when they are across a sequence of cells, that's correct, rather than from an individual cell. That is correct.
Q. And is that in part, because there are more data points to review to look at in terms of that model run?
A. Well, I suppose in part, but that's not the primary reason. The primary reason is because of the basic assumption where we're representing a nonhomogenous material within a cell, essentially, a homogenous material within that cell.

And so that representation is better across a range of cells, rather than in an individual cell basis. In a particular cell, you may or may not have an observation point. It's likely you would, but you may not have.
Q. For example, in those cells along the river, the likelihood is that there were more data points than there were in cells that were in place in the middle of the aquifer, for example; wouldn't that be true?
A. Not necessarily. You know, an example, you only have a discrete number of stream gaging stations from which the reach gains were computed. And an individual cell in the river may or may not have the stream gaging station.
Q. But a cell, which contained the Canyon wall and back into the aquifer, for example, likely would have more data points if you are looking at data points being ground water wells and the observations there, geologically and water flow data, than a data point -- or excuse me -- the cell in the middle of the aquifer where you may have only one piece of well data?
A. Well, there are places in the middle of the aquifer where there is no well data. I mean,

that's true. And there are other places, you could have a cell where there might be two observation points. I don't know.
Q. But the distribution of well data and measuring points from well data, and geological information from wells likely was greater in cells abutting the Snake River than it was in the middle of the aquifer; wouldn't that be true?
A. I don't know that I would agree with that in terms of the "abutting" thing. I mean, there was more well information, meaning ground water level information, in groupings of cells where there was intense ground water irrigation.
And where there was no ground water irrigation, which exists in large parts of the -- across large parts of the aquifer system, there would have been few observation points. But they wouldn't -- those cells -- the groupings of cells that would have the largest number of observation points, wouldn't have necessarily had to abut and deliver for ground water levels.
Now, for spring discharge, and you only have spring discharge where there are springs that discharge, and that could only exist in the cells in the spring reaches.

Q. Do you recall your testimony yesterday when you were asked a question regarding the source of water to satisfy the Swan Falls minimums of 3,900 and 5,600?
A. I don't recall the question about the source. I recall the discussion about the Swan Falls agreement and the 3,900 and 5,600.
Q. Well, what would be the sources of water to satisfy the Swan Falls minimums?
A. Okay. I guess we did talk about source, as I recall. It would be spring discharge, primarily, with some added component from return flows downstream of the springs.
Q. And in addition to those two sources you identified, would flows that pass Milner also be a component of water to satisfy 3,900 or 5,600?
A. In some cases, yes. In other cases, no.
Q. Explain that, please.
A. Well, the largest flows -- well, I shouldn't even put it that way.
During the irrigation season, the largest flow is past Milner. Presently, I believe, are derived from flow augmentation

rentals by the Bureau of Reclamation, where they are renting storage space -- or not renting space -- but they are renting storage water to be released past Milner for endangered species issues downstream.

Our interpretation, or at least my interpretation of the Swan Falls Agreement, would require that those flows for that purpose, because they are used for hydropower generation within the state of Idaho, be added to the Swan Falls minimum. So in that case, they would not go towards meeting the Swan Falls minimum.

But in other cases, where the rentals are not made for the purpose of hydropower production wouldn't receive any below Milner that would fit -- that would meet that category. I guess there is the bypass flows, the Firth bypass flows at Milner. Those would go -- in my view, would go towards meeting the Swan Falls minimums as a category that would. And I have already given you the category that would not.

Q. Any natural flow that would be appearing in the river below Milner would be counted towards the Swan Falls minimums?

A. No, I wouldn't say that, because here

again, you have the Bureau of Reclamation renting natural flow derived from the nondiversion of Bell Rapids. And that amount that they rent is added to the Swan Falls minimums.

Q. Okay. On Exhibit 61, which is the Clear Springs order. Karl, looking back at Attachment A, would you refer to extensively, and I believe Attachment A is the same attachment for either the Blue Lakes order or the Clear Springs order, and we'll call it the Snake River Farms at this point?

A. Correct.

Q. And that, again, is a graphical depiction of the annual spring discharge in the Snake River and Thousand Springs area.

A. Correct.

Q. Yesterday, the questions in your testimony regarding the flows going from approximately 4,200 cfs up to about 6,800 cfs. With respect to that 4,200 cfs number that's identified in this graph, did you undertake any independent analysis to verify that number?

A. I, myself, did not perform any such analysis. But on several occasions, I asked Bill Ondrechen at the time to go back and make sure

that the method that we're currently -- "we," the USGS is currently applying to determine these cumulative spring discharges is either the same, or at least compatible with the methods that were employed earlier for these 4,200 cubic feet per second.

And as I recall, essentially, the method consists of discrete measurements at a number of springs, but not all springs. And then a weighting factor is applied to the measured springs to calculate an estimated cumulative discharge.

I mean, it's not done just at one springs. You have a whole series of springs, a whole series of weighted factors. And the combination of measured discharge and weighting factors at all the measured springs results in this calculation.

For various reasons, the springs that are used as the discrete points of measurement have changed with time, but so have the weighting factors. But as I recall, the conclusion that Bill came to was that the methodology was consistent and compatible.

Q. But did Bill ever go back and actually

verify the basis for the 4,200 cfs number, or the accuracy of that number itself?

A. I believe he recalculated the number and got -- you know, was very close. His recalculation of it was very close to it.

Q. But he used the same methodology, and the same assumptions that were present for the individuals who originally made those?

A. As best as we could, yes.

Q. Right. But did it independently determine whether that methodology was or was not accurate based upon all the data that might have been available at the time, including but not limited to, irrigation deliveries on the North Side system, or on the North Side of the spring reaches?

A. I won't say that he didn't independently verify the adequacy of it. But that wasn't the focus. The focus -- I mean, it was a USGS technique methodology. We accepted it as being valid. And our question was more to the fact, has it been consistently applied through time, and could we, in fact, go back and reconstruct this relationship? And the answer was, essentially, yes, we could go back and

reconstruct it. Not maybe exactly, but essentially, we could. It was reconstructible.

Q. Do you recall in your testimony yesterday you were asked a series of questions regarding the winter water savings agreements, and the water associated with winter water savings?

A. Yes.

Q. And generally, is it your understanding that that winter water savings water was water that various canals above Milner diverted year round into their canal systems for stock water employed by water purposes?

A. Yes.

Q. And would it also be true that their irrigation deliveries during the irrigation season exceeded what water they continued to divert during the non-irrigation for that stock water employed by water purposes?

A. Certainly.

Q. And so likewise, those winter water diversions would have simply been diversions into the canal systems and not application onto the land?

A. That's generally my understanding. But

I suspect -- I don't have any proof -- but, I mean, I would suspect that there may have been some early -- I'll call it early season irrigation prior to the authorized season of use. And likewise, there probably was some late season irrigation occurring after the authorized season of use.

Q. But generally speaking, that water that was diverted for winter water would have remained in the canal system, but for some early or late irrigation needs?

A. I believe that's the case, yes.

MR. RASSIER: Now, John, this deposition was noticed up for 130 calls; right? And it seems like some of the areas you are going into may not be relevant to the 130 calls.

MR. SIMPSON: Well, Phil, Mr. Budge did ask questions about this. And primarily, on this subject, at least it's related to seepage into the aquifer, and associated changes in aquifer levels with respect to the Thousand Springs reach.

Yesterday, in addition, Mr. Budge did ask questions about Swan Falls, and sources of water to meet the Swan Falls minimums. And that

Swan Falls is an issue that's been raised to the extent to the delivery call in Thousand Springs reach.

MR. RASSIER: Okay. Well, I would like you to keep that in mind, it's 130.

MR. SIMPSON: I want to get done, too.

Q. (BY MR. SIMPSON) With respect to that year-round diversion, generally speaking, if a canal system was open year round, and water was being diverted year round, the losses associated with diversions into the canal system would take that into account; would they not?

That is, the canals wouldn't, as they are done now, have a charging period at the beginning of the irrigation season where losses are greater than they are during normal delivery season?

A. That's correct. However, I would estimate that the total losses over a year, over the entire year from a canal like North Side, would be greater when the canal was used year round, than it is presently, when it's only used, say, six months. Even though the initial losses during charging prior to six months of the usage would be greater than the losses later in time.

But if you look at the total losses over the entire year, I would suspect that they were larger when the canals were used year round than they are now in total.

Q. And any net increase in loss as a result of year-round diversions as compared to how practices are presently, wouldn't you agree, that you would have to subtract out that additional loss that occurs during the charging period for irrigation presently; would you not?

A. Subtract it from what?

Q. Well, the net, the net change in losses?

A. I don't know that you would subtract it out. I mean, the additional losses that occur during the charging of the canal, I would say, would count towards what I have characterized as the total losses during the year.

Q. Okay. And the loss associated with charging in today's practices, was not present during the period when there was winter water savings diversions; is that not true?

A. I would say, that's generally true. But what I don't know, John, is what the effect of losses would be, because of the ice jambs that

I've heard Ted Diehl talk about. You know, you hear stories about people going out with dynamite to blow the ice jambs up. I don't know what that does to the losses in the canal.

If the canal below an ice jamb went dry for some period of time because of an ice jamb, presumably there would be some recharging, perhaps, of that de-watered segment. But whether that would be more or less than if the ice jamb hadn't occurred, or how it compares to today, we don't -- I don't have that.

Q. It's difficult to quantify?

A. Yeah, it's difficult to quantify, I believe.

Q. Would it also be fair to say that, with the winter water savings agreement that did occur, that entities who receive the benefit of those winter water savings agreement procured a better storage supply?

A. The entities that participated in the water savings agreements, did they secure a better storage supply? Is that essentially the question?

Q. Yes.

A. I don't know what you mean by

better. But certainly their storage supply was firmer because of the diversion into storage of water that otherwise would have been used for year-round stock water and domestic uses.

Q. And additional water supply? In the case of North Side, did they not procure a supply in Palisades as a result of the winter water savings?

A. Did they incur an additional water supply, because they agreed to the winter water savings? I would say, that is true, because they wouldn't have gotten the contract in Palisades without it.

Q. Right. So, for example, if North Side Canal Company, assuming they, as a result of the Palisades contracts, obtained 115,000 acre-feet of additional storage in Palisades with a winter water savings priority. That made available to them additional storage supplies that they did not have then prior to Palisades?

A. I agree.

Q. So that in most cases, it would have provided them additional water to be delivered in the irrigation season through their canal systems; would it not have?

A. That's certainly a reasonable conclusion.

Q. Which would have resulted in additional irrigation losses associated with the delivery of that water?

A. I don't know that. And here is why: You know, I know that North Side charges a fixed amount of canal loss per share delivered. But physically, the losses associated with between running the canal at 95 percent, or let's say, 90 percent capacity versus 100 percent capacity, I don't know that the losses associated with that last ten percent are proportional to the losses associated with the first 90 percent.

So it depends upon how this additional storage water is delivered. Is it delivered on top of the natural flow? I mean, North Side is predominately storage, of course.

But how much additional storage is delivered by North Side and when, I think, is what you would have to look at. Because if it was just put on top of what was already there during the same time, it may not have a proportionately greater amount of loss.

On the other hand, if it extended the

season during which the canal is operated, that could increase the overall losses.

Q. Either way, it would have increased the losses? It's just a matter of how much?

A. Correct.

Q. Because every acre foot diverted there has some loss associated with it?

A. I agree.

Q. Okay. With respect to surface water administration, how are the calibrated river gages utilized?

A. Well, I suppose they are utilized in a couple of different ways. I mean, they can be utilized to calculate reach gains, which are then distributed as natural flow. They can also be utilized to track how much of the flow is natural flow versus storage releases. And then thirdly, they are used -- well, it's sort of related to the natural flow. I mean, that is what is distributed by priority to the right holders. So I've already addressed that.

They are also used to do a mass balance from the beginning of the river down to Milner for the purpose of accounting for water use. So natural flow distribution, storage, and

accounting would be the three primary uses of those gages.

Q. So those gages are basically used daily in administration of water?

A. Essentially. Although, you know, they do average -- they do average the gage readings over time, because some of the daily records are suspect. And so to try to, through a process of averaging to try to reduce the error, I wouldn't say that necessarily daily polls are always used. Sometimes it's an average over a three-day, or a seven-day, or whatever the average would be.

Q. And in the use of those calibrated gages on surface water administration, as a part of that administration is a clip or a ten percent accuracy calculation factored into that administration?

A. Not in the context that you are asking. I'm going to answer it a couple of different ways. I'll bifurcate the answer; okay?

Q. Sure.

A. But along the main Simmons Snake, for example, unless there is a systemic gage error, which would cause the uncertainty to essentially be biased one way or the other, the assumption is

made that the plus ten percent and the minus ten percent on errors, if you will, cancel each other.

Now, having said that, that isn't what we did using the ground water model, nor is it what we do when we use surface water gaging, or surface water measurements in determining futile cost.

So, for example, in the Big Lost River, generally did we have to make an annual determination of at what point does the senior call downstream become futile against the juniors upstream? And at what point do we allow the juniors upstream to divert out of priority? It's a fact specific determination that's made on typically a year-by-year basis.

But it's somewhat analogous to what we did with the ground water model. In that if the juniors at the upstream end -- and I'll just use 100 cfs, that's a hypothetical illustration.

If the juniors at the upstream end could divert 100 cfs, but if they were curtailed, 10 cfs might reach the downstream senior. How certain is that 10 cfs? And we have made determinations in that instance in the similar

situation where we would say, the 10 cfs was not certain. And therefore, the call was futile and we allowed the juniors to divert 100 cfs.

So, essentially, we've clipped the junior use in this hypothetical to ten percent. But, in fact, that is a procedure that we do employ, at least in the Big Lost River in dealing with futile calls, which purely was essentially a surface water determination.

Q. And within Water District 01, once that water is in the river, once -- whether the source is from snow pack melt, or from reach gains, we'll say, above Blackfoot, once that water is in the river, it's administered by the gage reads --

A. It is.

Q. -- to be delivered to the surface water user --

A. It is.

Q. -- is it not?

A. It is.

Q. So there is no reduction or uncertainty placed upon that delivery to a surface water user?

A. There hasn't been, but I would not be surprised to see the issue raised someday when a

junior faces curtailment.

You know, again, I'll go back to not -- yesterday's discussion on this. But in Water District 01, since you've used that as an example, you've got something that's available that's not available to the spring users. It's not available to the ground water folks, generally, in that storage. And storage can cover a multitude of errors.

Q. Yesterday you discussed the application of a ten percent clip that is basically the line by which if someone was outside of that ten percent line, they were not subject to administration?

A. For a particular call. But you know, sometimes some of those people that were outside the line for one call were not outside the line for another.

Q. I agree that there could be overlapping lines or intersecting lines with respect to that ten percent line.

Would you agree, though, that if you added up those rights that were outside of a line for a particular call, it could amount to a substantial amount of depletions being caused

upon the source that is the aquifer?
A. I haven't done the calculations, so I don't know. But remember that at least in terms of administering a delivery call, the issue isn't depletions to the aquifer. The issue is depletions to the hydraulically connected reach where the injury has occurred.
Q. But to the aquifer, there may be some substantial depletions to the aquifer as a result of the junior ground water pumping that's occurring outside of that ten percent clip line?
A. I don't know. We never -- I don't recall if we ever made the determination.
Q. You just never looked to see the number --
A. Right.
Q. -- or the volume of rights of the depletions occurring upon rights that were outside of those lines?
A. Not directly. Although, you know, I believe that there were some model simulations done early on with the clip and without the clip. But the purpose wasn't to see how much depletion of the aquifer was being excluded with the clip. The purpose was to see what kind of difference

did it make in terms of the hydraulically-connected reach where injury is occurring.
Q. Okay. Depletion to the hydraulically-connected reach?
A. Yes.
Q. And with respect to the reach that is subject to the delivery calls that you've been testifying to here, were the ground water rights associated with Water District 120 within or outside the ten percent line?
A. I'll have to look. I don't remember offhand. Let me look at the order, the Blue Lakes order. I don't know, John, can you help me with finding where that's dealt with?
Q. Well, the closest I could probably come, Karl, would be at the bottom of page 38 of the Clear Springs order. It cites on page 38, it says, "It is further ordered that no additional curtailment of a diversion and use of ground water under water rights within Water District 130."
So your order did not describe, at least in that paragraph, that any water rights in 120, 110, or 100, or other water districts would

be otherwise subject to curtailment.
MS. McHUGH: There is --
THE WITNESS: And I'm having a hard time finding it.
MS. McHUGH: Is it perhaps around 96 of the Clear Springs order?
THE WITNESS: Yes, Candice is correct. In Finding 96, it's very specific. "Based on the Department's water rights database and simulations using Version 1.1 of the Department's water model for the ESPA," et cetera, "the diversion and consumptive use of ground water under water rights having priority dates later than the priority dates for Water Right Nos. 36-7083 and 36-7568 in Water District 120, and which have steady state conditions reduce spring discharge in the Devil's Washbowl to Buhl Gage spring reach by more than ten percent of the amount of depletion."
So the clip was applied to the simulated curtailment in 120.
Q. So, in essence, Water District 120 ground water rights were found to be outside of the clip line?
A. Correct.

Q. Would you acknowledge that the ground water rights within Water District 120 represent a substantial depletion to the aquifer?
A. To the aquifer, but not necessarily to the hydraulically-connected spring reach and the spring reaches in the Thousand Springs area. The depletions from ground water diversion and use in 120 occur mainly to the hydraulically-connected reaches of the Snake River above Blackfoot -- or not Blackfoot, but above, essentially, Neeley.
Q. Yesterday, do you recall your testimony regarding your justification under the Conjunctive Management Rules 40.01.A regarding phased-in curtailment?
A. Yes.
Q. And would it be accurate to state that in your view, the phased-in curtailment in this case was justified given the requirement of providing notice to water rights and water right holders of the potential curtailment of their rights if mitigation was not provided?
A. I may not have understood the question, but I'll try to answer it the way I understood it.
The provision for phased-in curtailment

in Rule 40 -- whatever the number is -- is to provide an orderly transition on an economic basis. I never viewed it as being used to provide notice of potential curtailment. I didn't view it that way. The notice for potential curtailment was to be provided, and I think was provided, directly by the watermaster through letters that were sent to individual right holders.

Q. So it was purely an economic issue with respect to those rights that might be subject to curtailment if mitigation was provided?

A. That's my view. And, of course, it's provision rules. It was not a provision that I used absent some basis in rule. It was discretionary. And even though it was discretionary, and I could have chosen not to phase-in curtailment, I chose to phase-in curtailment initially with the plan had I been allowed to see this through of working towards administration without the phasing.

But in the initial application of this, I thought it was appropriate given it was provided for in the rule. But we were -- from my perspective, had I been here, we were clearly

headed towards a more -- I'll call it perfunctory system of administration more similar to what occurs currently in surface water systems only.

Q. Would you agree that once you found material injury, and then chose to phase-in curtailment to alleviate that injury, the senior was still incurring injury during that phased-in period?

A. Potentially, yes. On the assumption that the shortages that the senior was experiencing were going to continue. The senior was incurring an incremental amount of injury, because the curtailment of mitigation was phased-in, not applied immediately. And I agree there was some incremental amount of injury that occurred.

Q. Generally, do you understand that once you find injury that it's your job to deliver water to alleviate that injury to protect the senior water right holder?

A. I believe the senior has to make the call, has to make the delivery call. And, again, that has become pretty perfunctory in long administered basins like the Boise River and the Snake River. So I don't believe that it's the

director's responsibility to just simply go out and begin curtailing rights, because the senior might not have sufficient water for his needs. I think he has to call for it.

Q. Certainly. But at least, initially -- but once you make an injury determination, do you believe you have the authority not to remedy that fully intended injury?

A. Well, when you look at the entirety of the body of law, including the rules, that authority was conferred through the rules and through their confirmation of the legislature.

So I think I could answer at this time the opposite way saying that, given that the rules were confirmed by the legislature, didn't I have a responsibility to consider phasing in curtailment, even recognizing that there could be some incremental additional injury incurred by the senior?

Q. Incremental injury that was not being remedied by your actions?

A. That's correct.

Q. But for the rule, this particular rule, would it be your view that you have the duty to

remedy such an injury once you make that finding?

A. Again, I'll answer it differently than you asked it. But for this rule, did I think the authority existed to phase-in curtailment, and the answer is, no.

Q. In your implementation of this rule consistent with your duties to deliver water by priority, did you give consideration to the potential that there could be phased-in curtailment along with other measures that would result in the senior being fully mitigated?

A. I don't know what those other measures would be. You know, the Department's authority extends only to the distribution of water, or approval, administration, whatever you want to call it, of mitigation plans that provide like amounts of water in kind, in place, in time.

So I don't know what other things could have been done. I mean, can a senior accept out-of-kind mitigation for injury? Yes. Can the Department require out-of-kind mitigation for injury? I don't think so. Can the Department administer out-of-kind mitigation if it's accepted by the senior? Yes.

So back to the phased-in curtailment.

If I believe that the person in the position that I was in can only deal with water, and you are phasing in mitigation, I mean, I don't know how you can compensate with water for water that isn't being provided.

Q. So other types of mitigation were not contemplated by you when you applied this rule?

A. I didn't find any authority to require other kinds of mitigation.

Q. With respect to the data that was provided to you, and obviously, those that are described in the Clear Springs order, and the attachments that you attach to that order regarding water flows, does that data give you any indication as to whether a natural event would likely occur in the future, which would essentially provide a full water supply to the Snake River Farms facility or the Crystal Springs facility?

A. It doesn't give any indication that a natural event will occur, nor does it give any indication that a natural event wouldn't occur. But it would have to be a pretty extraordinary event to completely make-up the shortfall in available springs discharge.

Q. Well, let's just use on the Snake River Farms, Attachment C to your order on Exhibit 61.

A. (Witness complying.) All right.

Q. Just looking at that graph of the data that you produced as a part of your order, would it be fair to recognize that the 1997, '98 water supply year was a fairly good year?

A. Sure, '97 was a pretty good year.

Q. And in looking at this graph, based upon that water supply year 1997, which I'll represent to you was a substantially above-average water year.

A. Yes.

Q. Can you identify in this graph the response in these spring flows to that good water year?

A. Oh, only in a qualitative sense, I suppose. But if you look at what was happening up until 1997, generally the peak discharge was progressively getting lower and lower for the most part. And as was -- there are some exceptions, for the most part. As was -- there is some exceptions, but for the most part, as was the low point in the spring discharge. But then there is a period of time after 1997, say, from

'98 through 2000, where it appears that this spring discharge stabilized. Before then, again, in 2001, additional decline is being evident.

And given, you know, just as the effects of ground water depletions that are further removed from the spring area, just as those take time to manifest themselves, so would incidental recharge associated with an abundant water supply take time.

And so I think what you are seeing -- I mean, this is qualitative assessment, I think you can -- one reasonable conclusion would be that the stabilization you saw, 1998 through 2000, may have been the result of the abundant water year in 1997.

Q. So from a qualitative standpoint, if we had in 2008 another year like 1997, what we might expect would be another stabilizing event to occur?

A. Mm-hmm.

Q. But it would not lead one to the conclusion that the flows available for Snake River Farms would meet their decreed water right --

A. Correct.

Q. -- of approximately 117 cfs?

A. That's correct.

Q. So hence it would be difficult to envision a water year, which would do something more than simply stabilize the flows that are available to them?

A. That's correct. That's why the order for Clear Springs and Blue Lakes both was structured to require essentially ongoing curtailment or mitigation from here on out.

I mean, there was a provision that, yes, hypothetically things could change. But if they don't, you are looking at ongoing curtailment for mitigation, period.

Q. And based upon the data that we just looked at, it would, again, be difficult to envision what the change that would occur that would result in the delivery of their water but for curtailment of junior?

A. Agreed.

Q. Again, referring to that exhibit, would the variability of the peaks and valleys be as great if there was no ground water pumping?

A. I think I would have to say, I don't know. Because we don't -- you know, the same

problems that we discussed or debated during questioning from Mr. Steenson, the information simply doesn't exist to quantify the variability prior -- at least I'm not aware that it exists -- to quantify the variability prior to a substantial amount of ground water being developed.

Q. But we know that ground water pumping does impact the flows available to Snake River Farms, for example?

A. It does.

Q. Karl, when you first came to the Department in the mid 1990s, and yesterday you testified regarding your commencing a review of the Conjunctive Management Rules. Did you rely upon anyone within the Department to provide you insight on how those rules were not implemented, but drafted and adopted in the sense of what the Department intended or would intend if implementing those rules?

A. Yes, I had discussions along those lines with Mr. Rassier and Norm Young at the time.

Q. So those would have been, essentially, the individuals that you would have relied upon

of gaining an understanding of how the rules would be implemented?

A. No, because neither of those individuals had ever been confronted with actually implementing the rules.

Q. But they were involved in the rule-making process, and the drafting of the rules, and the language that was -- the language that was inserted into the rules in terms of the intentions regarding that wording?

A. Yeah, I don't know. Because when I asked the question, I remember this -- asking, because I asked the question to Norm Young, to John Rosholt, and to Jeff Fereday. But in particular Norm Young, I was interested in, you know, what kind of involvement did he have and others in the Department in writing the rules. And what he told me is that my predecessor, Keith Higginson, largely wrote the rules himself.

Q. Without any input from Mr. Rassier and Mr. Young?

A. With limited input. I wasn't here, so I don't know the extent of the input that was provided. All I know is that from Norm's description, it was limited.

Q. But from that standpoint, those Department employees would have been the ones with the most understanding or the greatest understanding or experience regarding what Mr. Higginson intended?

A. I believe so.

Q. Yesterday, do you recall your testimony regarding the issue of reasonable diversions, and that testimony regarding the investigation by the Department at your direction with respect to the Crystal Springs facility and the Snake River Farms facility?

A. Yes.

Q. And you asked or requested that Brian Patton and Cindy Yenter go out and physically investigate those diversion structures and the surrounding facilities associated with Crystal Springs and Snake River?

A. Correct. And as well as to identify any alternatives that they saw that could provide additional water to the facility.

Q. And that was part of the investigation the Department did, along with your investigation regarding the feasibility of horizontal or vertical wells in the geological structures

associated with the areas around those facilities?

A. No. The consideration of what would happen with horizontal wells was made, I'll say, several years -- because I don't recall the exact number -- but several years in advance of the delivery calls being made.

In fact, that consideration was done during the time period under which we were attempting to negotiate resolution under the interim stipulated agreement, that's the time frame that we looked at the horizontal wells.

Q. In the 2001, 2003 period?

A. Yes.

Q. That investigation, that background information was information you considered during your drafting of these orders?

A. Well, I considered it to the point that I didn't view it to be a viable alternative.

Q. But did factor into your determination of whether or not the diversions were reasonable --

A. Yes.

Q. -- and what actions you would or wouldn't order?

A. Yes.
Q. With respect to Snake River Farms, I believe Ms. Yenter or Mr. Patton found that the diversion box associated with Snake River Farms facility was in some what disrepair. Do you recall that finding?
A. I do.
Q. And do you also recall that Clear Springs fixed that diversion box?
A. I do, and they fixed it rather quickly, as I recall.
Q. To the satisfaction of the Department; correct?
A. Correct.
Q. With respect to Crystal Springs, the investigation by Mr. Patton and Ms. Yenter identified that there was the potential for Crystal Springs to extend their conveyance and delivery system; is that correct?
A. That's correct.
Q. And by identifying that issue in the order, did you contemplate that --
Well, what did you contemplate in terms of their subsequent actions to that order?
A. Whose subsequent actions; Clear

Springs?
Q. Clear Springs.
A. As I recall, I anticipated that Clear Springs would perform some sort of a feasibility assessment, and that they might or might not share that information with the Department. But presumably if it was feasible, that they would implement that to gain the water that they claimed they needed.
Q. And in that feasibility study, did you contemplate that they would determine whether or not they could gain access to cross private property to gain access to additional flows?
A. As I recall, it was not private property. It was property owned by the State of Idaho, and that there was a statutory provision for access, as I recall.
Q. And if that property was subject to a lease to another entity, another party, would that preclude access?
A. Not necessarily, because I don't believe that the lease would be in compliance with that statute if it was an exclusive.
Q. Generally, when someone looks at the ability to access property under the condition

that you provided, would trespass be a limitation to accessibility to water?
A. Yeah, I suppose it could be. But there are also other approaches under the law, condemnation-type approaches that perhaps would be viable to resolve the trespass issue.
Q. That one party would try to institute an action to condemn other property owners?
A. For the purpose of delivering by constructing water delivery facilities. I think that was an option, but I don't think that was contemplated or necessary in this case, because of the fact that the land was owned by the State, and I think, access to it was grantable, if not granted, by statute.
Q. Would that type of action, condemning another's property, be an action that you would contemplate in the future use, would have contemplated in future use of this provision?
A. Not necessarily.
Q. At another facility?
A. No, because we looked -- in identifying that alternative, we looked at the case-specific facts that existed, including ownership of the land.

Q. In your view, when does water that seeps into the ground become subject to appropriation?
A. When it's no longer in the control of the right holder that appropriated the water in the first place.
Q. When it drops below the root zone?
A. No, I wouldn't -- I would say, when it's no longer in their control, and that may be above or below the root zone.
Q. How does water remain in one's control when it drops below the root zone?
A. If it drops below the root zone, and it hasn't intermingled with the underlying ground water, it's potentially capture-able through, I'll say, a system of drains, or potentially a well. It could be -- I would say, it remains under their control, until it's commingled with the public supply, and that applies both in a ground water sense and a surface water sense, in my view.
Q. Okay. So then what does "commingle" mean?
A. Well, in the case of a ground water situation, if the depth to ground water is 100

feet, the water that's migrating towards the public ground water supply, in my view, wouldn't be deemed to be commingled with the public supply until it reached 100 feet.

Q. So once it connects with or interacts with the public supply?

A. Yes.

Q. Is water that is not diverted and beneficially used, is it water that's wasted?

A. Not necessarily.

Q. Is there the opposite of beneficial use waste in terms of a diversion?

A. I hadn't thought of it in those terms before. Let's see. The opposite of beneficial use waste? I'm going to say, not necessarily. And the reason I say that is, I think you could construct a situation where you could divert water that would be nonuse, but it wouldn't necessarily be waste.

Q. Operational losses --

A. No.

Q. -- for example?

A. No, I'm thinking of actually -- I mean, it's been -- since been resolved through adjustments of law in Colorado. But the issue

was, could -- initially a city was diverting water for non-consumptive recreational use, and the diversions were occurring whether there was or wasn't recreational use.

So there is a situation where there is nonuse. Was it waste? I don't think so. It was perhaps an unauthorized diversion, but it wasn't waste, because the water was not consumed. It was returned to the source before it affected the source or any subsequent junior. So, I mean, I think it comes down to a fact specific basis.

Now, operational losses, are those wastes? If they are necessary to incur to deliver the water that's beneficially used for irrigation, in my view, that's not waste.

Q. So the water that seeps into the ground as a result of the conveyance and application of water to beneficial use on the lands, is that waste, or is that operational losses?

A. It's generally not waste, but hypothetical, where it could be waste. Let's say that you've got a canal that has a capacity of, I don't know, a thousand cfs for round numbers. And it crosses a fault zone or other zone that has a high permeability. And of that 1,000 cfs,

they lose 900 cfs. I'll make it extreme. And they continue to deliver the 100 cfs beyond the location where the significant loss occurs. I think it would be wasteful for that canal to continue to operate in that setting to deliver 100 cfs.

So can canal losses be wasteful? Yes. Are they necessarily wasteful? No.

Q. With respect to the work done on the model, the re-calibration of the model, and then the modeling scenarios that were run, were those scenarios that were run, were they done in anticipation of administration?

A. Prepares early on. If you'll recall during that time period, and this would have been prior to the delivery calls being made, there were some specific scenarios that were outlined in collaboration with the technical advisory committee that had been formed looking at curtailment scenarios back to certain priorities, and what would happen, what would the response in the aquifer and the river be under those various scenarios.

And so by that point in time, we were beginning to look to use the model for

administration purposes.

Q. Right.

A. But consistent with what I said yesterday, from the very beginning of the reformulation, re-calibration, at least part of my intent was to develop a tool that I could use for administrative purposes, not if it became necessary, but when it became necessary.

Q. So the curtailment scenarios, and even to some respect the straw man scenario, and the various scenarios that were run that associate with the straw man scenario, all those scenarios that were done in connection with the IWRRI group in the modeling committee, were done in anticipation of looking at potential administrative actions that might take place?

A. Or management actions. It was really a set of scenarios that were aimed towards the administration. They were a set of scenarios that were aimed towards trying to identify better opportunities for management.

Q. Management/mitigation opportunities?

A. Not necessarily mitigation. You know, at that point in time, there was considerable discussion underway with legislators and others

about what the state might be able to do to avert the type of crisis or conflict that we currently find ourselves in.

Q. So with respect to the A & B scenario, was that an administrative scenario that was run?

A. No, it was not. That scenario is, I guess, a little different than the administrative scenario or the management scenario. You know, we knew, obviously, the ground water levels below A & B were followed. We knew. There is no question about that. But we didn't necessarily understand why.

We didn't know if it was the extensive use of ground water by A & B itself, or if it was the use of ground water in surrounding areas. And so that scenario was run as an initial step in beginning that investigation and that consideration.

Q. And so is that scenario sufficient to be utilized in the context towards the next steps for administration?

A. I don't know that I'm in a position to answer that.

MR. RASSIER: I think this is an area isn't it, John, that's going beyond what Karl was

noticed up for? It's certainly beyond what Randy ventured into.

MR. SIMPSON: Well, it's a discovery deposition. It's not cross-examination of what Randy went into.

MR. RASSIER: It's in spring calls.

MR. SIMPSON: It's in Water District 130, so I think that's --

MR. RASSIER: Okay.

THE WITNESS: I don't believe I can answer that, because that was a scenario, a hypothetical scenario that was constructed before A & B made a delivery call. As I understand, they made one. I haven't seen it, but I understand that one has been made.

And so I don't know that I could even respond whether or not that scenario is or is not usable for administration purposes when it was developed and run prior to the delivery call being made, because it was not done with the intent of addressing a delivery call. It was done with the intent of better understanding of what was happening.

Q. (BY MR. SIMPSON) To understand whether or not A & B, the declining ground water levels

below A & B were a result of A & B's pumping or the result of pumping by others?

A. Well, it wasn't just that. That certainly was a central aspect. But, I mean, we were trying to better understand why ground water levels below A & B were declining to the extent the model would help us do that.

Q. Karl, in your view, does this phased-in curtailment progressive mitigation satisfy the requirements of mitigation in time and quantity and place?

A. Well, that's the measure as to whether it's acceptable. But it is phased-in, so it does not address the incremental injury that we talked about earlier. And certainly, there was incremental injury that is not being mitigated through phased-in mitigation.

Q. When you use the phrase "insignificant," as it relates to insignificant effects on the water available discharging into certain spring reach ten percent clip, for example -- what criteria did you use to define "insignificant"? Was that the amount of water that was available to water users within that particular reach?

A. It was. And I can't recall. I would have to look back at the scenarios. But it strikes me that in some of these instances, you know, the model might predict an increased reach gain of one-tenth of a cfs in a spring reach that's being shared by a number of very large spring diversions.

I would question -- I mean, the one-tenth of a cfs may be real, but I would question whether it would be significant in that setting. Now, obviously, if your water right is to use .02 cfs, .1 cfs would be significant.

Q. If as a result of inputs into the ESPA water in reaches of the Snake River below Milner became available in excess of what was there at the time under the appropriation, that that water was not -- excuse me -- but the right wasn't fulfilled, could a senior divert that water?

A. State it again for me, please.

Q. Okay. If, as a result of inputs into the aquifer, that is tributary underflow precip, recharge to the aquifer, natural or artificial recharge, spring flows increased. And if the flow is increased beyond perhaps what had been there historically, would a water right holder

who had previously acquired a water right, have the right to divert that water?
A. Up to the maximum amount authorized under their water right, yes.
Q. Would they have preference by priority over that water over a subsequent diverter or a subsequent right?
A. Diverting from the same source, yes.
Q. How about diverting from a different source, but a source that is hydraulically-connected?
A. That gets more complex. And I would have to say that, I don't know that there is a plan answer. You know, in general, if additional water comes available in the source, the existing rights have the preference in accordance with their priority to divert and apply that water to beneficial use up to the limits of their water right.
Q. So if that additional water was not available because of a junior's diversion of that water in the source or connected sources, that junior should be administered; correct?
A. State that one again.
Q. So if that water is not available in

either the source or connected sources, and it would otherwise be available to that senior, should the juniors be administered?
A. If the senior is in the position of needing the water and needing to apply it to beneficial use, generally, the answer to that would be, yes.
MR. SIMPSON: That's all the questions I have. Thank you, Karl.
MR. MAY: Could we take a break for just a moment? Would that be all right?
THE WITNESS: Sure.
(A recess was had.)
MR. MAY: If we could go on the record, please.
EXAMINATION
QUESTIONS BY MR. MAY:
Q. Mr. Dreher, my name is J. Dee May for the record. And I represent Rangen, Inc. We have been allowed to intervene in this particular action. I have just a few questions, if I might ask.
A. Okay.
Q. I believe in answer to a question from Mr. Budge yesterday, you had indicated that the

Department does not have the authority to go behind a decree; is that a correct statement?
A. Correct.
Q. Okay. I believe that Rangen's Second Amended Order has been marked as Exhibit No. 79. And I wonder if you could access that.
A. (Witness complying.) Okay.
Q. And if you could turn to page 14 of that second amended order, paragraph 62. I'll indicate to you in that paragraph, as you can see, that Rangen has Water Right No. 36-07694. Would you agree that it was licensed on September 19th, 1985 with an authorized diversion rate as 26 cfs?
A. As far as I know, that's correct.
Q. Okay. And in this second amended order, there is a reference in paragraph 63 that based on available records, there was not water available for the appropriation at the time or subsequent to the date of the appropriation for that particular water right.
Can you tell me what available records that decision was based on? What you are referring to in paragraph 63?
A. This would have been records in two

sources. The earliest records would have been in the water rights file. And, again, I don't have that, so I can't show you exactly what's there. But that file is available, and it does have what records are available from the early time periods.
And then the second set of records is similar to what we've been looking at for Blue Lakes and Clear Springs, you know, that beginning in 1995, I believe Rangen, along with the other spring users began reporting regularly their diversions of water to the Department.
And so I couldn't find any record from any time period that there ever was that quantity of water available for diversion. And, in fact, did find --
Q. Did you find any records that it was not available?
A. Yes.
Q. And what were those?
A. Well, it was the estimate of the watermaster. That the water was -- I don't recall exactly what was on his notes. I don't recall exactly. But on the notes that are in the water right file, there is some cryptic notation

that the watermaster put in there.
Q. And that's it? That's the only -- that one time, that one note from Mr. Lemmon?
A. No, that note is what the license is based on. It's based upon predicted spring discharges that were predicted five years in advance before the permit was applied for.
Q. Was that licensed water right later decreed in the SRBA?
A. Yes, it was.
Q. If you would look, again, at paragraph 63, there is a sentence that indicates, "Nonetheless, since the SRBA District Court decreed the water right, Rangen may be entitled to divert water under this water right when such water is physically available. However, because the water is not available to appropriate on the date of the appropriation, Rangen may not be entitled to have a delivery call."
Can you tell me why that was even important if, in fact, the Department does not have the authority to go behind the decree?
A. It probably wasn't that important in terms of this particular order, but it was included to identify a potential legal issue, not

so much identify for the benefit of the Department, but for the benefit of Rangen, and the ground water users that may have to resolve this someday.
And that's why it's all qualified. This says, you know, Rangen may be entitled to divert water under this right. I think as long as the decree is in place, you do have the right to divert water under the right.
I mean, this is very unusual how this all happened. And given the way it happened, I think the Department -- and I may be wrong, which is fine. I've been wrong before -- but my view is that the Department had some discretion in how to administer that right, or administer rights that were junior in priority to that decree.
Q. Now, I know that you signed the order, Rangen's Second Amended Order that we're referring to. And in that order, the determination was that Rangen's call was futile?
A. Correct.
Q. Was that determination yours?
A. Yes, it was.
Q. Was it based on reliance, other than on the records, on anybody else's suggestion to you,

or was it strictly your decision alone?
A. You know, I certainly sought, I'll say, reaction to that proposed determination. But the determination was mine. It was mine alone.
Q. Can you explain, reaction from whom; anybody?
A. Well, I mean, I consulted with Phil. And I was trying to think who -- I think Norm had retired by then. He must have. Because I questioned him later about why -- he signed the license, Norm Young did. And I questioned him, why did you sign the license? Again, from my perspective, I understand your client doesn't share that perspective. I didn't -- it wasn't clear to me why he would sign a license based on a predicted quantity of water that wasn't actually measured as being available, diverted, and applied to beneficial use.
Q. What did he say?
A. He had no answer. He said, I can't explain.
Q. Was Rangen's Second Amended Order one of the emergency orders that we've been talking about here? Was it done on an emergency basis like Blue Lakes and Clear Springs?

A. It was not. And the reason it wasn't is because there was no action -- I mean, it didn't contemplate any action that would benefit Rangen, or perhaps be detrimental to the holders of junior rights. So I didn't see the need for the emergency basis.
Q. If I could just talk about the modeling for just a moment. If I understood correctly, your testimony was that there was some speed involved in getting the modeling put together for use with these orders; is that true?
A. Well, we'd been at the model development for, gosh, I don't remember. Certainly, two years. And probably more like three years by this point in time. And I could see this all coming. I could see it was headed right at me. So, yeah, I was very interested in bringing the model development to a reasonable conclusion. But, you know, having said that, you've got to be right. I mean, the model had to be as right as we could make it.
Q. If you had more time, would it have been more accurate?
A. Oh, I don't know that. How do you improve model accuracy? Well, you can improve

assumptions. You can increase the amount of data you've got to calibrate to. You can maybe get data that represent different conditions that you can calibrate to. So, I mean, you can always improve a model with more information. And more information usually requires more time.

But, I mean, having said that, this is one of the best ground water models -- probably, the best ground water model I've been exposed to.

Q. Did anybody on the committee or on your staff indicate, we need to slow down? We need to slow this down, so that we can make this more accurate?

A. No. In fact, the contrary, there were people on the committee that said, we've been at this long enough, it's time that we begin to do something about the problem.

Q. So it was you that tried to slow it down then, or --

A. No, I wouldn't say I tried to slow it down. I mean, I was interested in bringing it to completion. But I did not exert any, you know, top down pressure to get it done. You know, I continued to participate. I continued to encourage progress. But I didn't say, look,

you've got until this date, and then we're going to go with it. We never did that.

Q. The conclusion being in this order that if all the wells were shut down, that the Thousand Springs to Malad Gorge Reach would only get a five cfs increase?

A. Yes.

Q. Was there ever any investigation done or research done to see how that five cfs would have impacted Rangen's facility and their ability to operate at a profit?

A. I don't remember what other diversions are in that reach. I don't recall that Rangen -- I mean, my recollection is that Rangen was not the only diversion. So unless Rangen made some agreement with other people not to divert the increased water supply available, Rangen would have gotten a very small portion of that.

And, you know, we wouldn't -- that doesn't -- we normally would not look at the financial aspects of whether that would really make a difference. We stick to the water issues. And that five cfs spread among the reach and the various diverters there just really did not seem

to be all that significant. But there is room for disagreement.

MR. MAY: I don't have any other questions. Thank you.

MS. McHUGH: Can we go off the record?

(Discussion held off the record.)

EXAMINATION

QUESTIONS BY MS. McHUGH:

Q. I just had a couple of follow-up questions.

A. Okay.

Q. Do you know of any changes in the North Side Canal Company that may have affected seepage from the canal as it relates to maybe spring users?

A. Yes and no. I don't recall what order it's in. But, you know, I did talk with Ted Diehl off and on over the years about what North Side was doing in terms of canal repairs and reducing leakage. And there was a period of time that they were particularly more aggressive in terms of trying to repair problem areas in the canal to reduce the amount of loss.

And I mean to the point to where at one juncture, I don't remember what the time period

was. But essentially, Ted Diehl expressed the belief that the actions in repairing the North Side Canal reduced the water that was available to Munser and resulted in the Munser call. You know, I wasn't here then. I have no way of knowing whether that's an accurate representation or not. But it is a representation that he made at one point.

In one of these orders, I made an attempt to see if there was any correlation between the specific dates, at least in terms of years, that Ted Diehl identified as making significant repairs, and whether that correlated with any reduction in spring discharge. And, you know, I don't recall if there was any -- I don't think there was any strong correlation, but there was -- possibly is correlation. But that's as much as I recall about that.

Q. And do you recall that it's in the orders, or it was just done as part of the analysis leading up to the orders?

A. No, I -- maybe my recollection is flawed. It could be. But I thought I put it in there, because I just almost can picture the finding in my mind that set forth the dates

and -- but I don't remember anything more than that.
Q. In your order, is there any expectation of when the water curtailed will appear in any specific reach?
A. Yes. In these orders dealing with the delivery calls from the spring users, we don't talk about the transient conditions directly. But certainly the model simulations that were used to simulate curtailment, some of them at least would have involved transient results that would indicate how much water would accrue each year during the curtailment up to steady conditions.
However, and I know it's not the subject of this current effort, but I believe that in the Surface Water Coalition order, there is more of a description about the transient benefits that would occur.
Q. Do you know, generally, what the priority dates are of the wells that are closest to the springs?
A. I did at one time. I don't recall what those are. But at one time, I asked that specific question and had a -- I don't remember

if it was a memorandum. It probably wasn't a memorandum. I got some documentation that identified the band, the priority band of the most significant numbers of wells above the springs. And I just don't recall what that is.
Q. And you don't recall if they were generally junior or generally senior?
A. I don't. I can't --
Q. And do you remember the person --
A. Senior to what; to the users?
Q. To the springs making the call.
A. I don't recall.
Q. Do you remember the person that you asked to provide that documentation?
A. It may have been Jeff Peppersack. And if not him, his predecessor, who I don't remember his name.
Q. You would believe it still exists somewhere potentially, even though it was just --
A. Potentially, but I don't know, because it was never -- I don't think it was ever formalized into a memorandum that would have been put into our system. It was just an inquiry. It was out of curiosity more than anything, as I

recall.
Q. I think you testified earlier today that a 90-percent conveyance loss would be considered wasteful, or you would consider it wasteful. Am I characterizing that correctly?
A. Well, I used it in the context that I just made that. And I constructed a hypothetical into which canal diverted a thousand cfs, and lost 90 percent of it at one location. 90 percent loss sounds wasteful, regardless of where it's occurring.
But, again, usually you have to make those determinations on a case-by-case basis. So I would be uncomfortable saying that, you know, 30 percent is wasteful, but 29 percent isn't. I mean, it just depends on the facts that follow.
Q. Okay. Is a water user entitled to approve their efficiency?
A. Yes.
Q. And if a junior user relied upon the runoff prior to the improved deficiency, could they call for its continuation?
A. If what?
Q. If a junior relied on the runoff that resulted prior to the improved deficiency, could

the junior call for the continuation of the less efficient method?
A. Okay. What's confusing me there is the term "runoff." Normally I think of runoff as being snow melt.
Q. Return flow.
A. Return flow. Okay. Now, restate the question using "return flow."
Q. Okay. If a junior relied upon the return flow that occurred prior to the improved deficiency, could they call for the less efficient method to continue?
A. No.
Q. Is there a parameter when looking at futile call, for example, where you would determine that the resources are being wasted if the delivery call was enforced?
It's not the best question, but I think you get my meaning.
A. Well, I'll go back to the example I used in somewhat hypothetical in a real setting. The Big Lost example where the juniors upstream could divert 100 cfs. And if they were curtailed 10 cfs, may or may not make it down to the seniors. I think some, and probably I would be

included, would tend to view enforcing that delivery call a waste of the resource given that 90 percent of the water available -- and, again, these are not hard numbers, they are fact specific -- but 90 percent of the water that was available wasn't used, and it was lost to the underlying aquifer system, and not re-diverted to wells or anything else for beneficial use.

So, you know, that wouldn't -- does it rise to the level of waste? Maybe not. But it certainly would not be an optimal use of the resource, which is one of the principles in the prior appropriation system that we had.

Q. And is optimal use also a consideration in the conjunctive administration between the surface water and ground water users?

A. Yes, it is.

MS. McHUGH: Nothing further. Thank you.

MR. RASSIER: I have just one question.

EXAMINATION

QUESTIONS BY MR. RASSIER:

Q. Karl, you've been asked a lot of questions over the last two days and given a lot of responses. Are there any of your responses

that you would like to clarify or change that you thought about?

A. Well, I guess you always think further about these things. But, of course, I've thought quite long and hard for many years leading up to all this.

But, you know, since -- even though I've only been gone just slightly less than a year, you know, things change. And, you know, I have not been involved, at least to date, in any of the current deliberations regarding the Swan Falls Agreement in light of Idaho Power's action filing.

And, you know, perhaps I should clarify the responses that I gave on some aspects of the Swan Falls Agreement, as being what the situation was then, and maybe not what's the situation now. And, you know, for example, there was some discussion with John, and he's not here now, but there was some discussion back and forth with John about what flows are or are not included in terms of trying to meet the Swan Falls minimum.

And I made the comment that flows -- storage water leased by the Bureau of Reclamation for salmon purposes, and then

released past Milner would be added to the Swan Falls minimum.

And the reason for that, is the provision in the Swan Falls Agreement that specifically identifies that any actions that Idaho Power undertakes to improve flows, are not to be counted towards meeting the minimum flows.

And initially, when we started this, when we had to make the determination of whether the flow augmentation releases made by the Bureau were in addition to the Swan Falls minimum, or whether they could be accounted for as meeting the Swan Falls minimum. There was an agreement between the Bureau and Idaho Power for power generation and shaping of Hells Canyon.

So we made that determination based on that agreement. I don't know if any such agreement exists today. And if those flow augmentation releases continue to be -- whether or not they are deemed to be actions of Idaho Power that will be in addition to the Swan Falls minimum. I just don't know.

But that's one area where things could have changed. And what the Department is doing in terms of accounting for those flows, and

whether they do or don't contribute to meeting the Swan Falls minimum, that's one area that possibly has changed.

Q. Are there any other areas?

A. You know, I guess if everybody started over and asked their questions, I may answer them differently, but I would hope they wouldn't be too different. So I can't think of anything.

MR. RASSIER: Thank you.

MR. STEENSON: Well, given that, I think I'll start over.

FURTHER EXAMINATION

QUESTIONS BY MR. STEENSON:

Q. Karl, I just want to say for the record, I appreciate your patience. And I know it's a difficult issue. And I appreciate your coming and answering my sometimes difficult questions, and giving your best answers. I do have a few more for you.

With regard to mitigation, as you've discussed over the past couple of days, and your belief that ground water users could be required to pay for actions that the spring user might need to take to improve their supply.

Does that view relate to the case

Parker versus Valentine? Are you familiar with that case?

A. Yes, I'm familiar with that. And in part, it relates to that. But it's not -- in my view, that's not something that the Department has the authority to require. All we can do is administer the water the best -- I mean, it's hard enough to do a good job at that for heaven's sake.

But to the extent that parties reach agreement that certain actions will be taken as mitigation, and that certain other parties will pay for those actions, I think the Department can administer those agreements. And, in fact, is in a position of requiring curtailment in the event that those actions are not followed through on.

Q. And could you turn to Exhibit No. 50.

A. (Witness complying.)

Q. Are you familiar with that document?

A. I must be. I signed it. But I'm having to read through it quickly to catch the context. (Witness reading.)

Okay. I'm generally remembering this now.

Q. Okay. Do you recall if you prepared

this by yourself, or whether you had assistance?

A. I would have had some legal help on this.

Q. Do you recall from whom?

A. Well, certainly, would have input and assistance from Phil. And I don't recall specifically, but undoubtedly, this sort of thing would have at least been reviewed by Clive Strong.

Q. And do you recall that you prepared this, at least in part, in response to Deposition Exhibit No. 51?

A. Yes.

Q. Okay. And the analysis and the opinions expressed in the letter, would you say that they represent your individual view, or the Department of Water Resources' views, or the views of the State of Idaho, with the executive branch?

A. I would say that they represent my views at the time as the director of the Department of Water Resources, and certainly, reflect that aspect of the executive branch. But, you know, this is not something that I necessarily went to the Governor's office with

and asked for them to concur or not.

You know, in these kinds of positions, you just don't put the Governor in a situation where he could be wrong. So likely, you know, on something like this, I would have put it out there as my position as the director of the Department. And then if there was criticism of it, the criticism would fall where it should, on me.

Q. As in this case, as a spokesman for the Department of Water Resources? You are not expressing your personal view on this matter?

A. No, it's not necessarily my personal view. It was my view as Director of Water Resources.

Q. And do you recall how this issue of the Swan Falls Agreement was considered by the interim legislative committee that summer, the same summer when this letter was written?

A. You know, what I remember from that summer was, I remember the interim committee taking it up, and I remember them convening a panel of -- what was it -- Bob Bruce, and Jim Jones, and someone else -- I don't recall the name offhand -- that had been involved in the

Swan Falls Agreement.

Q. Do you recall Tom Nelson's presentation --

A. Yes, Tom Nelson.

Q. -- to the committee?

A. I vaguely do, but maybe more of it will come back.

Q. And do you recall that after Tom Nelson's presentation to the committee, the committee didn't take up this question of the impact of Swan Falls on Conjunctive Management Rules?

A. That's my recollection.

Q. On page 2 of this letter, in the last paragraph. In the mix of it are the following words, "Given the specificity with which the agreement was drafted, it is logical to conclude that the parties would have expressly included a provision stating that other surface water rights from the spring sources were also being subordinated by the agreement. And had that been the intent of the parties to the agreement, this would seem to be particularly true given the valuable property rights that would have been affected by such an interpretation."

Do you recall that aspect of this letter?

A. Well, I'm reading it again now, and I vaguely recall it, yes.

Q. In other words, the conclusion there is that the Swan Falls Agreement of subordination affects -- only applied to those who were party to the agreement?

A. I want to read the context of the paragraph. (Witness reading.)

Okay. Now, could you restate what you asked me?

Q. Yes. Is the basic opinion being expressed here, that Swan Falls agreements subordination could not affect a nonparty to the agreement?

A. I don't know that it goes that broad. You know, the State has some ability, it seems to me, to condition or affect certain aspects of the rights of entities that were not party to the agreement.

Now, having said that, that, you know -- that may cause issues, such as along the lines of regulatory takings to arise. Now, I'm not saying this goes that far. But just to say

that it has no effect on parties, on entities that were not part of the agreement, I think that's probably too far the other way.

Q. In any case, you have no reason to modify the analysis concluded in this letter that you --

A. Well, that was my -- I have not done any further analysis since that time. I mean, I have no reason -- I don't know anything different today that would cause me to modify that.

Q. Okay.

A. It doesn't mean that others might not seek to modify it or render it moot.

Q. Okay. And with respect to the model that you mentioned, people on the committee of the model. The model was being developed, was it not, with the understanding that it would be used as a management tool; is it not?

A. No.

Q. What was the purpose that the people on the committee understood or agreed for purpose or purposes of a model?

A. Well, the person that was most insistent about trying to force me to identify a limited defined set of uses was Greg Sullivan

from Spronk Engineers, representing the ground water interests.

And from the very beginning, he always wanted me to write a document defining how the model would be used. And I never would do that. My response was always: I want the flexibility to be able to use the model in any manner, and for any purpose for which it's deemed to be appropriate.

The reason I did that is, because had I identified a particular set of purposes -- and let's say had I identified specifically administration of junior rights as being the primary purpose of the model, I think that committee would still be meeting today trying to formulate the model.

Because in my view, the ground water folks would have done everything they could have to have delayed -- you know, and I don't mean this critically. I mean, in their own interests, they would have, I think, sought the completion of the model such that there wouldn't be a basis for administration.

And, you know, I know that some -- I've read the arguments to some extent, that some

would say that the model isn't good enough to -- for administration; therefore, you have the decrees that say the sources are hydraulically-connected. That's sufficient. You know the priority dates. You administer all the rights as if they are from the same source.

I think equally -- maybe not equally, but another likely or potential outcome of such a scenario, where you didn't have a model to use, would be a court determination that the Department does not have a sufficient basis to determine that curtailing somebody's real property rights will, in fact, be a benefit to those other real property rights that are more senior.

So I maintained the most flexible approach that I could, in saying that the model could be used for anything for which it was deemed to be appropriate. And we are where we are.

Q. There had nonetheless, been representations to the SRBA Court along the way, by yourself, and then by Counsel for the State, and the Department -- State, I should say, that the State was in the process of developing a

model, so that it would have the ability to evaluate impacts for purposes of administration; isn't that right?

A. That's correct. That is correct.

Q. And the purpose of the connected sources general provisions was to establish the hydraulic connection between the aquifer and the springs. So that legal determination, that determination having coming come out of the SRBA would provide a basis for administration by the Department; is that correct?

A. In part. You said to "define the hydraulic connection." I wouldn't say it that way. I would say, the purpose was to identify that there was a connection. And I believe that from my view, the SRBA Court left the determination of the extent of the connection, and the character of the connection, I believe they left that to the discretion of the director of the Department.

Q. Sure. And I don't have this as an exhibit. But since we're on this topic, I'm going to show you an August 15th, 2000 document called Director's Response to Opening the base submitted in Basin 5 case.

A. Okay.

Q. And as you recall at that time, there was an effort to develop more comprehensive water management rules, and that effort was not ultimately seen to a conclusion. So in this document where you describe using response zones to create or establish presumptive depletions in the rules would not apply, of course, without anything happening; right?

A. Yes.

Q. If I ask you to look at this discussion under "Injury," on pages 10 to 14. And tell me if it doesn't basically describe the approach that you've taken in the administration of the call that was made.

A. (Witness reading.) How far did you want me to read?

Q. Just that section.

A. Just down to "Conclusion"?

Q. Yes.

A. Okay. You know, certain aspects of this discussion in this document, in general are along the lines that we employ, but not all aspects. For example, my thinking regarding burden of proof has evolved since this was

written.

And essentially, what I did by issuing the orders in response to the delivery calls, is I essentially said, in this instance, the State has the burden to make the initial determination of injury, not the senior. The seniors shouldn't have to make it. He's got the senior right. And the junior maybe shouldn't have to prove the negative to start with. You know, I mean, the State has the responsibility of protecting the senior rights when calls for water distributions are made. And the State's also the entity that authorizes the junior-priority appropriations.

So, you know, my view now, and at the time that I wrote the orders is, that the State ought to take the initial burden. And then if either or both sides disagree with the determinations that are made, then either or both sides have the burden to rebut what was done.

I think that's what we're -- where we're at today. Which is a little different than the process I had in mind at the time I did this. You are right, I mean, at the time that I did this, I was thinking of kind of a different approach having to use rebuttable, presumptive

depletions. Nobody liked that. I -- you know, the ground water folks certainly didn't like it, and I don't think the surface water folks -- apparently, must have not thought it went far enough.

And the whole issue of trying to negotiate comprehensive management rules is, you know -- and again, this is not criticism, but there was positioning and advocating going on from the get go. And it seemed like the more we attempted to come together, the farther apart we got. And it just didn't appear that there was a broad enough will to work together to come up with a set of rules that everybody would accept.

It's almost like entities didn't want to give up a position, until they knew whether they had to give it up or not. And so it just in that climate, it was not possible to have achieved it. We turned our attention to other aspects of preparing to deal with the problem: Focusing on the reformulated re-calibrated ground water model; getting about the business of creating water districts; making sure that the adjudication was moving forward towards completion.

So I don't know -- I mean, in general, maybe parts of this are certainly consistent with what we've done. But I don't know that that outlines the approach that I took. You know, Doug Grants' article is cited in here, and I certainly read that. I thought he did a good job -- from my perspective, he did a good job of identifying the areas that we were headed into.

Q. And so those rules weren't written to themselves, establish a rebuttable presumptions that you did as you advised the court and parties in Basin No. 5 to proceed to use the model to make determinations about, as you described here, the extent of the connection?

A. I did.

Q. Okay. And Doug Grants, as summarized by you here, that if there were no clear hydraulic connection, then the burden would be on the senior to establish the existing. But in the adjudication, that hydraulic connection would be established by the connected sources general provision?

A. But not the extent of it.

Q. And not the extent. So that was as Judge Burdick -- then Judge Burdick wrote in his

Basin Wide 5 -- and that would be attached in the Department, the abilities to do the technical work to establish the extent of the connection; correct?

A. I think that's correct, yes.

Q. Okay. Now, with respect to the model, some have expressed the view that it can't be used for purposes of administration, unless it can with a high degree of accuracy or certainty to predict the quantity and timing of water that might be delivered to a specific spring, as a result of curtailment of a particular well.

What's your feeling about that?

A. I obviously disagree with it, because I used it, in spite of not being able to look at the effect of an individual well and an individual spring.

Q. This gets at the issue of resolution in the model; does it not?

A. Not just resolution, but the underlying sums that you can adequately represent a nonhomogeneous fractured material with an equivalent homogenous, at least on a cell by -- within a particular cell, on an equivalent homogenous force material, if you will.

Q. And there has come to be over the years now, as it has been explained to the House and Senate committees and probably an expectation within the state government, that the model would be used for administration; is that fair?

A. I think that's fair. You know, I -- it's not in response to a question that you asked. But I would offer that, you know, I can't recall the specific cite. There is a recent court case out of Colorado, where the court determined that the state engineer was correct in relying on a ground water model to make a determination in the validity of the model, the adequacy of the calibration were all issues in that litigation.

And the court, as I recall, found that the state engineer was within his discretion to use the model. And, in fact, it was not only the best information available, but the only information available that the state engineer had to use.

And in looking at that decision in the exhibits that were -- the evidence that was presented regarding the calibration, it wasn't nearly as well calibrated as what we're using

here.

Q. And certainly models that are complex and require a number of assumptions or inputs of information, have been used in the water quality context for many years to manage water quality in the State of Idaho. And as you mentioned, the use of this type of model for management of water resources is not a new occurrence?

A. It is not.

MR. BROMLEY: Karl, if I could ask a clarification?

THE WITNESS: Sure.

MR. BROMLEY: Was that the Water District 3 out of San Luis Valley that you were talking about?

THE WITNESS: It may have been. It was having to do with developers that wanted to appropriate water, as I recall, where the state engineers had -- based upon the model results, there was no unappropriated water available, something along those lines.

But it didn't deal with the transfer. It dealt with new appropriations. Is that the Arkansas or the --

MR. BROMLEY: That would have been the

Rio Grande at Alamosa; is what the court says?
THE WITNESS: Well, it's a decision that has come out in the past year. It's fairly recent.
MR. BROMLEY: Colorado Supreme Court?
THE WITNESS: No, district court.
Q. (BY MR. STEENSON) Now, the model is not required for us to know that the Eastern Snake Plain Aquifer is hydraulically-connected to the Thousand Springs, including the springs at Blue Lakes Farms and leased water right?
A. Well --
Q. I mean, just as a matter of fact, not as to the extent of the connection. Just the extent there is a connection.
A. Well, the court has -- I mean, the decrees have this provision that says there is. So as a matter of law, there is a hydraulic connection.
Q. But even without the decrees, we can ascertain as a hydrologic fact, that the ESPA is connected to the springs without needing to employ the model?
A. Well, I wouldn't say, as a hydrologic fact. But as a fact, it's connected. But that

doesn't replace the need to determine the extent. Because I'll continue to assert, based upon the results from the model, that not all ground water diversions affect spring discharge.
Q. Sure. My next step -- or my next question was going to be a little different than what you anticipated. But the next matter of that doesn't necessarily require employing a model, is the understanding that activities that cause a water table to decline, will also cause connected springs to decline as a general matter?
A. I'm not sure I would say that that's necessarily true. It depends on what you mean by "decline."
Q. Let me ask the question this way, because I'm short of time. Activities that affect aquifer levels affect connected springs?
A. Well, but it's not just -- what I'm trying to get at, it's not just the levels. It's the grading. There is a fairly -- well, there is a gradient in the ground water levels right above the springs. I mean, it's caused by the spring discharge, and in part, themselves. So it isn't just the levels. It's also things that can affect the gradient to influence discharge.

Q. Okay.
A. And, again, that begins to show how complex this becomes. It just isn't simple that ground water levels go down, and spring discharge go down. I mean, it looks like it ought to be, but it isn't. Ground water levels could stay up generally.
And if you increase the gradient so that there is less remaining elevation head at the springs, that's going to reduce spring discharge, even though the overall ground water levels may not have declined.
Q. Okay. With respect to your order page 2 --
A. I don't remember what exhibit that was.
Q. It's Exhibit No. 11.
A. (Witness complying.)
Q. I'll read you the statement, and tell me if you continue to agree with it. "With parallel appropriations of ground water which dramatically increased beginning in about 1950, ground water levels across the ESPA have responded by declining in most locations that were level at preexisting conditions, exacerbated by the worst consecutive period of drought years

on record for the Upper Snake River Basin. As a result, spring discharges in the Thousand Springs area have correspondingly declined based on the USGS data, and is also shown on Attachment A."
Now, I know you discuss a lot of other factors that affect these issues. But I assume that you don't have any reason to modify that observation?
A. No, but it's -- you know, when you write something like this, you hope people don't read it and say, it is just that, and just that alone.
Q. You didn't integrate that in the question?
A. No, I'm trying to clarify. I agree with the statement as written as a summary, or kind of overall description of what's occurred.
Q. That's all I'm asking. And then beyond that you use the model and whatever other tools and information you have available to you, to further ascertain the relationship, to the extent you can, between seepage, recharge, pumping and spring flows and spring water rights. That's been the approach you've taken?
A. That's correct.

Q. Now, the Blue Lakes' water rights having been established in the '70s, after the peak in the incidental recharge to the aquifer, is it possible that curtailing junior ground water rights, that, by definition, didn't exist at the time of Blue Lakes' appropriation, could enhance conditions beyond or better than those that existed on the date of Blue Lakes appropriation?

A. Just curtailing ground water rights?

Q. Yes.

A. Okay. So the question is: Could just curtailing ground water rights enhance the water availability at the springs beyond the time of the appropriations of the early '70s?

Q. Right.

A. No. I would say, no.

Q. Okay. Then looking at your order of May 19th, 2005, again, Exhibit 11, page 11, paragraph 50. And there is the statement that, we've gone over, past midway in the paragraph. "Blue Lakes Trout is not entitled to a water supply that is enhanced beyond the conditions that exist at the time such rights were established."

Is the converse of that, Blue Lakes is entitled to a water supply that reflects conditions that existed at the time the rights were established?

A. Well, this relates to what Blue Lakes has a right to demand through curtailment. And, you know, what this finding was getting at, is we've talked extensively not in -- obviously, not in agreement -- about the seasonal variation in the spring discharge.

That seasonal variation exists today. It existed when the rights were appropriated, although we can't quantify the extent of the variation, because we don't have the sufficient data to do it. But we know that at the time the rights were appropriated, irrigation using surface water supply was done seasonally. That's the overriding factor in the seasonal variation in this observed spring discharge.

And so what this finding is trying to get at is that, although Blue Lakes has a right to divert water up to the maximum authorized amount when it's available, it doesn't have the right to seek -- it doesn't automatically have the right to seek curtailment of junior-priority

rights, just because that quantity is not always available. That's what this finding is getting at anyway.

Q. Okay. So is Blue Lakes then entitled to a water supply as it existed at the time of appropriation?

A. No, I don't think so. And here's why: The water supply that was available at the time of appropriation was in large part the result of third parties, over which the State has no control, nor do you.

And I've said publicly before, that if an error has been made by the State in allowing the appropriation of unappropriated water, it was not correctly characterizing the nature of that unappropriated water. That remains my position.

So I don't think there is an entitlement. I mean, the conditions were what the conditions were when Blue Lakes appropriated the water, and they are not necessarily entitled to an improvement of those conditions through curtailment of junior rights. But you can't -- it doesn't go the other way.

Q. Okay. So I take it that the maximum that the decree defines, in your view, is

further defined by the conditions that existed at the time of the appropriation; is that correct?

A. In part, I think that's correct.

Q. And that would then mean, in the context that we're discussing here, the seasonal variation of flow that existed at the time of the appropriation; is that correct?

A. That's correct.

Q. Okay. And that, as we've discussed those flows that existed at the time of the appropriation, are whatever they were, less than the flows that existed in 2004; correct?

A. Correct. But the -- but, again, some magnitude of seasonal variation, probably not too much unlike what exists today, existed at the time of the appropriation.

Q. Sure. Then is the effect of the order, where you conclude that Blue Lakes' water rights are satisfied with the flows that were present in 2004, is the effect of that to limit Blue Lakes' water rights for purposes of administration to the water supply that existed in 2004?

A. No.

Q. Does it end up having the effect that Blue Lakes is not entitled to a water supply

enhanced beyond the conditions that existed in 2004?
A. No. Although I qualify the word "entitlement." Again, when I say, no, I mean I'm referring to what -- I'm trying to define the term "entitlement," as authorization to divert.
Q. Okay. So if I replaced in my prior questions the word "entitlement" with the phrase "authorized to divert," would you have agreed with those statements in the prior questions?
A. I don't know. I would have to go back to those prior questions. But at least in this particular one --
Q. Let me try it the way you would like me to ask it then.
Does the order have the effect of limiting the amount of water that Blue Lakes is authorized to divert, or received by way of curtailment, to the flows under its second priority water right, to the flows existing in 2004?
A. No.
Q. Why not? It seems like it does to me. Because you are saying that the water right was satisfied in paragraph 64 by the flows existing

in 2004.
A. Well, again, I'll go back to how I -- and I apologize for repeating it, but I would answer it the same way. What this finding -- this series of findings does, 63, 64 and 65, clearly the first right is not being injured, clearly the third right is. And it's not clear that the second right is.
Q. Now, with respect to the investigation done by Cindy Yenter and Brian Patton at Clear Springs that you discussed with John a little bit ago, did they conduct the same kind of investigation at the Blue Lakes?
A. Yes.
Q. So they would have been seeking the same information and asking the same questions, basically, at Blue Lakes?
A. Yes. And in all cases, Blue Lakes, Clear Springs, Rangen, there is a memorandum to me that they prepared documenting the investigation, and their findings, and their recommendations.
MR. STEENSON: Is that memorandum a part of the record; do you know, Phil?
THE WITNESS: I'm pretty sure it is.

MS. McHUGH: We have it in on our disk, the Blue Lakes, Thousand Springs.
MR. STEENSON: Did you get a different disk than I did?
MS. McHUGH: Maybe.
MR. RASSIER: You got the same disk.
Q. (BY MR. STEENSON) At Blue Lakes, are you aware that Blue Lakes' springs is up-gradient and separated by some distance from Alpheus Creek where Blue Lakes --
A. Yes.
Q. Okay. So is any consideration made of the fact that Blue Lakes would have no ownership interest in the springs to try to improve them, or through wells in the location where they surfaced?
A. I'd have to look at the memo. But I don't think any of those types of activities were even suggested, because of the fact that Blue Lakes diverts out of Alpheus Creek, not directly from the springs. And the springs are on different property than is owned by Blue Lakes.
Q. And does your May 19th, 2005 order reflect acknowledgment that Blue Lakes diverts from Alpheus Creek, and not from springs?

A. It diverts -- the order reflects that Blue Lakes diverts from Alpheus Creek, which is supplied by spring discharge.
Q. And spring discharges come from ESPA; correct?
A. Correct.
Q. And some of that water from the ESPA came from above ground sometime in history?
A. Correct.
Q. And before that, who knows?
A. Correct.
Q. And along the course of this process of conductive administration, and all the work you've done, has there been discussion of concern about the Thousand Springs, what's happening to the Thousand Springs as the ESPA declines as a loss of a state resource, not as any particular individual water right, that Thousand Springs is a State concern?
A. Yes.
Q. Summarize that discussion for me.
A. Well, it's not like there was a single discussion. It's been a topic that's been in the discussions from the beginning.
Q. Let me rephrase the question. Can you

summarize the concern, rather than the discussion you had?

A. Well, the concern is, I think simply that -- you know, it's not simple. But the concern is that the springs have provided all sorts of opportunities for people to use and enjoy. And whether those uses are economic, whether they are aesthetic, whether they are recreational, and we're struggling to maintain that. But it's worth maintaining it if we can find a way to do it.

I think that summarizes the discussion. And the question has always been: What can we do? How much can we do? What's it going to cost? Who pays? And how much is enough? How much of trying to get -- you know, it gets back to the goals and the objectives that we all struggled with on the straw man proposal. What's going to be the measure of success? Is it stabilization? Is it reversing the declines? And if so, how much.

Q. Do you think the value of the springs for their aesthetic and recreational purposes, as reflected in the discussion or discussions in the concern you've just described, is a factor to be

considered in the optimum development of the Water Resources of the State?

A. Yes.

MR. STEENSON: Thank you, Karl. I appreciate it. I know you have to go. And I'm done.

THE WITNESS: Okay.

FURTHER EXAMINATION

QUESTIONS BY MS. McHUGH:

Q. Can I ask a point of clarification, and just one quick question? I may not have heard you on Dan's question about the model. And just ask it simply: Can the model predict with any specificity an increase in the amount of discharge to the spring that supplies Blue Lakes, or the spring that supplies Clear Springs, how much increase they will see as a result?

A. Well, you can do as I did in the order, and estimate the increase that's likely based upon the increase that occurs to the spring reach, and the proportion that a particular spring contributed historically to the discharge in that reach.

So in the case of Blue Lakes, that number is 20 percent. When the USGS did their

measurements of -- and it was a comprehensive effort to measure the discharge from all the discrete springs that they flow.

In the spring reach that we define, and in which the Blue Lakes -- all right -- there is the springs supplying Alpheus Creek in the reach in which those springs lie, those springs account for 20 percent of the measured discharge. So the assumption is that 20 percent of any improvement is estimated to accrue to Blue Lakes.

MS. McHUGH: Thank you.

(Deposition concluded at 2:53 p.m.)

(Signature requested.)

CERTIFICATE OF WITNESS

I, KARL J. DREHER, P.E., VOL. II, being first duly sworn, depose and say:

That I am the witness named in the foregoing deposition, Volume II, consisting of pages 158 through 402; that I have read said deposition and know the contents thereof; that the questions contained therein were propounded to me; and that the answers contained therein are true and correct, except for any changes that I may have listed on the Change Sheet attached hereto:

DATED this _____ day of _____, 200___.

_____

KARL J. DREHER, P.E., VOL. II

SUBSCRIBED AND SWORN to before me this ____ day of _____, 200___.

_____

NAME OF NOTARY PUBLIC

NOTARY PUBLIC FOR _____

RESIDING AT _____

MY COMMISSION EXPIRES _____

ERRATA SHEET FOR KARL J. DREHER, P.E., VOL. II

Page ___ Line ___ Reason for Change _____
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You may use another sheet if you need more room.

WITNESS SIGNATURE _____

REPORTER'S CERTIFICATE

I, COLLEEN P. KLINE, CSR No. 345, Certified Shorthand Reporter, certify:

That the foregoing proceedings were taken before me at the time and place therein set forth, at which time the witness was put under oath by me;

That the testimony and all objections made were recorded stenographically by me and transcribed by me or under my direction;

That the foregoing is a true and correct record of all testimony given, to the best of my ability;

I further certify that I am not a relative or employee of any attorney or party, nor am I financially interested in the action.

IN WITNESS WHEREOF, I set my hand and seal this 8th day of November, 2007.

_____

COLLEEN P. KLINE, CSR
Notary Public
P.O. Box 2636
Boise, Idaho 83701-2636

My commission expires September 17, 2011