No. 137, Original

IN THE SUPREME COURT OF THE UNITED STATES

VOLUME 10 OF 25 VOLUMES

TRANSCRIPT OF TRIAL PROCEEDINGS

STATE OF MONTANA
Plaintiff,

v.

STATE OF WYOMING

and

STATE OF NORTH DAKOTA
Defendants.

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

James F. Battin United States Courthouse
2601 2nd Avenue North
Billings, Montana 59101
9:01, Wednesday, October 30, 2013

Vonni R. Bray, RPR, CRR
P.O. Box 125
Laurel, MT 59044
(406) 670-9533 Cell
(888) 277-9372 Fax
vonni.bray@gmail.com

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

APPEARANCES

FOR PLAINTIFF STATE OF MONTANA:

Mr. John B. Draper, Special Assistant AG
Montgomery & Andrews
325 Paseo de Peralta, 87501
P.O. Box 2307
Santa Fe, NM 87504-2307
Telephone: (505) 986-2525 Fax: (505) 982-4289
E-mail: jdraper@monand.com

Mr. Jeffrey J. Wechsler, Special Assistant AG
Montgomery & Andrews
325 Paseo de Peralta, 87501
P.O. Box 2307
Santa Fe, NM 87504-2307
Telephone: (505) 986-2637 Fax: (505) 982-4289
E-mail: djwechsler@montand.com

Mr. Cory Swanson
Deputy Attorney General
602 Sanders
P.O. Box 201401
Helena, MT 59624
Telephone: (406) 444-4774 Fax: (406) 444-3549
E-mail: coswanson@mt.gov

Ms. Anne Winfield Yates
DNRC Chief Legal Counsel
1625 Eleventh Avenue
P.O. Box 201601
Helena, MT 59620-1601
Telephone: (406) 444-0503 Fax: (406) 444-2684
E-mail: ayates@mt.gov

Mr. Kevin R. Peterson
DNRC Legal Counsel
1625 Eleventh Avenue
P.O. Box 201601
Helena MT 59620-1601
Telephone: (406) 444-5785 Fax: (406) 444-2684
E-mail: KevinPeterson@mt.gov

APPEARANCES CONTINUED

FOR DEFENDANT STATE OF WYOMING:

Mr. James C. Kaste
Water & Natural Resources Division
Sr. Assistant Attorney General
123 Capitol Building
Cheyenne, WY 82002
Telephone: (307) 777-3535 Fax: (307) 777-3542
E-mail: james.kaste@wyo.gov

Mr. Chris Brown
Water & Natural Resources Division
Sr. Assistant Attorney General
123 Capitol Building
Cheyenne, WY 82002
Telephone: (307) 777-3406 Fax: (307) 777-3542
E-mail: chris.brown@wyo.gov

Mr. Andrew J. Kuhlmann
Water & Natural Resources Division
Assistant Attorney General
123 Capitol Building
Cheyenne, WY 82002
Telephone: (307) 777-3537 Fax: (307) 777-3542
E-mail: andrew.kuhlmann@wyo.gov

FOR DEFENDANT STATE OF NORTH DAKOTA:

Ms. Jennifer L. Verleger
Assistant Attorney General
500 North 9th Street
Bismarck, ND 58501-4509
Telephone: (701) 328-3640 Fax: (701) 328-4300
E-mail: jverleger@nd.gov

INDEX

INDEX TO WITNESSES

INDEX TO EXHIBITS

INDEX TO EXHIBITS (Cont.)

WEDNESDAY, OCTOBER 30, 2013, 9:01 A.M.

SPECIAL MASTER: Okay. Everyone can be seated. My stack of papers is growing up here. This is somewhat disturbing.

So, Mr. Kaste, it looks like you're ready to use the -- it's an Elmo? Is that the name for it?

MR. KASTE: Yeah.

SPECIAL MASTER: I can never remember my Sesame Street characters.

MR. DRAPER: Your Honor, I have a matter that we might address before he begins his questioning.

SPECIAL MASTER: Yes, Mr. Draper.

MR. DRAPER: Thank you. Good morning. I think it was yesterday there was an offer of an exhibit designated W266.

SPECIAL MASTER: That's correct.

MR. DRAPER: And I wanted to take a look at it. I have taken a look at it, and I have no objection.

SPECIAL MASTER: Okay. Excellent. So then we will admit Exhibit W266. And although we are admitting it with a Wyoming exhibit number, can we say that this is actually another one of the joint exhibits?

MR. DRAPER: Yes. That would be fine. It's

an early engineering report. So it's fine. Shall we designate it as the next joint exhibit?

MR. KASTE: I don't know if --

SPECIAL MASTER: I think it's fine just to keep it as W266. And actually, I'm not sure it has much significance, but given it looks like all the other joint exhibits, it's useful to think of it as one of them.

(Exhibit W266 admitted.)

MR. DRAPER: Yes.

SPECIAL MASTER: Thank you. I appreciate that.

What's going to be the order of the witnesses this morning?

MR. KASTE: Mr. Knapp followed by Mr. Boyd followed by Dr. Littlefield followed by Mr. Schroeder.

SPECIAL MASTER: Excellent. So thank you both.

Mr. Kaste, do you want to continue your direct examination?

MR. KASTE: Yes.

WILLIAM KNAPP (CONT.),
having been first duly sworn, testified as follows:
DIRECT EXAMINATION
BY MR. KASTE:

Q. Good morning, Mr. Knapp.

A. Good morning.

Q. I have placed on the screen beside you a document entitled "Tongue River schematic diagram." Did you prepare that document?

A. No, sir, I did not.

Q. Have you had a chance to look it over and assess whether or not it accurately depicts the relationship between the streams, reservoirs, and ditches, major ditches, on the Tongue River?

A. Yes, I looked at it yesterday. And it does do a very good representation of the flows of the mountain as well as the streams.

Q. All right. Now, obviously, it's not to scale; right? These things may be closer or farther apart than that; right?

A. Yes. It's definitely not to scale.

Q. But I think it's confusing, I think, for folks who aren't up and down the mountain every day like you are to understand how all of these things are connected. So I thought it would be helpful for the

Special Master to kind of look over this particular schematic as we talk a little bit today. Okay?

A. Okay.

Q. And the first thing I think would be helpful to point out is, with regard to the reservoirs in the Big Horn Mountains, are they depicted on this schematic?

A. Yes, they are.

Q. They are identified by the triangles towards the top of the document; is that fair?

A. Yes, they are in the triangles.

Q. And the lines in between those triangles, does that show how water can flow between those reservoirs?

A. Yes, it would.

Q. So, for example, Park Reservoir has two lines coming out the bottom of it. Does that mean water can be released both into the east fork of Big Goose and into Willow Creek?

A. Yes. That's exactly what they're showing.

SPECIAL MASTER: Can I just ask, Mr. Kaste. Number one, I understand you're not introducing or trying to introduce this into evidence at this particular point in time because the witness has not seen this before. But it would be useful for me, if

you're going to discuss this, just to quickly have the witness sort of identify the various arms of the schematic.

THE WITNESS: I'd be glad to.

SPECIAL MASTER: Mr. Draper, do you --

MR. DRAPER: Pardon me, Your Honor?

SPECIAL MASTER: Yes.

MR. DRAPER: I was not trying to say anything.

SPECIAL MASTER: Okay. Great. I was wanting to make sure you didn't have any concerns.

MR. DRAPER: Not at this time.

SPECIAL MASTER: Thanks.

BY MR. KASTE:

Q. So if you could, in response to the Special Master, identify the major components in the Tongue River system on this diagram and kind of explain how they fit together.

A. Yes, I can. It's a substantial plumbing system up there. Since we mentioned Park, I will identify it first. It's this reservoir right here. It is on the east fork, which runs this way.

The other outlet on Park that we described is what we call the Park diversion ditch, and it runs over and into the headwaters of Little Goose. So everything

on the left side of the drawing is Little Goose in one way or another.

Q. Can you show us where on the diagram Little Goose Creek flows? Show us which one of these lines is Little Goose Creek.

A. Oh, sure.

SPECIAL MASTER: It's just that the writing is extremely small.

MR. KASTE: I can provide you a hard copy if that might help you.

SPECIAL MASTER: That would actually be useful.

MR. KASTE: This is actually Montana Exhibit 423. It contains more pages than just the schematic diagram that we're looking at.

SPECIAL MASTER: Thank you. So you were explaining that Little Goose is the branch of the schematic on the far left?

THE WITNESS: The far left, third, correct. I can -- on the screen I can redraw it. Somebody changed scales, so it's no longer -- it's very extreme left, kind of trapezoidal line stick drawing is Little Goose.

SPECIAL MASTER: Okay. Actually, maybe it will be even faster if I just ask whether or not

various things are correct.

So as I understand it, what this shows is that there is Little Goose Creek far left. Then sort of shifting a little more, there's Big Goose down the middle. There's Soldier a little bit farther on the right. And those three all flow into Big Goose Creek that then flows into the Tongue; is that correct?

THE WITNESS: That is absolutely correct.

SPECIAL MASTER: Thanks.

BY MR. KASTE:

Q. And can you identify which reservoirs are capable of putting water into Little Goose Creek?

A. Yes. That would be Cross Creek, Big Horn, Park, Martin, Last Chance, Willitts. And I do believe that would be them.

Q. All right. And which of the mountain reservoirs can put water into Big Goose Creek?

A. Okay. That would be, again, Park. Big Horn and Cross Creek have that capability, but there's no shareholders there. So it doesn't go that way. They're on a drainage that could potentially send water to Big Goose, but they don't.

Weston goes to Big Goose. I'm sorry. I hit Park. Weston goes to Big Goose. Dome Lake, which is upper and lower. There's two storage facilities. Twin

Lakes actually is now a facility. Sawmill Reservoir, and that is west fork storage.

Q. There's a triangle on this diagram for something called Stull Lake?

A. That's a natural reservoir lake. It's not a storage facility.

Q. Okay. Great. And this diagram also shows some of the major ditches. Can you confirm for us it doesn't show all of the ditches on these creeks?

A. Sure.

Q. You just have to look at them and make sure it doesn't have all of them.

A. No, it does not. I see a couple missing.

Q. Does it show accurately which of the tributaries to the Tongue River these ditches are able to obtain their water from?

A. Yes, it's correct in that aspect.

Q. So, for example, the Gerdel Ditch gets its water from Little Goose Creek; is that correct?

A. That's correct.

Q. And to give some idea of the location of these ditches in relation to the town of Sheridan, where is the Gerdel Ditch headgate, in relation to the town of Sheridan or the town of Big Horn?

A. The Gerdel Ditch headwater is immediately

below the town of Big Horn, which is approximately 6 miles upstream of Sheridan.

Q. All right. And where is the Burn Cleuch headgate?

A. The Burn Cleuch headgate is about a half a mile above Sheridan.

Q. So in the order of headgates, upstream would be Gerdel, downstream would be Burn Cleuch?

A. That's correct.

Q. And the schematic shows on Big Goose Creek, for example, the Alliance and PK Ditches going across the line for Soldier Creek?

A. Yes.

Q. What does that mean?

A. It means they have the potential to deliver water into the Soldier Creek drainage.

Q. All right. And would it be generally accurate to say that the streams upon which these headgates are located are the streams where their return flows will end up?

A. Yes, that's correct.

Q. Although, I get the impression something like the Alliance Ditch, depending on where the water comes out, might go either into Big Goose Creek or into Soldier?

A. Yes, and I would clarify that. There's a substantial amount of return flows in Soldier Creek that has originated in Big Goose.

Q. All right. I have to tell you, I've been up and down that mountain a couple of times. And the location of things still baffles me. And this is the best thing I have ever seen for somebody who doesn't -- that's just not familiar with the area to put things sort of in place.

I'd like to talk to you just a little bit about the reservoirs that are depicted on this schematic. Can you identify which of these mountain reservoirs allow a winter release?

A. Park Reservoir releases 4 and a half foot, by statute. They got money from the WWC -- I'm sorry. From the state. And I do not know the initials.

Q. The Wyoming water Development Commission?

A. Was it them? Okay. It was WW developed commission of water. And a part of that agreement was that there would be a winter release for fish, which was done by statute for state monies.

Q. And --

SPECIAL MASTER: Again, just for clarity for the record. When you say "4 and a half feet," feet in that case is --

THE WITNESS: Cubic feet per second.

SPECIAL MASTER: CFS. Okay. Thank you.

MR. KASTE: And I just want to let the Court know, Mr. LoGuidice yesterday talked about the statute being in Title 41. That's incorrect. The statute is actually in the non-codified sections of Wyoming statutes, which I didn't actually know existed until this case. And it can be found at Wyoming Statute 99-99-504.

BY MR. KASTE:

Q. I asked you to identify the reservoirs that allow a winter release. You've identified Park.

A. That's correct. I just learned recently Cross Creek cracks their headgate a little in the winter. But Big Horn immediately below them is closed. So any water in Cross Creek does not store. It does not make it off the mountain. And that's it for all of these identified reservoirs on this schematic.

Q. So really when we talk about winter releases among the reservoirs in your district, we're talking about Park Reservoir; correct?

A. That's correct.

Q. Now, does the Wyoming Game and Fish Department or commission have a water right in Park Reservoir?

A. Yes, they do.

Q. For how much?

A. They have three different parcels. They have a minimum pool, which is, again, for the monies, for fish. They have 90 acre-feet of water which is to help offset the damages incurred by having this 4 and a half foot winter release, so their storage water to compensate for that flow that they capture every year.

And then they have a flushing release, which I believe is around 500 acre-feet. And that is so that they can run 90 CFS down the stream for three days to desilt the beds of the Big Goose and help the fish.

Q. So if I understand right, there's 90 acre-feet of water set aside within Park Reservoir to off -- that's what gets used for the 4 and a half foot winter release?

A. It's specifically to cover the differences between inflows and outflows on that release.

SPECIAL MASTER: Again, just for clarity, you used the term minimum pool.

THE WITNESS: Yes. At the bottom of the pool, Game and Fish now owns a piece of Park. It's above the grades.

SPECIAL MASTER: Okay. Thank you.

THE WITNESS: Not to be released.

BY MR. KASTE:

Q. But they have a water right to store water in there for that fish purpose?

A. Yes.

Q. All right. While we're talking about reservoirs, let's talk a little bit about how you might count the inflows and outflows from a reservoir. Park Reservoir has a winter release offset by the Game and Fish water right. In general -- and it sounds like your reservoirs don't typically do this -- but if a reservoir released during the course of a winter a certain amount of water, could you count that against their fill?

A. Yes, I would.

Q. All right. Does that kind of thing ever happen in the reservoirs within your district, where you're forced to assess whether or not winter releases should or shouldn't be counted against a fill?

A. It has not happened yet. These reservoir operators shut down on October 1. They get ready for the next water year.

Q. Is there anybody above them that they could call in the event that they didn't fill?

A. Just the independent reservoirs. Park could call for Cross Creek, but that -- they have not had to

do so.

Q. You haven't been faced with a situation where water was so short you had to make that kind of decision; right?

A. No.

Q. All right. What about a situation -- what if water had to go past the headgate because there was some reason why the dam couldn't store? Could you count that flow against the reservoir's fill?

A. Yes, I certainly could.

Q. Would you -- well, you haven't had do that yet, so I won't ask you a hypothetical what you would do in a given situation that has not yet arisen.

What about if the reservoir just decided, because for operational reasons, it wanted to pass water to keep its reservoir at a certain level? You can count that against the fill?

A. Yes, any water that they failed to store would -- could be counted against their storage rights.

Q. Fair enough. All right. Now let's talk about something a little different for a while. And regulation during the course of the irrigation season. We talked with Mr. Whitaker about this to some extent, and we talked to Mr. LoGuidice to some extent. So we won't spend an inordinate about of time on it.

But you're the guy on the ground who is charged with day-to-day regulation of Big Goose and Little Goose Creek; correct?

A. That's correct.

Q. All right. Now, I'd like you to explain to us how regulation is typically initiated in your district.

A. Well, before we're into regulation, I will be checking my diversions, checking stream flows. As Little Goose, in particular, gets down to the mid-60 range, I know it's starting to become short, so then I pay a little more attention at my headgates.

Typically what happens is at some point I will see one of my early rights short. And so I will make myself available, even to the point of driving into that ditch rider or president's driveway, and talk to him. And if he decides -- you know, "I went to your headgate and you're a couple feet short."

And he says, "Yeah, and I'd sure like to have it," then that is a call. I construe that as being a call. He asked me for the difference in his water right.

So at that time, I will go back to his headgate, confirm that it is actually short, and then decide which priority is most junior above them. And

then we just start reducing water by priority until we satisfy the senior rights.

Q. Now, is that different from looking at a stream gauge and seeing a specific number and saying, "I'm going to go out and start turning headgates on my own"?

A. It's very different. I've had a similar situation where I asked an early right if he wanted his water, and he said, "No, I'm fine with what I got." So I don't go get him the water. He said he doesn't need it. So I can't assume that they need their entire right.

Q. All right. Now, once regulation begins, are you able to react to changes in demand on the stream sort of day to day?

A. Yes, I have to react day to day.

Q. All right. Does the demand on the stream change day to day?

A. Yes, it can.

Q. How does that happen?

A. Well, there's haying, is the immediate effect. Around about the time they are ready to do first cut, I'll start seeing a lot of lack of water, maybe somebody in the other ditches, same ditches is increased.

There's -- ditches have problems. There's been more than once that a ditch will blow out, and all of a sudden I had 6 foot of water in the creek. And where did it come from? I wish they would tell me my ditch blew out. But this doesn't happen that way.

Our reservoir water -- you know, these guys do their best on the mountain. They say we want 5, CFS; it might be 5 and a half on Tuesday. It goes up to 7, and it might be 6 and three-quarter on Thursday. But overall, I've lost a little piece of water. And in Little Goose, it's tight enough that those minor changes like that affect me.

Q. In response to these minor changes, are you consistently moving up and down the stream and adjusting the diversions to the various appropriators?

A. I am, three times a week.

Q. All right. And are you in contact with the irrigators and the streams in your district?

A. Yes. I'm more specifically in contact with the people that run the ditch. But I think about every irrigator out there knows who I am.

Q. On a day-to-day basis, are you communicating with the ditch riders about their needs and their supply?

A. Not everyone every day. But everyone,

whenever they're affected by what I'm doing.

Q. Do they tell you when they are short water?

A. Most assuredly.

Q. Now, in the course of regulating, we've had some testimony about tags.

A. Yes.

Q. Now, I have some tags that I'd like to show you and share with the Special Master that we can talk about. So I'm going to hand you Exhibit W248. And this is a collection on one page of several cards. That might be a good way to describe them. If you would thumb through those for me and tell me if you recognize those documents.

A. Yes, I do. These are tags that I have used.

Q. All right. And so did you -- you're the person who did the writing on these tags?

A. Yes, I am.

Q. Did you do that as a force of work in Division 2?

A. Yes.

Q. Okay. And if you'll turn to the last page of the exhibit. You see one card that's a little different, and it doesn't have any handwriting on it. Can you identify what that is?

A. Yes. What we were looking at originally was

the stubs that remain in our tab book. This is what is torn out and attached to the headgate with similar writing, the gauge type that they are allowed and our phone number and my name.

MR. KASTE: I'd move for the admission of Exhibit W248.

SPECIAL MASTER: Mr. Draper?

MR. DRAPER: No objection, Your Honor.

SPECIAL MASTER: Okay. Exhibit W248 is admitted.

(Exhibit W248 admitted.)

BY MR. KASTE:

Q. Let's stay on the last page and look at the tag that is whole and not yet filled out.

Can you explain -- if I understand right, these come in a book not yet filled out; correct?

A. That's correct.

Q. Okay. So what do you do with this document from beginning to end?

A. When I have a need to tag a headgate, I will set the headgate to the gate height I'd like it to be at first. And then I go to the actual diversion structure on the creek and just use -- fill out water commissioner, district, division numbers, the date, and then the office phone number.

And then it also has a number of -- the spreadsheet allows for date and by a gauge height, CFS, maybe 16 entries. So on the first one, I will put the date, the gate, by BK, gauge height, and CFS that I'm setting it for and tagging it to on that date.

As things change, sometimes you can fill up the entire tag.

Q. Now, is it fair to say the right side of the document with the big word "notice" on the top is detached and then attached to the headgate?

A. Yes, that is a portion -- along the dashed line is a tear-out, and it's attached to the headgate.

Q. And do you ever -- do you get those back?

A. No.

Q. 'Cause we don't have a big stack of this side of the tags in the documents in this case.

A. No.

Q. But the left side of the document stays in the book; is that correct?

A. The left side stays in the book.

Q. All right. Now, if we just look above at one of the example tags, that one says Division 2, District IV, Little Goose, Muskrat Ditch, regulated by BK Is that you?

A. That would be me.

Q. All right. And then what is the information?

A. Well, what it says there is on 8/3 -- and what I've learned since then is to make sure I put the year, but I did not at this time -- the gauge height was .63. The CFS is 1.97. I noted Muskrat Ditch. Their actual right is the 1.52. But they always order a half a foot of water because they are a little tree farm, and they like to water above the ditch. So half foot minus 5 percent brings them up to 1.97. So I was giving them their territorial right plus a half foot of reservoir water that day.

Q. All right. Now, I got the impression from one of your earlier answers that sometimes you write multiple -- on multiple lines on the tag that you affix to the headgate; is that true?

So, for example, you might be there on August 3rd and maybe on August 10th. Would you write something on the tag affixed to the headgate in addition?

A. I will. I mean, this is -- one way of communicating with the operator of that ditch is I've got a tag, and they don't touch them when I tag it. I've told them if there's sticks and limbs and headgate pressure changes, you can bring it up to the gauge height tag, but I'd like them to know where it belongs.

They might change the reservoir order from a half foot to a foot and a half. So now instead of 1.97, they get another .9 percent. So the day that happens, I will redate it, give them a new gauge height, and a new quantity that carries forth from that date until a change is made.

Q. All right. Do you always write that on the tag in the book?

A. No, I do not. I write it in my diary.

Q. All right. 'Cause if you look at the next -- or the second to last page, if you just flip one page forward, I see the two tags that have dates on them. There's only -- it only shows there's one date visited for that tag. Can you see that?

A. Yes.

Q. Okay. So we would have to look at your diary in order to see what you did subsequent to the placement of the tag originally?

A. Yes, we would.

Q. And I think we've heard from a number of witnesses that you don't always put tags on the headgates; right?

A. No, I do not. In my district it's been verbal most of the time. If they're cooperating and I tell them this is the headgate I'd like to have -- and

part of it is because once I tag it -- I mean, Martin McCarty called me this summer, "My headgate's a little low."

SPECIAL MASTER: I know that you'd like to talk to me, and I appreciate it. But if you'd talk into the mic.

THE WITNESS: Okay. I will. I moved it as far as it could go this way.

Martin McCarty called me this summer 'cause his headgate was a little short, and I told him he can bring it up to the gate height. But with that tag on there, he won't touch it. I was like, "All right, Martin. I'll come out and set your headgate where it belongs."

So with the tag, they're scared of them. If it's just verbal and I tell him that, it doesn't carry the same weight as this document that says they're going to owe $1200 if they touch this thing.

BY MR. KASTE:

Q. So it sounds like part of the consideration about whether or not to put a tag on is your relationship with the particular irrigator?

A. In a large part, yes, it is our relationship with the irrigator.

Q. And I got the impression that sometimes,

based on that relationship, you authorize them to make changes to their headgate?

A. Yes, I do. And specifically those kind of incidents. Last Chance Ditch is prone to headgate pressure changes. So if I got to be there five days a week, I don't have time. If they would help me maintain the gauge height that we agreed upon, it saves me time that I don't have for those kind of details.

Q. After you authorize them to take certain action, do you go back and check and make sure that they did it right?

A. Oh, yeah. Regardless of -- I mean, these headgates on Little Goose, I'm typically there three times a week. So, yes, I've checked it. They may have done it on Tuesday and I'm there on a Wednesday, but it's constantly checked.

Q. All right. Now, we've talked about in the past the presence of reservoir water in with natural flow in the streams. And that happens on both Big Goose and Little Goose, sounds like most of the time; right?

A. Most of the time.

Q. All right. Now, I'd like to talk with you about how reservoir orders are initiated. And I have a document I'd like you to look at.

A. Correct.
Q. I'd like to hand you Exhibit W327.
A. I have it.
Q. All right. Go ahead and thumb through those real quick because there's a stack again.
A. Okay. I know what I'm looking at.
Q. Okay. What are we looking at?
A. You're looking at the order records for Park Reservoir for 2006, if they are in sequential order. The first one I'm seeing is 8/6, yes. So more than likely, the first order we got Park Reservoir was on 8/6.
Q. Let me stop you. I'm looking at the same page, and it says 8/6/2004.
A. You're correct. Each individual -- the Wild Rose water Group ordered 2 CFS, Alliance. The JC Ranch ordered 2 CFS for the Peralta. And then right on down the page through 8/6, there's a total of six orders changes that day from six individuals out of Park Reservoir.
John Wantulok brings these in on Mondays, Wednesdays, and Fridays after he's received these orders from the shareholders of the Park Reservoir and gives them to us so that we know how much water is being released from Park that day and where it's

supposed to go.

Q. All right. Turn to, I think it's the third page in, of the exhibit. And we see a document that's a little bit different.

A. I do.

Q. Can you tell us what that handwritten note is?

A. That is what John does. And it's very helpful for us. It's pretty much a running tabulation of the totals in the ditch. The first page is strictly changes. And I would -- seeing that second page for '89, there's -- a little more water already had been ordered prior to 8/6. So what John will do is, the Peralta Ditch has 4 CFS, JC Ranch, we saw that ordered. But there's also a foot and a half of Little Goose Ranch. And I suspect that wasn't a change -- no.

So it gives us just a quick little total for the Peralta Ditch and a quick total for the Last Chance.

The front ones are the actual official change sheets. John is just an accountant. He likes to keep these little cheat sheets like page 3 is.

Q. Okay. And are the remaining documents in this exhibit either the official change orders for these kind of running totals?

A. The remaining, I did not see another -- there's something. There's at least one of those farther down.

Q. All right. And we don't have to go through the contents of those in detail. I think we have a better exhibit for that. But I want to give the Special Master an idea that the type of writing that you receive in order to order reservoir water. And is that what these are?

A. That's exactly what these are.

Q. And there should be a whole bunch more of them out there; right?

A. Should be, yes.

Q. All right. And these are just a sample.

MR. KASTE: I'd move for the admission of Exhibit W327.

MR. DRAPER: No objection, Your Honor.

SPECIAL MASTER: Thank you. Exhibit W327 is admitted.

(Exhibit W327 admitted.)

BY MR. KASTE:

Q. So the various reservoir operators come in and give you something in writing --

A. Yes.

Q. -- either that card or some other

communication indicating that they want to order reservoir water; right?

A. That's correct.

Q. All right. Now, what do you do with that information?

A. Because there's as many reservoirs as there are and as many options for how the water gets to a ditch and which ditch it's going to, we created a reservoir diversion sheet that I use in the field just to make sure I know where water is going.

Q. And at the end of the year, end of the water year when you're compiling your data for the year, do you then take the data from these various reservoir orders and compile that into a document?

A. Yes, I do. It's in our annual hydrographer's publication.

Q. Let me show you a couple other documents and make sure I understand. I'd like to hand you Exhibit 305 and 348, W305 and W348.

A. Thank you.

Q. Do you recognize those two documents?

A. Yes, I do.

Q. Can you tell us what they are.

A. The one I'm looking at right now is the reservoir distribution sheet.

SPECIAL MASTER: Which one is that?
THE WITNESS: It would be W305.
SPECIAL MASTER: Okay. Thanks.
THE WITNESS: And it is the reservoir distribution sheet for the water year of 2004.
BY MR. KASTE:
Q. All right. And is Exhibit W348 the reservoir distribution sheet for the water year 2006?
A. That is correct. That's what that one is.
Q. And does this contain or reflect all the reservoir orders in your district for 2004 and 2006?
A. Yes, it does.
Q. All right. And you create this record in the regular course of your business; is that right?
A. Yes, we do.
MR. KASTE: I'd move the admission of Exhibits W305 and W348.
MR. DRAPER: No objection.
SPECIAL MASTER: Okay. Thank you. So Exhibits W305 and W348 are admitted into evidence.
(Exhibits W305 and W348 admitted.)
BY MR. KASTE:
Q. All right. Now, let's pick a day and kind of go through the information on one of these reservoir

spreadsheets. And you have Exhibit 305 in your hand; correct?

A. Correct.

Q. So that would be the water year 2004?

A. Correct.

Q. And the first page has a date on it. What's the date?

A. June 9th, 2004.

Q. Okay. What -- if that's the first page, what does that tell us?

A. That would be the first order of any of our reservoirs for that year.

Q. All right. Let's pick a day where there's some more interesting stuff going on, because as I understand it, as the season goes on, reservoir orders increase; right?

A. Yes.

Q. Pick a day in July and turn to that page.

A. July. Well, first thing I put was July 20th.

Q. All right. Can you walk us through what Exhibit 305 shows was occurring on July 20th, 2004, with regard to reservoir orders?

A. Yes, I can. On July 20th, Park Reservoir is in bold at the top portion of the page. There was -- it looks like nine different people had ordered -- have

or had ordered water. They're presently releasing water to those folks. And those nine people, that water is going into five different ditches. In this case, all of these ditches are in Little Goose.

Then Big Horn Reservoir, there was, I would say, approximately 12 people. And Big Horn Reservoir is secondary supplies. It's attached water. So it always goes, as you see here, to the Colorado Colony Ditch.

Last Chance Reservoir has a foot and a half ordered. And it's going into the East Side Ditch.

Q. All right. So if I understand right, the -- well, the first column identifies the reservoirs and the reservoir shareholders; right?

A. That's correct.

Q. And then the next two columns identify what?

A. This would be that schematic we started with today. It would pertain to those. Park Diversion Ditch is how water gets out of Park Reservoir into Little Goose. So that's what I expect to see on the mountain, is that much water in Park Diversion Ditch. So that's why it's broken down into the -- subtotal of 20 CFS. If I was going to the mountain that day, that's what I would want to see in Park Diversion Ditch.

Q. Okay. And as we move across the spreadsheet into the overall column that says Park Diversion, what do those individual columns underneath that show?

A. That's our -- Malcolm Wallop has ordered 2 and a half CFS. Joe Schuchert ordered 7. And on down the line. Those are individual shareholders and how much they ordered.

Q. And then -- but going down in the columns under Park Diversion, does that show the ditch that that water is to be delivered to?

A. Not yet. That's how much I'm seeing in Park Diversion Ditch. That's a ditch. So I expect to see 20 CFS coming out of the Park on the mountain, in the Park Diversion Ditch.

Q. And we see that total down at the bottom under Park Diversion?

A. Yes.

Q. What I'm talking about is the middle of the spreadsheet as you move farther across and you see things like Peralta, Last Chance, Red Hill.

A. Sure.

Q. Under those columns, does that imply the ditch the water is going to go into?

A. All right. Yes. The first third of this page is the mountain plumbing. The second third on

this one is titled wrong. Where it says Park Diversion, maybe that's the confusion. The portion where it says Park Diversion in a big, wide tab should say Little Goose. And those are all of the Little Goose ditches. Once it comes off the mountain, then that water is further distributed according to these ditches.

In this case, Malcolm Wallop, which I mentioned had 2 feet in the Park Diversion Ditch, its ultimate destination is Last Chance Ditch.

Q. All right. And if we look at the bottom, we have a release coming from Dome Lake. And that goes into the west fork of Big Goose; is that correct?

A. Yes.

Q. And then we follow that particular release all the way across. And we're able to determine that it's going to go into the Alliance Ditch; is that right?

A. Yes, that's correct.

Q. All right. And you make this spreadsheet every day of the irrigation season when reservoir water is ordered?

A. Yes.

Q. So you -- are you able to tell at the dam how much water is coming out and where it's all supposed to

go?

A. Yes, I can.

Q. And all of that information -- well, not all. But does that information then make it into the annual hydrographers' report?

A. Yes, it does. The shareholder -- it's not in the same format. You will not see this distribution sheet. But what you will see is Malcolm Wallop ordered a total of 600 acre-feet, if that's how much he ordered that year under that particular reservoir. And there will be another portion that shows Peralta ditcheries [sic], on April 27, was receiving 6 CFS from Park, it was receiving 2 from Cross Creek. So, yes, it's in different formats, but it's all there.

Q. All right. And then how do you make sure that the water coming out of the reservoir in these amounts actually end up in these ditches in the same amounts?

A. I go and put the water in. Once we're in the reservoir, we essentially put the water into the ditches.

Q. Well, the way you describe that sounds like you have a bucket and you walk it over and dump it in. And I don't think that's what happens.

A. No.

Q. Can you explain the actual process in a little more detail?

A. An actual headgate is not a bucket. It's a screw gate with a -- sometimes round pipes. So it's a round gate that slides in front of a pipe and a square-threaded screw and a wheel that you turn it. And you can lift and open up more pipe. Sometimes they're rectangular on rectangular gates.

Regardless, you screw them up to allow more water into the ditch; screw them down to allow less water in the ditch.

Q. How is it that you're able to figure out that, for example, this particular ditch is supposed to get 2 feet of water from this reservoir on this day?

A. Well, on the sheet we talked about, I will have that, that that's what's supposed to happen. We have recorders. For example, the Park Reservoir Ditch is a supply ditch that shows the actual reservoir water on the mountain. In the canyon, I can see the canyon gauges show change.

When the reservoir changes are significant, then I can see what time the water showed up and if the appropriate change in the creek happened in the canyon. And then on the ditch, we have measuring devices that allow me to see how much water I have put in the ditch.

Q. So it's just basically a continual process of measurement from the top all the way down to the bottom and adding and subtracting as water goes here and there?

A. Yes, you can track it from the source to its original destination. And it's measured two or three times by the time it gets there.

Q. Are you also keeping track of the natural flow that exists in the creek?

A. Yes, we are.

Q. And then are you able to regulate the natural flow by the priorities along the stream as well?

A. Yes, I absolutely do that.

Q. And does that basically follow the same process?

A. Well, the same process as this is water that's already in the creek. So when I go, for example, to the Little Goose gauge and I have my reservoir distribution sheet, it tells me I've got a total of 57 CFS of reservoir water in Little Goose but there's actually 87 in the creek. I will sit there, after I've determined that it's 87 CFS, and I will take 57 CFS that is reservoir releases, apply a 10 percent shrink to that. So now I'm 57 minus 5.7. So I'm 51.3 feet. I had 87, so the difference there is what the

creek flow is, the natural portion of the stream.

Q. So if I understand right, at each of these particular measuring points, as you're working your way down the stream, you can assess what's reservoir and natural flow; right?

A. Yes.

Q. And if the return flows have occurred and they have increased the natural flow from the last point you can see that; is that fair?

A. I can. I can see that I've -- I have more water in the stream. It's not necessarily measured. I have two gauges on Little Goose. So I can see that I've -- between gauges I can see that increased or decreased and have a little definition of what I've received.

Q. All right. And do you utilize those return flows to help satisfy the early irrigators farther down the stream?

A. Yes. Once it enters the system again, it becomes a portion of the flow.

Q. Okay. Before we move on from these reservoir spreadsheets, I want to make sure the Special Master doesn't have any particular questions about how they work. I think you've done a good job explaining them.

SPECIAL MASTER: I could ask all day what

each of the individual notations means. But I'm going to trust you that you've already asked about the important ones.

MR. KASTE: We picked randomly that particular day. I just want to give you a feel for how the document operates. And then we're going to have, I think, a little more discussion about some specific things later on.

SPECIAL MASTER: I have a good feel for that.

MR. KASTE: Great.

BY MR. KASTE:

Q. Now I'm going to jump back to a different topic because that's the way I did my outline, and I don't have a good reason for it. With regard to reservoirs, we've talked about some of the documents that you've created to demonstrate the reservoir operations. There's another document that we've talked about called a notice to fill. And I don't have any of those in my hand, Bill.

A. No, you do not.

Q. Do you know what a notice to fill is?

A. I do know what a notice to fill is.

Q. Historically, what has been your practice with regard to distributing notices to fill to the reservoir operators in your district?

A. When I first started, we were doing notices to fill on all these reservoirs. It would take me a week to two weeks to find the operators of these ditches and hand them a piece of paper that was telling them to do something they started on October 1st every year. So I gave them up.

Q. All right. So we don't have notices to fill for the reservoirs in your district for the years 2004 and 2006?

A. No, you do not.

Q. Did the reservoir operators in your district begin storing water on October 1st during 2004 and 2006?

A. Yes, they did.

Q. Is that what they do every year?

A. That's absolutely what they do every year.

Q. Do the -- well, do you communicate with those reservoir operators all the time?

A. Yes.

Q. All right. Do you and they have an understanding about what could happen to them if they don't fill?

A. Yes, they do understand that -- what could happen, if they are -- they could potentially lose water if they don't store immediately.

Q. All right. Now, we talked about reservoir orders and how you record those.

And you also create, every year, a hydrographer's diary; is that correct?

A. Yes.

Q. And we haven't seen those yet in this litigation, so I'd like to hand you a couple more exhibits.

I'm going to hand you what's been marked Exhibit W34 and Exhibit W37. Can you tell us what Exhibit W34 is?

A. Yes. Exhibit W34 are copies of my 2004 hydrographers' diary.

Q. And the handwriting in that diary is all yours?

A. Yes, the handwriting is mine.

Q. Does the diary appear to be complete?

A. Yes.

Q. And is that a record that you regularly create in the course of your business?

A. Yes, it is.

MR. KASTE: I'd move for the admission of Exhibit W34.

MR. DRAPER: No objection.

SPECIAL MASTER: Okay. Exhibit W34 is

admitted.

(Exhibit W034 admitted.)

BY MR. KASTE:

Q. Same basic questions with regard to Exhibit W37. Can you identify what that document is?

A. Yes, I can. This is my 2006 -- a copy of my 2006 hydrographers' diary.

Q. And is the handwriting in there yours?

A. The handwriting is mine.

Q. Does it appear to be complete?

A. Yes, it does.

Q. Is that something that you create regularly in the course of your business?

A. Yes, it is.

MR. KASTE: I'd move for the admission of Exhibit W37.

MR. DRAPER: No objection, Your Honor.

SPECIAL MASTER: All right. Exhibit W37 is admitted.

(Exhibit W037 admitted.)

BY MR. KASTE:

Q. What do you hope to do with your hydrographers' diaries? How do you use them, and what do you put in them?

Give us an overview of why you carry that

around like it's your baby.

A. I carry this around like it's my baby because all of my field information that I collect is in here. It's times I visited headgates. It's times I took elevations on reservoirs. It's the observations that I made.

If I'm in regulation, it shows how much reservoir water that ditch was receiving, how much of the natural flow they're receiving, if any, and most often the math that I use to derive these numbers.

Q. There's a lot of math doodles in here; right?

A. Yes, there is.

Q. Have you thought about investing in a calculator?

A. I have one in my pack, but I still like to illustrate it in the diary. Ten percent's a real simple number to work with.

Q. All right. Very good. So do you try to put into this diary pretty much all of what you do every day?

A. Yes.

Q. That's not necessarily true in the winter, though, is it?

A. No, it's not. I'm in the office. We do a weekly report of our duties. And so what I do is on

those sheets in the winter.

Q. All right. So in the irrigation season, in summer and spring when you're working hard, your day-to-day activities are reflected in these two diaries?

A. They are reflected here.

Q. And your observations about what you see are often reflected as well?

A. Yes.

Q. All right. I want to look at a couple of pages in here and -- to give everybody a feel for the kind of information that's in there and what we can learn from it.

Let's start on Exhibit W34, which is the 2004 diary. And let's look at May 9.

A. Okay. I have that page.

Q. There's just one entry on May 9th; is that correct?

A. That's correct.

Q. What does it say?

A. It says "Dome filled." I went to Dome that day and observed it was full.

Q. That's one of the reservoirs in the mountains in the Big Horns?

A. That's correct.

Q. And you observed that the reservoir was full by that date?
A. Yes.
Q. And do you often record your observations of the reservoirs in the hydrographers' diary?
A. Yes, at every opportunity.
Q. But you -- I assume you don't spend your whole day on the mountain?
A. No, I would like to catch the actual point when they fill as filled, but it's practically impossible. So I may have been to the mountain a week ago spot-checking the reservoirs. Park Reservoir is -- I will continue with an example. It may not be the same one. I was there on a previous week. And, say, 9:30 I saw the Park Reservoir was minus 1.1 feet. A week later, I may be at Park; it's now full.
So I will -- those two data entries would be reflected, the two observations at the points of time I saw those observations. What that tells me is Park filled somewhere between those two days.
Q. All right. Let's go look at another day where there's more stuff reflected in your diary.
A. Sure.
Q. Let's go look at May 17th, 2004.
A. Yes.

Q. All right. Can you walk us through the information reflected in your diary for that particular day.

A. Yes, I can. May 17th, 11:37 I went to the Red Hill Ditch. I read the Parshall flume there at .388 gauge height. This is a 4-foot flume, so that indicates there was 2.64 CFS.

I regulated it off and tagged it that day. Noted that there was a leak past the headgate of 0.11, which is 4/10 of a CFS. It was leaking at that time. I did not seal it, or I would have indicated so.

11:47 I then went to the Peralta, noted the gauge height of .26 equals 2.8 CFS. 1.07 CFS is -- that is the Red Hill right that's legally been transferred to Peralta. And so I noted that they are 1.37 CFS strong. It does not appear that I took their 1.73 feet at that time. No, I did not.

Then at 11:53 I went to the Little Goose gauge. And it was -- this is the actual stream gauge. So I noted a gauge height of 1.72 feet on it.

We are, at this point in time, applying a minus 1 shift. Streams are static. They don't always stick to the rating table as moss comes in, silt comes in. We measure them monthly to check the accuracy. The previous measurement indicated I needed to shift

the rating down a hundredth of a foot to keep it within the scope of the stream. And that 1.71 with shift applied was 56.3 CFS.

12:10 went to Last Chance. Their gauge height was .68. Equal to 10.84. Last Chance has a right to 11.05, which equals a gauge height of .68. So they are on -- exactly on the gauge chart I want them to be on for their early territorial rights.

12:35 went to Colorado Colony. 1.20 gauge height equals 37.49 CFS. Open five turns to 1.21 equals 37.99. Net gain of half a CFS; 2 and a half from Red Hill release. Okay. So I'm anticipating that the water I took from the Red Hill at 11:37 is going to show up at this headgate, but it's not here yet. Maybe. I can't indicate really that it's here yet or not.

Q. All right. I got a couple questions about that.

A. Sure. That was my morning.

Q. Now, can you tell from your hydrographer diary, and you might have to look at a page before or after potentially, what streams in your district were in regulation on May 17th?

A. Yeah, I would have to look at previous pages to be able to see what was going on in Big Goose.

Those are my two streams. Pat potentially had something going on in his district. So it would be in his diary.

Q. Sure. There's a bit in the second line here where you talked about a leaky headgate.

A. Yes.

Q. Do you recall that?

What do you do, typically, when you experience a headgate that's leaking?

A. Well, I have gone and got an orange tarp out of my truck and put it in front of a headgate in the past. If it's an easy enough one for me to take care of myself, I will so. If it's beyond anything I can do, I'll contact the ditch company and let them know they need to deal with an issue.

Q. So you take the tarp, and you stick it in front of the headgate to hold water?

A. Creekside of the headgate. Get my waders on and get in.

Q. All right. But if it's a more complicated repair, you notify the owner of the headgate?

A. Yes, I will contact them for anything that I can't deal with like that.

Q. Do they typically come out and fix it?

A. Absolutely, yeah.

Q. In a timely way?
A. Absolutely, yes.
SPECIAL MASTER: Can I just suggest -- we're going to try to do the two morning breaks. So this might be a good time, if that's fine with you, to take the first ten-minute break if you're going to go to a different document.
MR. KASTE: I'm going to do one more page in here and then move on to another document. Now might be a good time.
SPECIAL MASTER: Sounds good. So we then will take a ten-minute break now and come back at quarter after the hour.
(Recess taken 10:06 to 10:17 a.m., October 30, 2013)
SPECIAL MASTER: Okay. Everyone can be seated.
Mr. Kaste.
BY MR. KASTE:
Q. All right. Mr. Knapp, we're going to take two steps back and three steps forward to try to get some things that I missed.
First, with regard to the Tongue River schematic, could you please identify for us -- you testified that it didn't show all the ditches, just

some of the major ones.

Would you show us where the NB Held Ditch is located in relation to Big Goose Creek?

A. Yes, I would.

Q. Okay. Please do that.

A. It would be on Big Goose Creek approximately here on the electronic display; it's a little dot. The confluence -- yes, that is it.

Q. So the NB Held Ditch is downstream of the Alliance Ditch?

A. Yes, it is. It's just above Sheridan.

Q. Just above Sheridan. So is there regulation that occurs in a typical year related to the NB Held Ditch?

A. Yes. In a drought year, we've had to regulate for NB Held.

Q. Is Big Goose Creek regulated from basically the town of Sheridan up to the mountains in a typical year?

A. In a drought year. It's essentially regulated in most years, in the sense that they are delivering reservoir water. That's enough tailwater -- it becomes dry at the Alliance in that scenario. But there's enough tailwater returning to the system that we do not get calls from the early rights, which are

all downstream. They have that right to call us when it's short. But in a heavier water year, we can dry it up to Alliance, and the tailwater takes care of the bottom half of the system.

Q. So the lower rights are senior in that --

A. The lower rights are senior.

Q. But they are satisfied?

A. Yes, they are.

Q. And not making a call on the upper rights?

A. They are not making the call.

Q. All right. And like I said, two steps back, here's the second step back. If you'd go with me to Exhibit W348. The reservoir -- or the order spreadsheet.

A. Okay.

Q. And look at July 28th, 2006.

A. Okay.

Q. Can you identify what reservoirs were releasing water on July 28th, 2006?

A. I can. They would be Park Reservoir, Big Horn Reservoir, Dome Reservoir. Sawmill Reservoir is not. Twin Lakes is releasing. Martin is releasing, as is Cross Creek Reservoir.

Q. When a reservoir is making releases like that, I assume they are not storing?

A. No, they are not storing. At this point in time, they have to pass through these inflows.
Q. At that point in time, July 28th, 2006, is there any storage happening in your reservoirs?
A. No.
Q. And for --
A. They've been in regulation for a while, and they were passing through stream flows.
Q. All right. Now, hopefully we can make one step forward. Go ahead and put that exhibit away. And let's look at one more date in your 2004 hydrographers' diary.
A. Okay.
Q. Do you have that one?
A. I do.
Q. Exhibit W34. Can you tell us from your diary what May 24th, 2004, looked like for you?
A. May 24th, I looked in Cross Creek water for the Peralta right that was released through Park. So at that point in time, we had taken all of Cross Creek water and given it to Peralta Ditch, which has the priority. There's priority over storage on the mountain. And so we'd essentially cut off the fill on Big Horn and Cross Creek to give the water to the Peralta Ditch.

The top note above says, "37 percent of the water belongs to the Colorado Colony."

Q. So if I understand right, at that point in time, the irrigation rights downstream are trying to get their natural flow water, and in order to give that to them, you're going to stop storage?

A. That is correct.

Q. All right. If any was occurring during that time. All right.

What else is going on May 24th?

A. 24th looked at the Park Diversion at 0900. It had 20 CFS. I believe the reason I looked there is because that's where I expected to see the Peralta water show up as a means of conveyance out of the east fork into Little Goose.

And then I just checked the lower system of Little Goose. I went to the Burn Cleuch which is the lowest of my territorial rights of significance in Little Goose up to the Gerdel, up to the west side, assured it was off.

Q. Why does it have to be off?

A. 'Cause it's out of priority by now.

Q. So is the Little Goose Creek in regulation on May 24th?

A. Yes.

Q. Oh, okay. Then what happened after you looked at the west side?

A. Up the east side. This is the No. 2 right. They have a right for 13, but they were getting 6.74. Muskrat was getting their right -- no, they were not. They were .45 short. So I did not do anything for them at that time, just noted it.

Measured Little Goose. So I went up and did one of those cross-sectional measurements we referred to where we try to keep the accuracy of the stream gauges within parameters.

Peralta is right there, so I checked the Peralta notes on the Peralta at 1800. I have to cipher this. 1.7 of Red Hill. And 10.71 of the Cross Creek water is what I'm referring to with that 10.71. And that's since Colorado Colony is getting 37 percent, some of that water legally could have been the Colorado. They're getting 48 percent of 20, I guess. I expect -- I saw 20. I don't know if that's the number I expected to see.

So -- but I determined anyway that their total diversion was -- they would be allowed 10.71 CFS.

Q. Okay. Now, down at the bottom of this page it says, "Park Res minus 9.5" feet I assume?

A. Yes. 9 and a half foot below full.

Q. So on that day, Park Reservoir was not full?
A. It was not full.
Q. Park Reservoir, did it fill in 2004?
A. No, it did not.
Q. All right. Now, we've talked about these entries in your hydrographer diary, which often focused on your measurements and stream gauge and headgates and reservoirs and so forth. Now, this water goes from the headgate to different places.
Did you ever -- do you ever take a look at what's going on with the water, say, at the end of the ditch?
A. I will look at the end of -- the end of the ditch if -- I know where a lot of return flow comes from. East side, the No. 2 regs I'm sending to Coyote Draw. You will see numerous notations in my diary concerning Coyote Draw. If I see too much water in Coyote Draw, I will take it from that ditch.
Q. What do you mean when you say "take it from that ditch"?
A. I'll go to their headgate and reduce their diversion.
Q. And you're doing that, I assume, 'cause they're wasting water at the bottom of their ditch.
A. Yes, they are. To a point, it helps me

satisfy some of my lower water. But if it gets to the point where I can't use it, I give it to somebody that will.

Q. All right. Are there any other kinds of situations where you see waste and you take action?

A. Yes.

Q. Can you give us an example?

A. Headgate leaks, we discussed. But, yes, that's one. If I've got -- a lot of it's return flow issues. If I'm seeing water returned to the creek that I can't account for and I can't use, it's a big factor. If I'm getting return flows and I've got legitimate use downstream, then I can do that.

Q. All right. Now, you told us earlier that you were able to administer the stream in priority despite having to account for all these reservoir releases. Do you remember that?

A. Yes, I do and I can.

Q. And we looked at some stream schematics with Mr. LoGuidice yesterday. Do you utilize those in the course of administering the stream in priority?

A. I do. I carry mine with me constantly.

Q. All right. And the information on the stream schematics comes from where?

A. It comes from -- it's an attempt to reduce

the tabulation of water rights for a stream drainage down to something that is manageable in the field. And it shows the significant rights during times of regulation that would be players. There's at least one right in every ditch just to get the ditches on the schematic. But when I have to regulate Little Goose, I'm immediately at 1883. So I'm not concerned with putting late water on the schematic because it's out of the game once we regulate it.

Q. What do you mean when you say, when I regulate on Little Goose, I'm immediately at 1883?

A. I'm immediately to 1883 because the Colorado Colony Ditch has an 83 CFS right for 1883 water out of Little Goose. By the time we regulate, if we got all of their water right, we've got 150-foot in the creek for other users too.

Q. So typically is it the Colorado Colony Ditch that is the first ditch to call on Little Goose?

A. Typically it's the Gerdel. I have had the Colorado Colony, when I've asked them "Is it like the water above them that's out of priority," say, "No, we're okay." And so I don't go get that water. But when the Gerdel gets the same question posed to them when they're short, they say, yes, I want it.

And at that point in time, the water

regulation is below the Colorado's. So it kicks in above them as well.

Q. All right. Now, let me see this. The hydrograph typically for both of the major creeks in your district, Big Goose and Little Goose, it has -- it goes up real high typically during the runoff and then drops off real steeply?

A. Yes.

Q. So the water supply within, what, a couple of days goes from being more than anybody can take to something much less?

A. Yeah. A couple of days a year are radical, but it does occur quickly.

Q. If I understand right, when you say we're regulating to 1883 immediately when that hydrograph drops low --

A. Yeah.

Q. -- you have to cut off everybody who has a right above 1883, pretty much right off the bat?

A. Every right junior to 1883, yes, gets cut off.

Q. Are a lot of those junior rights found in some of the same ditches that you're regulating back to 1883?

A. Absolutely. There's many enlargements on the

ditches that start with the territorial right and come up into pertinent numbers that will be in the '20s, and ultimately there will be some in the '50s and '90s, occasional brand-new water rights applied.

Q. When you regulate down to 1883, or even the headgate that you're calling for, could it be less than its full capacity because those enlargements aren't supposed to get any water?

A. Yes, it could be.

Q. And does that happen most of the time?

A. Most of the time, yeah.

Q. All right. Now, we've talked about the reservoir orders and reservoir spreadsheet and the hydrographers' diary, and we talked a little bit with Mr. LoGuidice about the hydrographers' annual report.

A. Okay.

Q. Now, you're responsible for preparing the hydrographers' annual report for the Tongue River; is that right?

A. Yes, I'm responsible for the Tongue River.

Q. How do you do that?

A. I will -- we have digital records or paper records at points in diversion at stream gauge. We will reduce that data down to mean daily flows. We will take all of the previously looked at reservoir

orders, then build spreadsheets that show where that water went, what day it went, which reservoir it came from.

We will establish -- at the end of the year, we'll have tried to get a final elevation on the reservoirs near October 1 as we can get to so we know their carryover and just start collecting data and publish it and get it in a public format.

Q. The hydrographers' annual reports for 2004 and 2006 have been admitted in this case already as joint exhibits. They are Joint Exhibit 61 and 62. And I just want to show you two pages out of one of those. And that's going to be Joint Exhibit 61.

A. Okay.

Q. I'm sorry. It's not bound. I've handed you Joint Exhibit 61. Is that the 2004 Hydrographers' Annual Report for Division 2?

A. Yes, it is.

Q. All right. What I'd like you to do is turn to page 92, and ask you to explain what page 92 and 93 are.

A. Every year in the hydrographer's annual report, we are expected to do just a little write-up of how our summer went that was pertinent data about that water year. So this is that write-up for my drainage

in 2004.

Q. All right. And this is your narrative summary of the year, and then all the specific data follows; right?

A. Yes.

Q. I'm just interested in one sentence in the third paragraph. And it says -- the third sentence there says, "Big Horn, Cross Creek, and Park Reservoirs were unable to fill this year." Do you see that?

A. I do see that.

Q. Is that true, those three reservoirs weren't able to fill in Wyoming?

A. That is true.

Q. All right. Now, with the hydrographers' report in hand and your diary and the other data that you collect every year, can you look at that data and reconstruct the events of the particular year?

A. Yes, I can, with a great deal of accuracy.

Q. Great. Well, there are a couple years at issue in this case, so we need to talk about them.

A. Okay.

Q. I'm going to hand you Exhibit W40. And then we're going to take some baby steps about it as we go through; all right?

A. All right.

Q. All right. I've handed you W40. Can you tell the Court what that document is.

A. Yes. Let me look at it just a moment. This is storage regulation in the 2000 water year. So it cites a number of pages of data that I studied and looked at and determined -- I used to support the statements I'm making in this record.

Q. All right. Is this a document that you created?

A. Yes, it is.

Q. And are the attached documents from your hydrographers' diary and the annual report?

A. I see one from my diary, I also believe -- two from my diary. Two from my diary. The rest are from my report.

Q. Those are also documents that you created; correct?

A. Yes.

Q. And the first two pages of this, are they a summary of the records that -- from your hydrographers' diary and from the annual report?

A. Yes.

Q. In addition, you make some statements in that second page about what does this data mean; is that fair?

A. I'm sorry. I didn't hear after "about."
Q. About what the data that you're identifying means.
A. Yes, there are statements concerning that.
Q. Do you remember when you prepared this document?
A. I do not.
Q. It was after 2004?
A. Yes, it would have been. I noticed my signature block says I was assistant superintendent.
Q. When did that occur?
A. That occurred in 2009.
Q. All right. Have you looked at this document recently?
A. Only just recently. Maybe this weekend.
Q. Did you look at it when you made it?
A. I'm sorry. I guess I don't understand the question.
Q. Well, what I'm trying to assess is, you put this together some time ago; fair?
A. Yes.
Q. And you've had a chance to look at it recently?
A. Yes, I have.
Q. And you have had a chance to assess whether

it is accurate?

A. Yes, I have.

Q. Is it accurate?

A. Yes.

Q. All right. And if I understand this right, all of the data that you have referenced here in this memorandum comes from the sources that are attached to the back?

A. Yes.

Q. All right. And what is the purpose -- what was the purpose of creating this memorandum?

A. It was basically to give a summary of 2000 water -- 2004 water year, I think in particular, to reservoirs not filling to capacity and dates that regulation began. And I think that's essentially it.

Q. All right. That's fair.

SPECIAL MASTER: Mr. Draper, you're standing up already.

MR. DRAPER: I'm just waiting for him to offer it, Your Honor.

MR. KASTE: I'll do that now. I would offer Exhibit W40 into evidence as the summary of voluminous documents prepared by Mr. Knapp and including some opinions that he formed, during the course of his employment, about water use and water storage in 2004.

MR. DRAPER: Your Honor, we would object to this exhibit. It's essentially an expert report. It was prepared after the beginning of 2011. You can see that from the name of the governor of Wyoming there who took office at the beginning of 2011. This is a document that is prepared in the course of litigation in this case. It's essentially an expert report. We had no opportunity to depose the witness on this. And we would object to its entry into evidence or use in this proceeding.

SPECIAL MASTER: Mr. Kaste.

MR. KASTE: I think I told you Mr. Knapp kind of is an expert with regard to the day-to-day activities and operations performed in Division 2.

These reflect -- this document reflects his own observations of the conditions that prevailed at the time. And then he can give us his opinion about what that means. Because he's formed it during the course of his employment.

MR. DRAPER: Your Honor?

SPECIAL MASTER: Yes, Mr. Draper.

MR. DRAPER: As I told Mr. Kaste when I discussed this with him earlier, this is not appropriate at this time as an expert report. And it's essentially, as he said himself, an expert-prepared

document. He tried to have Mr. Knapp named as an expert earlier in the case. You, by order, denied that request. No expert report was submitted in a timely fashion to allow discovery on it. And this is simply an extension of that effort. And we would object to it.

MR. KASTE: Well, I would let the Court know that this was produced during the course of discovery. And it was, if I understand right, included with materials provided by Mr. Doyle Fritz.

MR. DRAPER: Your Honor, I might clarify one thing in that regard. We did not have access to this until after Doyle Fritz, one of their experts, submitted his expert report in this proceeding after we had taken Mr. Knapp's deposition. It was in his backup and appears to be essentially a memo.

MR. KASTE: And nobody asked us if which -- to take Mr. Knapp's deposition a second time. We would have produced him. They had this information. There's not a surprise here.

SPECIAL MASTER: So let me just walk through various parts of this. So, first of all, are all of the attachments to this document admitted separately at this stage?

MR. KASTE: Yes, they are.

SPECIAL MASTER: And if I understand the document, on the first page, if you exclude just first couple of sentences, that's basically a description of what is attached; is that correct?

MR. KASTE: Yes. He's pulled the relevant portions from those records.

MR. DRAPER: Yes, he's performed an expert selection of evidence from --

SPECIAL MASTER: I understand.

MR. KASTE: From that data, as we turn to the second paragraph, that data helps inform his determination about when reservoirs filled or didn't fill in Wyoming in 2004. He's able to extrapolate that from the data that he has existing. And he can explain that process.

SPECIAL MASTER: So what I'm going to tentatively do at the moment, simply so it's all in one record -- and this is going to take you a little bit more time, Mr. Kaste -- but I will admit -- tentatively admit the exhibit. But I'm not going to admit it for the opinion expressed at the top of page 1, on ceasing storage in 2004, on May 24th, 2004, nor -- because I'm not quite sure what is there yet in the last paragraph of the document on page 2. And if you want to ask the witness about the -- what he actually is aware of or to

explain how particular aspects of his documents actually show that, based on his records, a particular reservoir was not storing on a particular date, then that's fine.

And, Mr. Draper, you're welcome, if you want to, to object if you think that Mr. Kaste is getting into a question which is calling for an opinion based on something other than what the witness was actually doing as a percipient witness. Okay.

MR. DRAPER: Thank you, Your Honor.

SPECIAL MASTER: And, again, if there are other things, as we go through this particular document, that appear not to be admissible, then at that point, we can talk about what exactly to permit of this. But I think the alternative is basically to try to reconstruct this piece by piece. And it's easier, I think, for me to have this as one document at this point.

MR. KASTE: Fair enough. That's why we make summaries.

SPECIAL MASTER: Okay.

BY MR. KASTE:

Q. All right. Mr. Knapp, we're going to go through this slowly to see how it was constructed. So we're going to start at the bottom datawise.

And can you explain to us, and maybe just going down the list of 1 through 9 things and helping us understand why those particular pieces of data were relevant to your work trying to figure out when storage ceased in 2004.

A. All right. Item 1 states, "On 24th, Monday," in quotes "diary," citing the source. It states that "Cross Creek water for the Peralta water right," I wrote "released." Someone has crossed that out and written "bypassed through Park Diversion, 0900," being the time of day, "20 CFS."

I also noted on that same page in my diary, "Park Reservoir was 9 and a half foot below fill."

Q. All right. Just to make something clear. Is the red writing on this document yours?

A. No, it is not.

Q. All right. We're going to pretend like it doesn't exist.

A. Okay.

Q. Now, what does the fact that Cross Creek water for the Peralta right was released through the Park Diversion on May 24th and that Park Reservoir is down 9 and a half feet from full, what is that telling you?

A. I've noted the elevation in Park Reservoir at

that time. We are not allowing storage out of Cross Creek, which would most assuredly affect the Big Horn Reservoir, the Cross Creek Reservoir, the Martin Reservoir, and the Last Chance Reservoir.

Q. All of those reservoirs stopped storing at that time?

A. Absolutely.

Q. All right. What is the next data point that you looked at?

A. May 25th, the next day in my diary. At 10:12 the Peralta equals .64, equals 11.72 CFS.

So what I've done is, of that 20 percent -- of that 20 CFS of water that we took from the upper reservoirs and put in Little Goose, I've given 11.1 CFS, which is their portion of that, to the Peralta.

The other portion -- so 20 minus 2, 18, the difference of 18 and 11.1 has been legally transferred to the Colorado Colony Ditch. So I would have also put it in the Colorado Colony Ditch, the rest of that water.

Q. All right. What was the next data point you were looking at?

A. 11.3 would have been May 26, the next day in my diary. Cross Creek releases to Little Goose are 19.6. So not quite the 20 we discussed. Minus

10 percent equals 1.96. I was identifying 10 percent. So minus the 10 percent is 17.64 CFS. 50 percent of this goes to the Peralta, equals 9.53 CFS. They still get their 1.07. So does Red Hill out of Little Goose, which is a priority. So we're navigating water from two sources.

At 11:44 water that date, the Peralta is now a gate height of .65 equals 12.07 CFS. Regulated Peralta to 0.60 equals 10.63. I did my math. They were entitled to 10.6, so .60 on their measuring device gave them 3/100 of a foot over their appropriation, about 12 gallons a minute too much in their ditch at that time.

Q. All right. Those last two pieces from your diary that you talked about.

A. Yes.

Q. What does that tell you about storage conditions in your district between May 24, 25, 26, 2004?

A. Well, it tells me that we're done in the Cross Creek drainage storing any water.

Q. All right.

A. It just got regulated.

Q. And what were the next data points that you looked at?

A. Page 141 of the hydrographers' annual report, division of flow records of Park Diversion Ditch, the flow recovered by Park Diversion.

Q. I think it's the very --

A. There it is. Yes, I have it. So I think in a previous note, I noted that I went up and turned on the Park Diversion Ditch.

And it is -- they are releasing 19.6 CFS, which is that Cross Creek water we just regulated off of storage to give storage to people in Little Goose for their territorial right to this water. And it's now -- prior to the time I turned on the records, it had already been started into Little Goose.

Q. All right. So that's telling you storage is complete for what reservoirs?

A. Everybody in Cross Creek, Big Horn Reservoir, Cross Creek Reservoir, Martin, Last Chance. We're done storing.

Q. All right. What about the next data point, No. 5? What were you looking at there?

A. No. 5 is page 134 of the Hydrographers' Annual Report, the diversion of flow records of the Peralta Ditch. I have them now. All right. I highlighted numbers previously on what I am seeing on this page -- this is on May 24th -- the Peralta was

only diverting 6.7 CFS. On May 25th, I was there. I did the math, and what they were entitled to -- now we have Cross Creek water out of -- coming into this Little Goose system and gave their proportionate share.

Q. All right. And that confirms that that water that was being released showed up in the Peralta Ditch?

A. It does. It shows that we took it. We sent it in the canyon, and we put it where it belongs.

Q. All right. What was the next data point you considered?

A. That would be data point 6, June 1st, Tuesday, in the diary.

All right. I have that. And I've highlighted what I'm looking at, is at 1438 I was at Park Reservoir. And it's now 10.1 CFS elevation. So it's lost nearly a foot of elevation since the previous diary notation of 9, I think it is. I think it's exactly a foot.

Q. And that tells you that it's not storing --

A. It's actually releasing water. It's releasing a foot of water in elevation since the two dates on the diary.

Q. All right. What about the next data point, No. 7?

A. No. 7, Hydrographer's Annual Report, page 142

of that report is diversion -- or flow records of Big Goose and Beaver No. 1.

All right. I have that page. I see nothing highlighted. It's included -- let me look at the 24th dates.

At this point, all I can say is that is a copy of the annual report in reference to the Big Goose, Beaver No. 1 headgate diversions.

Q. You didn't note on the first page why you thought that one was important when you created this?

A. It may come to me with -- okay. I do know. I would have to refer back to the Peralta Ditch page out of Little Goose.

This one became important because we put the 11.8 feet into the Peralta on the 25th. It stayed in there. On the 27th, you can see they're right back to 7.7, barely over what they were when we gave them the Cross Creek water.

The reason Big Goose-Beaver is a player is because when they found out that water was going to the Peralta, they said, no, we're senior to them. We would like that water. So we had to take it right back from the Peralta and give it to Big Goose-Beaver.

Q. At this time, were the Big Goose-Beaver and the Peralta, were they receiving all the water that

their rights would entitle them to?

A. No. In the case of Big Goose-Beaver, their right is mid-70s to 80 feet. And I'm seeing on the 24th, when we gave them the water, they managed to get the 64. So they were still shy of their right by a substantial amount.

Q. Now, if I understand right, Big Goose-Beaver and Peralta have the right to reservoir water. They have some; right?

A. They have some.

Q. And they could have called on storage if they had decided to?

A. Yes, they absolutely could have.

Q. Do you know, personally know, whether -- why they didn't call down that storage?

A. They will not call on their direct flow right because there would be -- would prefer to have more water later. If they can get these reservoirs filled, it is their desire to allow them to do so.

Q. So in this period around May 24th and before, are these two ditches taking less than they're entitled to?

A. Yes.

Q. And allowing water to store in the reservoirs?

A. Yes.

Q. All right. Here's the part of this exhibit that gets people excited. If a call had been placed on the river somewhere down way and storage had to cease, say between May 17th and May 24th of 2004, would the water that was stored in these reservoirs be taken by these senior rights?

A. Yes, it would.

Q. Now, I think we're on the last data point, No. 9.

A. No. 9 is page 126 of the Hydrographers' Annual Report, diversion or flow records east fork of Big Goose Creek below Park. Okay. I have trouble shuffling through and finding this one. But I'll be there. There it is. Thank you. I have it.

All right. This is -- reflects what had me a little bit puzzled as far as why these pages were included. Big Goose-Beaver water goes past this gate out of Park Reservoir. So when Big Goose-Beaver made the call on the Peralta, it shows the water that -- the Cross Creek water now taking a different path on the mountain to get to their headgate.

Q. All right. Now, from this data that you've identified, are you able to figure out when storage ceased in 2004?

A. Yes.
Q. What day that was?
A. It ceased by the 24th date. We were done storing, most assuredly, on May 24.
Q. And is that for all the reservoirs in your district?
A. Yes.
Q. All right. Now, you know, May 17th is an important date in this litigation. So it would be important to know what was in your reservoirs on May 17th?
A. Yes.
Q. Probably. And we're going to see if we can figure that out. So I'm going to hand you Exhibit W175. Can you tell us what that document is?
A. Yes, it is in the format of what we traditionally use at the Yellowstone River Compact meetings. It indicates storage in the Tongue River Basin, and the lower half is storage in Powder River Basin. Lower half is Powder River Basin.
It then goes on to indicate the total permitted capacity in the itemized reservoirs and breaks them out between pre- and post-'50 water. The center area is unfilled as of 10/1/2003. So data points on those reservoirs for October 1st of 2003. So

this would be the carryover from the previous water year. Storage as of 5/19/2004 in all of the itemized reservoirs.

Q. Let's stop right there and talk about that. 5/19/2004. You're aware that Montana wrote a call letter on May 17, 2004; right?

A. Yes.

Q. I assume you heard about that from Mr. Whitaker?

A. Yes.

Q. Did he ask you to do anything in response to that letter?

A. He asked me to go check on reservoir elevations and see where we were at as far as storage values.

Q. Did you record the reservoir elevations that you observed on May 19th on Exhibit W75?

A. Yes, I did.

Q. All right.

MR. KASTE: I'd move for the admission of W175.

SPECIAL MASTER: Mr. Draper.

MR. DRAPER: Your Honor, there's been no testimony as to who created this document or whether it's been verified. So we would object on that basis.

MR. KASTE: I think he did that.

BY MR. KASTE:

Q. Mr. Knapp, who created this document?

A. I did.

SPECIAL MASTER: Can I just ask, did you prepare this contemporaneous to May 19, 2004? Not on the exact date, but in that general vicinity?

THE WITNESS: Yes, it would have been in that vicinity.

SPECIAL MASTER: All right.

MR. DRAPER: That's satisfactory, Your Honor.

SPECIAL MASTER: Thank you, Mr. Draper. Then Exhibit W175 is admitted into evidence.

(Exhibit W175 admitted.)

MR. KASTE: Apparently I've misspoken several times and said May 17. And as usual, Mr. Kuhlmann has corrected me and told me the call letter is dated May 18th. So I apologize for that misstatement.

BY MR. KASTE:

Q. So the next day, you went out and looked at what's actually in the reservoirs; right?

A. Yes, I did.

Q. All right. Can you identify whether any of the reservoirs in the Tongue River drainage were full as of May 19th?

A. I would have to compare capacity. There we go. I have Column 3 to Column 5 is where I need to look. Cross Creek was full. Dome was not. That was not. Willitts was full. So Cross Creek and Willitts was full.

Q. All right. And some of these reservoirs don't have any post-1950 space on them; right -- or in them?

A. They do not.

Q. So, for example, if I understand right, Granger, Willitts, Martin, Last Chance, and Weston don't have permitted post-'50 capacity?

A. Could you repeat that list?

Q. Sure. Column No. 2.

A. Okay. That will help.

Q. The ones that say zero there, Granger, Willitts, Martin, Last Chance, and Weston, I understand they don't have any post-'50 space?

A. That's correct.

Q. All right. So you actually went out and measured where the reservoir was on May 17th. And then storage stopped everywhere by May 24th; correct?

A. I actually went out on May 19th, and then the storage stopped.

Q. I don't understand why I am so tied to

May 17th. I keep saying it wrong every single time.

All right. So some water may have been stored in these reservoirs between May 18th, the date of the letter, and May 24th, 2004?

A. Yes, that's correct.

Q. And we look to -- if this reflects in Column No. 5, the actual contents on May 18th -- or 19th, can we look at another document and figure out how full they actually got six days later, five days later? Is that reflected in the hydrographers' annual report?

A. Yes, it is. The final elevations for all the reservoirs are in that report.

Q. All right. But if I understand correctly, some of that water that -- we can agree, likely stored in that five-day period, that water, had it been released, would likely have been taken by senior rights in Wyoming?

A. Yes, it would have been.

Q. Fair enough. Let's talk, then, about 2006.

A. Okay.

Q. 2006 is a lot easier. So naturally your summary is a lot less interesting. I'm going to hand you Exhibit W41.

Can you tell the Special Master what that is?

A. This is a document I made in 2006 titled

"2006 Reservoir Data." And this is basically a summary of what date that reservoirs filled in my drainage.

Q. Again, is the handwriting in red yours?

A. The handwriting in red, no, that is not my handwriting.

Q. So if I understood right, you made this in 2006? 'Cause it doesn't have a date on it.

A. I do not know if I made this in 2006. I suspect I did.

Q. That's why you should date things.

A. Yeah.

Q. In addition to signing them.

And you did sign this; correct?

A. Yes, I did sign this.

Q. All right. And where did the information for this summary come from?

A. All of this data is from the hydrographers' annual report for 2006 water year.

Q. All right.

MR. KASTE: I'd move for the admission of Exhibit W41.

MR. DRAPER: No objection, Your Honor.

SPECIAL MASTER: Okay. Exhibit W41 is admitted into evidence.

(Exhibit W041 admitted.)

BY MR. KASTE:

Q. All right. Now, this document indicates, first, that all the reservoirs filled.

A. Yes.

Q. And is that true in 2006; all the reservoirs in your district actually filled?

A. Yes, it is true.

Q. And then it goes on to identify order dates from various reservoirs. Is that the first date?

A. Yes. That's the first date that we released stored water from each of those reservoirs.

Q. And what does that information tell you about when storage occurred during 2006?

A. It exactly coincides with when storage ceases. The first order, they have to release any inflows plus the order water.

Q. So as soon as somebody orders reservoir water, storage is done?

A. Storage is done.

Q. But if I understand right, storage could also be completed for other reasons? For example, the reservoir could fill before there are any orders?

A. Yes. It could be in their spillway. They could be totally filled, and it could be spilling through their spillway until such time as they need to

order.

Q. So this is an indication that storage had certainly ceased before this date. But it may have stopped even before that; correct?

A. Yes. They could have filled prior to these dates. This is a definitive that storage was stopped at this point.

Q. Fair enough. Now, are there any of these order dates that are after July 28th, 2006?

A. No. The latest day is July 12th of 2006.

Q. Was any water stored in your district in any of your reservoirs after July 28th, 2006?

A. No, it was not.

SPECIAL MASTER: Mr. Kaste, I'm wondering whether this would be a good time for the second ten-minute break.

MR. KASTE: I was just going to check with Mr. Brown, and then I thought I might be done.

SPECIAL MASTER: Okay. Why don't you check on that, and then we'll take a ten-minute break.

MR. KASTE: Great. Mr. Brown tells me I'm done.

Thank you, Mr. Knapp.

THE WITNESS: Thank you.

SPECIAL MASTER: So you are not finished.

But why don't we take a ten-minute break at this point. And then we'll come back at, like -- oh, by that clock, we'll come back at 25 after the hour. And then we'll do the cross-examination.

(Recess taken 11:13 to 11:27 a.m., October 30, 2013)

SPECIAL MASTER: Okay. Thank you. Everyone can be seated.

I just want to come back very quickly, Mr. Draper, before your cross-examination on Exhibit W40. And just to avoid any concerns, both about this being a document that may very well have been prepared in advance of and in contemplation of litigation and that it certainly bears a resemblance to an expert report, I'm going to allow W40 into evidence for the limited purposes of providing in one place the various attachments to it as well as the lists of what those various attachments are so that rather than having to refer to each of those individual exhibits any time somebody wants to, you can refer specifically to W40.

I think all of the rest of the document either you covered, Mr. Kaste, as part of the direct examination, or it could resemble an expert opinion without the testimony itself.

So, again, it's admitted for that limited

purpose. And so the only parts that can be referenced are the attachments and that list of what the attachments are on the first page.

(Exhibit W040 admitted.)

MR. DRAPER: Thank you, Your Honor.

SPECIAL MASTER: You're welcome.

CROSS-EXAMINATION

BY MR. DRAPER:

Q. Good morning, Mr. Knapp.

A. Good morning.

Q. Mr. Knapp, you've been the lead hydrographer on the -- in the Tongue River Basin for quite some time; is that right?

A. Yes, I have.

Q. And during that period, you prepared detailed tabulations of the water rights in that basin; isn't that right?

A. Yes, I have.

Q. I'd like to hand you a copy of what has been marked as Exhibit M20.

MR. DRAPER: If I may, Your Honor?

SPECIAL MASTER: You may. Which is this exhibit? I'm having a hard time keeping track of various exhibits that have been shown the witness this morning or whether this is one that's already been

introduced.

MR. DRAPER: This has not been introduced yet, Your Honor.

SPECIAL MASTER: Okay. Thanks.

BY MR. DRAPER:

Q. Mr. Knapp, can you take a look at Exhibit M20 and confirm what that document is?

A. Yes. This is printouts from what I call the tabulation of adjudicated water rights, that I have created over the past 21 years.

Q. And how did you go about putting that tabulation together?

A. I'll start at the beginning. It used to be on mylar maps and inked in on mylar. And then we had the capability, when we got computers, that I converted this whole system into an Excel spreadsheet, took the data existing on the mylars and proceeded to go to the county and gathered up all the information I could on every individual water right that was in the county courthouse.

Q. So your sources for this were the records of the state engineer's office and the local county courthouse?

A. Yes, and they still are those two sources.

Q. Is this list largely accurate, to your

knowledge?

A. Largely accurate, yes.

Q. And it's organized around the various tributaries and other parts of the river system; is that right?

A. That's correct.

Q. For instance, on the first page, we can see Big Goose Creek?

A. Yes.

Q. And if we flip to the bottom of the many pages that -- those that we can see, that there are other designations that are recognizable, such as tributaries of Big Goose, Little Goose Creek, and the other areas of the basin?

A. Yes.

MR. DRAPER: Your Honor, I would move the admission of Exhibit M20. I would like to suggest that we be allowed to, for each of those major subdivisions, designate subparts of the exhibit ultimately so we have an A, B, C subdivision for each of the major subdivisions that Mr. Knapp observed in his compilation. But with that, I would move the admission of his tabulation.

SPECIAL MASTER: So the reason to separate this out is because you have separate numbering for

each of those.

MR. DRAPER: Well, it just helps, I think, in referencing the document and subdividing it in a way that makes it more accessible.

SPECIAL MASTER: Mr. Kaste? So there's a record that this has actually been introduced into evidence previously.

MR. KASTE: I think Mr. Kuhlmann is checking our records on that.

MR. WECHSLER: Your Honor, our records show that it was admitted on 10/17, but it was one of the references from Mr. Book's report. So it was only admitted on a limited basis.

SPECIAL MASTER: Okay. One of the problems of having two deputies is that some notations don't always get through. So thanks for that clarification.

So now, then, we would be admitting this in full.

MR. KASTE: I don't have an objection to the admission of this exhibit. I do not think it's necessary to split it up. But if Montana is interested in doing that, I don't have an objection to that either, so long as it's clear to everyone that that's not the official tab book that the State of Wyoming utilizes to ascertain actual water rights. That is a

different document, which we could introduce into evidence if you think it would be prudent to do so.

MR. DRAPER: The tab book is admitted as a joint exhibit.

MR. KASTE: There you go.

SPECIAL MASTER: Okay. So then under those circumstances, we will go ahead and admit M20. So that it's clear, when are we going to break this up into smaller portions?

MR. DRAPER: Well, Your Honor, it may not be necessary. Maybe I'm being overeager about that.

SPECIAL MASTER: Why don't you see. If it's very valuable to do that in terms of ultimate clarity of the record and for referral to it and later argument, that's fine with me. My only concern is if we're going to go by this document right now, then that could make it confusing later on if we're ultimately going to break it into different exhibits.

MR. DRAPER: All right. Thank you.

SPECIAL MASTER: But M20 is admitted into evidence. And I'm certainly willing to break it into smaller portions if that makes sense at a later point.

(Exhibit M020 admitted.)

MR. DRAPER: Thank you.

BY MR. DRAPER:

Q. And over what period of time did you work on this tabulation, Mr. Knapp?

A. I began working on it, essentially, the first year I was hired on. Would have been 21 years ago, 1992, as a hydrographer commissioner.

Q. And have you found that it's been necessary to, from time to time, make corrections and updates?

A. Yes, I certainly do. Conditions all the time affect the water rights.

Q. Now I'd like to draw your attention to what's been marked as Exhibit M438.

MR. DRAPER: And if I may provide the witness with a copy, Your Honor? These are the schematics.

SPECIAL MASTER: You certainly may.

BY MR. DRAPER:

Q. Mr. Knapp, this exhibit has already been admitted into evidence. Are you familiar with it?

A. Yes, I am.

Q. And if we skip the first couple of sheets, double-sided sheets, yours is double sided, we then come to Little Goose and other tributaries and finally the main stem of the Tongue River; correct?

A. Correct.

Q. And those latter sheets show at least some of

the water rights that are tabulated in your tabulation, Exhibit M20?

A. That's correct.

Q. Now, in this tabulation, some of the rights that you tabulate are not shown; is that right?

A. That's correct.

Q. And which are those, in general?

A. Well, the intent of these stream schematics, as we refer to these pages of the exhibit, was to have something small enough to carry around in the field. This fits much better in my diary than a complete tabulation on water rights does.

MR. DRAPER: If the court clerk could toggle the screen.

BY MR. DRAPER:

Q. So you've left out the -- or the more junior rights have been left out of these schematics; is that right?

A. That's correct.

Q. So, for instance, there's no post-1950 water rights shown in the schematics; correct?

A. That may be correct. It appears there's approximately 40 rights on the Little Goose page. The oldest one I'm seeing is 1943, enlargement of Muskrat. So there would be no post-'50 rights in the Little

Goose schematic.

Q. And that's generally true as well for the other schematics in the Tongue River Basin?

A. This does not divert so, therefore, it does not have a date. Yeah, the oldest one I can see on Big Goose is 1890. So you're substantially shy of post-'50 water on this one.

Q. Is that true also of the following pages?

A. Pardon? Which one are we referring to?

Q. Now, the next page, Soldier Creek, doesn't actually show priorities; is that right?

A. No, it does not.

Q. Are you aware of any post-'50 rights that are shown on that page?

A. No, I'm sure they're not on this page. There's only two rights itemized.

Q. And would that be true of the next page also, Wolf Creek?

A. Wolf Creek would also be true.

Q. And then turning to the next two pages, those together are the Tongue River; correct?

A. Yes. The next two pages would be the Tongue River schematic.

Q. And that's essentially the main stem of the Tongue River; correct?

A. Yes, it is.

Q. And are there any post-'50 rights shown in that part of the schematics?

A. No, there appear to be no post-'50 rights on this list.

Q. And if I understand you correctly, the existence of post-'50 rights is not important for purposes of your administration?

A. They are important for the purposes of our administration. They are just so junior that if I need to refer to them, I have to refer to the tabulation of water rights book to access the data on them.

Q. But you don't find it necessary to include it in the material that you carry in the field with you?

A. No, I do not.

Q. All right. I'd like to hand you what's been marked as Exhibit M495.

MR. DRAPER: If I may do so, Your Honor?

SPECIAL MASTER: You may.

BY MR. DRAPER:

Q. Mr. Knapp, if you would take a look at that document. It has, I think, five pages.

A. Okay.

Q. It's printed double-sided.

Do you recognize this document?

A. Yes, I do.
Q. Now, what is it?
A. I was -- what it is is a list of dates we are regulated to on the Tongue River and its tributaries, and then it tabulates those dates.
Q. Are these contained in an e-mail dated August 4th, 2006, from you?
A. Yes, they are contained in an e-mail to Sue Lowry.
Q. Now, you indicate in that list of dates to which you were regulated at that time, first item is the Big Goose Creek. Do you see that?
A. I do see that.
Q. What do you indicate as to the date to which you had regulated?
A. Priority date in Big Goose would have been 11 of 1884.
Q. Is that in November of 1884?
A. No, that -- yes, that would be correct. November of 1884.
Q. And looking back at the schematic of Big Goose Creek in Exhibit M438, the schematic -- it's marked page 8 at the bottom in a small number there -- has the title "Big Goose Creek" at the top.
A. Yes.

Q. And do you see the right to which you were regulating back to at that time?

A. The date I was regulating back to, looks like, apparently, the Rocky Ditch is 11 of 1884, the No. 14 right.

Q. Does that appear in the upper left-hand corner of the page?

A. It does.

Q. It's designated Rocky Ditch No. 14, showing 1.43 CFS and a November 1884 date for priority?

A. Yes.

Q. So at that point, that was the receiving ditch for the water that existed?

A. Yes.

Q. And so any of the rights above that diversion point that were junior to the No. 14 priority were regulated off at that time?

A. Any junior rights were regulated off, yes.

Q. And looking upstream, we can see that most are junior except for the Alliance Ditch and the Sheridan Town Ditch; is that right?

A. That's correct.

Q. And the rights downstream of the Rocky Ditch were not being regulated at that time; is that right?

A. It would not have been an open stream

situation. If we're regulated to the Rocky, there's essentially return flows at that point. The Daisy, I'm sure, had the opportunity -- there are earlier priority dates down there than '84. So if they were getting their water, they would not have called off the Rocky.

Q. So there were return flows, and any tributary inflows that might have been coming in were available at that time?

A. There evidently were for the 1882 rights I'm seeing.

Q. So basically the effect of your regulation of the Rocky is to cut off everything junior above it. And as long as things stay in that status, then there's no regulation below that point; correct?

A. No, just monitoring.

Q. Now, looking back at your e-mail, Exhibit M495, when did you begin regulating on the Big Goose Creek?

A. I would have to refer to two diaries: mine or Pat's. Pat's assists me in there to see when, unless it's in -- it may be in the e-mail. I should refer to the e-mail as you suggested.

Q. Let's look at your diary, if you please. Do you have W37? It's your 2006 diary from your previous testimony.

A. I have that right here, yes.
Q. In that we have pages that have Wyoming Bates numbers at the bottom. Would you turn in that exhibit to the page that has Wyoming Bates No. WY032859?
A. All right. I have that page.
Q. If we look on the left-hand side, you see a note at the top that's circled, it says, "Call for Big Goose reg"?
A. Yes, I do.
Q. Does that enable you to answer my question as to when you went on to regulation on the Big Goose?
A. Yes, it does. It would have been June 27th. Unless there is a prior note of this type in my diary, an earlier date.
Q. And are you aware that you might have gone on to -- into regulation earlier than June 27th in 2006?
A. I'm not aware. This note confirms that it was at least by June 27th.
Q. So up until that time, there was no curtailment of diversions on the Big Goose Creek; is that right?
A. That's correct.
Q. And would that be confirmed in the hydrographers' report for 2006?
A. If it was, I would suspect the only place

that would show up is in my annual write-up as a date that regulation was called for. But I do not recall if that was part of that write-up.

Q. I believe that's Exhibit J62. If we could look at that. I think you had it earlier.

A. Okay.

MR. KASTE: If I might, he didn't have that earlier. He had the 2004 one from J60 or J61. But I'll provide him a copy of J60.

MR. DRAPER: Thank you very much.

BY MR. DRAPER:

Q. What page does your narrative appear on in this report?

A. I will let you know here in a second. Here it is. The Wyoming number is 040984.

Q. It's also designated as page 95 of the report?

A. Yes.

Q. Could you specify there when you went into regulation?

A. I will have to read and see if I did on that one. If I specified, I do not see it. Right now, I'd say no, I did not specify.

Q. Okay. I didn't find it there either. So you don't explicitly report in the hydrographers' report,

the annual report, when you went into regulation on the various drainages?

A. Okay.

Q. Is that generally true?

A. Could you repeat the question?

Q. Is the fact that you did not report on when you went into regulation on the various streams that you administer in this annual hydrographers' report typical?

A. No, it's not typical.

Q. But in this year, it was not included?

A. It was not included.

Q. If you would turn to page 126 of the report, which has the Bates number Wyoming 041015.

A. Okay.

Q. What is shown on page 126?

A. This is a stream gauge called Big Goose, above the PK Ditch. It's stream flows in Big Goose.

Q. And if we turn to the schematic for a moment, can we see where that -- the location of that gauge is indicated schematically?

A. Yes, I'm sure we can.

Q. On the Big Goose page, which says page 8 at the bottom, just for a reference, I'll give you the Bates number while we're looking for it. It's

WY060797.

A. I have that page. Yes, on this it indicates that this is -- at the very -- above all diversion points.

Q. So it's what we see by a dashed line at the upper right just below the heading where it says, on the right-hand side, "Big Goose CK pot above the PK Ditch gauge"?

A. That would be its location in respect to the rest of the system, yes.

Q. So it's at the top of Big Goose Creek; correct?

A. That's correct.

Q. Okay. Now, looking back at the page we were on in the hydrographers' report that shows readings from this gauge, page 126, this shows how much water was going by that gauge in CFS during the months of April through September, doesn't it?

A. Yes, it does.

Q. If you would look at the period under the June column, down around the 27th, at the values there. What do you see that's significant to you about the range of values during the period around June 27th?

A. June 27th, I see 54.6. And it's similar for that final week in June extending a little. This -- a

little short on that system.

Q. In fact, you use 65 CFS as a rule of thumb trigger flow for the expectation of regulation, don't you?

MR. KASTE: I object to the characterization. Particularly of his use of the word trigger flow, which he testified they don't use.

MR. DRAPER: This is just an interruption, Your Honor.

SPECIAL MASTER: I think you can ask the question, and the witness can always reinterpret.

MR. DRAPER: Yes. And I'd appreciate Mr. Kaste not coaching his witness from the sidelines.

BY MR. DRAPER:

Q. Mr. Knapp, if you please.

A. Okay. We would anticipate that there are ditches that are short in water below this point when these stream flows drop to this type of flow.

Q. And that's an indicator to you, isn't it, that regulation is imminent, if the values are falling below 65?

A. It is an indication that regulation may be imminent, at which point we'd go read other ditches just so that we are aware of the status of the rest of the stream.

Q. So up until June 27th, as indicated by your diary and by these figures, you would not cut off any diversions on Big Goose Creek in 2006; correct?

A. That's correct.

Q. Even though 2006 was a relatively dry year; isn't that right?

A. Yes. We had enough flows to sustain our needs up until that June 27th date evidently.

Q. So to the extent that there are post-1950 water rights on Big Goose Creek, up until the 27th, there wasn't any regulation that they could take water consistent with their post-'50 right; correct?

A. Yes, they would be entitled to water at this point in time.

Q. So if regulation is needed prior to the time -- and in a case like this, it's not -- it's not something that you normally would undertake if, for instance, there were a need to regulate off post-1950 rights prior, in this example, to June 27th?

A. No, there is not.

SPECIAL MASTER: Mr. Draper, it's about two minutes after noon. So if you're about to turn to a new line of questioning, this might be a good time for the lunch break.

MR. DRAPER: Very good, Your Honor. That, I

think, would be fine.

SPECIAL MASTER: Okay. Great. So let us come back, then, say, at 1:05 this afternoon.

(Recess taken 12:03 to 1:08 p.m., October 30, 2013)

SPECIAL MASTER: Okay. So welcome back, Mr. Knapp, and remember you're under oath.

THE WITNESS: Okay.

SPECIAL MASTER: Thanks. Mr. Draper.

MR. DRAPER: Thank you, Your Honor.

There are two exhibits that we've been discussing that I'd like to move the admission of, Your Honor. One is M423. That's the schematic of the system that was discussed on direct. I don't think it ever got moved.

MR. KASTE: I did not move its admission, but I don't object to its admission.

SPECIAL MASTER: I figured you hadn't moved because you figured you hadn't set sufficient foundation. But I actually think it's a very valuable schematic. Certainly has helped me in better understanding the watershed.

So, then, Exhibit -- which number is it again?

MR. DRAPER: M423.

SPECIAL MASTER: M423 is admitted.

MR. KASTE: And I guess I'd just note that we did not discuss the following pages after the first one. And I guess I don't have an objection to their admission either. But we haven't gone through and established anything with regard to the following pages.

SPECIAL MASTER: So since -- so M423 is the schematic of the Tongue. So what's the difference between the first and second page?

MR. KASTE: There is none.

SPECIAL MASTER: There is none. And we haven't discussed the later pages. So, Mr. Draper, are you asking just that the first page be admitted at this point?

MR. DRAPER: Well, we haven't set foundation for those later pages. So I don't see anything awry with them. But I guess my motion would be limited to the schematic that's the first page.

SPECIAL MASTER: Okay. Then what we'll be exhibiting and admitting -- and thank you, Mr. Kaste, for that clarification. We will be admitting page 1 of what is currently marked as Exhibit M423, which has a Montana Bates stamp of MT24112, which is that first page will be admitted as Exhibit M423.

(Exhibit M423 admitted.)

MR. DRAPER: Thank you.

SPECIAL MASTER: You're welcome. And did you say there was a second document?

MR. DRAPER: Yes, I did. It's Exhibit M495. It's the e-mail with attachments that's been identified by Mr. Knapp. And based on his description of it as something he was familiar with and had produced, I would move its admission.

MR. KASTE: No objection.

SPECIAL MASTER: Then Exhibit M425 [sic] is also admitted into evidence.

MR. DRAPER: Thank you.

SPECIAL MASTER: You're welcome.

(Exhibit M495 admitted.)

BY MR. DRAPER:

Q. Good afternoon, Mr. Knapp.

A. Good afternoon.

Q. We had been looking at your 2006 diary. That's identified as Exhibit W37. Could you look at that? I want to direct your attention to June 18th, 2006. It has a Bates number of WY032854.

MR. DRAPER: And could we toggle the screens? Thank you.

BY MR. DRAPER:

Q. Have you found June 18th?

A. Yes, I have.

Q. What is -- what are your notes on that page?

A. On Sunday, June 18th, I noted, "Tongue River Reservoir stored water through June 18th, got to 1.5 foot below full."

Q. What does that refer to?

A. That refers to -- this data would have come from the DNRC home page for Montana. And they have this data available on that page.

Q. And by "home page," you mean the website --

A. I mean the website, correct.

Q. The home page of the website of the Montana DNRC?

A. Correct.

Q. And what does that notation mean to you?

A. Well, it means to me that they got within a foot and a half of full by that date.

Q. But they failed to fill; is that right?

A. That would be correct.

Q. Now, turning back to your e-mail that's Exhibit M495.

A. Could you repeat that number?

Q. M495.

A. M495.

SPECIAL MASTER: If it helps, it looks like that.

THE WITNESS: Okay. This is the one. I'm sorry. I was looking at exhibit number. I have it.

BY MR. DRAPER:

Q. Yes, it is confusing. This was Exhibit 39 to your deposition; correct?

A. That's correct.

Q. But it's trial Exhibit M495. Now, you reference in your -- in the upper part of the first page of your e-mail of August 4, 2006, that there is some regulation of the Tongue River; correct?

A. Correct.

Q. And that would be the main stem; right?

A. That's correct.

Q. This was the first year that there was ever any administration on the main stem; isn't that right?

A. This is the first year that we did any official type of regulation.

Q. And if we look at the water right schematic, which is Exhibit M438, and if we look to the last two pages of M438.

A. It would be the Tongue River schematic?

Q. Yes. You say in your e-mail that the date to

which you were regulating was January 26, 1892; correct?

A. That's correct.

Q. Which right is that on this schematic?

A. That would be 18 --

Q. Look at the first page of the Tongue River, which has the page No. 11 down at the bottom.

A. Correct. That would be -- we regulated from Ranchester up to that date, which allowed 5 to 7 CFS beyond that point.

Q. Now, the right to which you were regulating is No. 17, right, on the south side of the Tongue River Ditch above Dayton; isn't that right?

A. That would be correct.

SPECIAL MASTER: Mr. Draper, excuse me. I'm lost right now. So you have to bring me back in to knowing exactly where we're discussing. So which page are we on?

MR. DRAPER: Okay. For the record, we're on schematic M438 is the exhibit number. We're the second to the last page.

SPECIAL MASTER: Okay.

MR. DRAPER: And it has Bates No. WY060800.

SPECIAL MASTER: Thanks.

BY MR. DRAPER:

Q. So on the Tongue River, the schematic shows the physical relationship of the ditches, towns, and the tributaries; correct?

A. That's correct.

Q. And geographically, the ditch to which you were regulating was -- or is located above the town of Dayton; correct?

A. That's correct.

Q. So most, if not all of the rights, below that going down the stream were not being regulated; isn't that right?

A. They were being regulated by available flows. Five to seven CFS is not going to satisfy very many water rights.

Q. But as far as being regulated by you, there was none?

A. No.

Q. Okay. So to the extent there were post-1950 water rights below the south side of Tongue River Ditch, those were not prevented by you from taking water; correct?

A. I'm not aware of any that were diverting at that time. They were --

Q. Did you go and check?

A. Yeah, we looked downstream.
Q. Okay. And what did you find at the Interstate Ditch, for instance?
A. We found at the Interstate Ditch that they were receiving less than their pre-'50 water.
Q. The lower main stem of the Tongue River is a perennial stream, isn't it?
A. Yes.
Q. That means it essentially always has water in it; right?
A. It means it has water in it barring any diversions which could potentially dry it up.
Q. Certainly could be reduced by diversion, couldn't it?
A. Yes.
Q. Such as by the Interstate Ditch; right?
A. Yes.
Q. In order to supply post-1950 rights; correct?
A. It could.
Q. Looking back at your e-mail, you were asked by Ms. Lowry, who sent you the e-mail that's shown at the bottom half of the page, about voluntary regulation on the main stem. And we discussed this in your deposition. And would you tell us what was meant by voluntary regulation?

A. Voluntary regulation in this instance is we went to all of these ditches and discussed the fact that the river was short and that we would like to choose this date as a point of regulation and restrict their rights to that right, to those pre-1892 rights.

Q. So there was no formal regulation; correct?

A. No, there was not.

Q. So people were being asked informally to use less than their priority might entitle them to?

A. They were asked to do that. We also went out and set the ditches to those dates, physically.

Q. Not on the lower main stem of the Tongue?

A. No. No.

Q. But generally, elsewhere where you employed this process of informal cooperation, that could hold off the date of formal regulation for a while, couldn't it?

A. It certainly could.

Q. Now, until about 2006, there were never any measuring devices on the ditches on the main stem of the Tongue, or at least there were no required measuring devices; isn't that right?

A. I don't -- I can't say that there was never any. There's some old structures out there that served as devices. But we began ordering in functional

devices.

Q. You began ordering in functional measuring devices around 2006?

A. Approximately 2006. I don't recall when the first letters went out.

Q. But you don't collect any data from those devices, do you?

A. We spot read them. We do not run continuous records on them. We will go at a given date and time in our diary and record what we saw for that date.

Q. During your testimony in response to Mr. Kaste, you described the 4 and a half cubic foot per second wintertime release from Park Reservoir?

A. Yes, I did.

Q. And as I recall, that's a required release?

A. That is.

Q. What is it required by?

A. It is required by the Game and Fish.

Q. For fishery purposes?

A. Yes.

Q. And does the department of Game and Fish have a storage right in Park Reservoir?

A. Yes, they do.

Q. And how much of a storage right is that?

A. They have 90 acre-feet dedicated to that

particular release.

Q. All right. Now, you also, at the same time, mentioned flushing flows. Would you clarify what you were describing there?

A. Yes. What -- the Game and Fish, as part of the money that Park got from the state to do their reconstruction, requested that there be capability of running what they call a flushing flow.

The intent of the flushing flow is to scour the sediment off of the bed of the stream so that the trout have a more conducive environment to -- for spawning. And that is 90 CFS for, I believe, four days.

Q. How many days?

A. I believe it's four. It's in the statute. I would have to read it to be sure. And it's also 500-some acre-feet that they own that's dedicated to that use.

Q. So they have 500 acre-feet dedicated to that use?

A. Approximately, yes.

Q. And that's separate from the 90 acre-feet that --

A. That's separate from the 90 acre-feet.

Q. Ninety CFS, how many acre-feet a day is that?

A. 180.
Q. And if it's four days, how many acre-feet would that be?
A. Four days at 180 would be 760. I suspect it's probably a three-day release because that would get it more to the number I remember.
Q. And if a three-day release at 90 CFS is --
A. That would be 180 times three, so that would be 540.
Q. 540. And they've a 548 acre-feet storage right for that?
A. I would have to read the actual number, but it is near 540 acre-feet, if not exactly.
Q. Is that a post-Compact storage right?
A. No.
Q. That's pre-1950?
A. That is.
Q. Now, 4 and a half cubic feet per second at 2 acre-feet per day per CFS, that's about 9 acre-feet per day; is that right?
A. Four and a half? Yes, that would be 9 acre-feet per day.
Q. And for what part of the year is that release allowed?
A. The way it is written, it is allowed to cover

those times when the inflows are less than 4 and a half. It makes up the difference. It runs from October 1 until the next water season begins. And at that point in time, we have other needs for water downstream of Park.

Q. So if it were to run for, say, six months at 180 days, I don't know if you'd trust a lawyer's math, but would that be something in the neighborhood of 1620 acre-feet?

A. How many days did you say?

Q. 180 days?

A. Eighty days?

Q. 180.

A. Yeah, 1620.

Q. So if it runs for 180 days during the winter, that would correspond to a release during the winter of about 1620 acre-feet. And the right that is in the reservoir to support that is a 90 acre-foot storage right?

A. Yes.

Q. So 90 acre-feet of the 1620, in our example, would be offset by that storage right?

A. That's how much water is assigned to that use, yes.

Q. By the way, is that 90 acre-feet, is that

also pre-Compact?

A. That one is post-Compact.

Q. Post-Compact storage right?

A. Yes.

Q. I'd like to turn our attention to Exhibit M485?

MR. DRAPER: Your Honor, may I provide the witness a copy?

SPECIAL MASTER: You may.

MR. DRAPER: Thank you.

BY MR. DRAPER:

Q. Mr. Knapp, do you recognize this document?

A. Yes, I do.

Q. What is it?

A. This would be an article I wrote for an interagency publication called "Water Tale."

Q. And do you know when you wrote this?

A. No, I do not.

Q. I notice in the second paragraph you begin by saying, "Water year 2001 broke that routine." So is this shortly after the 2001 water year?

A. I suspect that would be correct.

Q. And, generally, what is the subject of your discussion here?

A. I would have to refresh myself just a second.

Q. Sure.

A. The topic of this would be that this is the first year I was unable to fill all of my reservoirs during my tenure as a water commissioner and the fact that we had to start regulation in late May, which is typically earlier than we do.

Q. And does it describe the procedure that you used in response to the partial fill of some of the reservoirs?

A. I would have to find that. Yes, it does.

Q. I believe you describe that in the second paragraph. What procedure did you follow under these circumstances?

A. Well, what happens in these mountain reservoirs is they're stacked up on the drainage in a series, very close proximity. And, for instance, Cross Creek Reservoir is filled before we can even get there in many situations, which then spills any water in Cross Creek to Big Horn Reservoir. And once Big Horn would fill, then at least the Cross Creek portion would go to Park Reservoir.

Unfortunately, the one that does fill first is the Cross Creek Reservoir system. So once we get to that point, we determine that the actual water that was captured in Cross Creek while it was closed belongs to

downstream reservoirs.

Q. And so you would require release of water from the upstream junior reservoir space to the more senior downstream reservoir space?

A. If I recall, in that year, sometimes the releases were actually made from the reservoir where it was stored to honor shareholders. For example, the waters would have stayed in Big Horn. Even though it was Park's water, Big Horn would have released it for Park shareholders.

Q. I see. So it was held up higher in the system and for the account of Park Reservoir, so to speak?

A. Yes.

Q. And it was limited by the amount of storage space that, in this case, Park Reservoir would have had to store water; correct?

A. That's correct.

Q. And you allowed Park Reservoir, then, to take credit for this higher stored water, either on account or by transferring it down to Park Reservoir; correct?

A. That's correct.

Q. And you did not dock Park Reservoir for any releases that it might have made during the winter; correct?

A. No, we did not.

MR. DRAPER: I'd like to hand the witness, if I may, Your Honor, Montana Demonstrative Exhibit 2.

SPECIAL MASTER: You may.

BY MR. DRAPER:

Q. Mr. Knapp, this is a collection of pictures from the basin tour that the Special Master and the parties took in July. And I believe you were with us for part of that tour; correct?

A. Yes, I was.

Q. If you'll turn to the picture designated in the lower right-hand corner as 2H. It's got a Montana Bates number of 21182.

A. I have that page.

Q. Do you recognize that picture?

A. Yes. This picture was taken standing on the crest of the Park Reservoir Dam looking at the outlet structure on east fork.

Q. And what is the stream and the ditch that we see down there?

A. The ditch to the right, from this perspective, is the Park Diversion Ditch.

Q. And the stream?

A. The stream is east fork of Big Goose.

Q. Okay. The next picture is labeled 2I. What

does that show?

A. I believe it's near the spillway of Park. 'Cause we did not go any higher than Park Reservoir.

Q. That's what it looks like to me, looking basically upstream towards the mountains at the spillway of Park Reservoir?

A. That's correct.

Q. And the next picture, do you recognize that gauging station?

A. Yes. That is the gauge station in Little Goose.

Q. All right. And is that -- that's in the drainage below the Park Reservoir?

A. Not in the drainage below Park, no. It's in Little Goose. Park is on the east fork of Big Goose.

Q. Okay. And that was another gauge we visited on the tour; right? That was a gauge that we did visit, though?

A. Yes, it is a gauge we did visit.

Q. Okay. Thank you. I thought a little illustration would be a nice break in our conversation.

A. Yes.

Q. I'd like to turn our attention to an exhibit that you discussed with Mr. Kaste. This is the one-page table designated W175.

A. Okay. I have that.

Q. During your direct testimony, you testified that you had created this table?

A. Yes, I did.

Q. And I'd like to look for just a moment with you at an example from this table. Taking, say, the first line under the headings of the table, do you see the first line designated as Park Reservoir?

A. Yes.

Q. And if you go across this table, I think you identified earlier for Mr. Kaste that the first column shows the amount of pre-1950 capacity?

A. That's correct.

Q. And the next column, 2, shows the quantity of post-1950 capacity in that reservoir?

A. That's correct.

Q. Now, in the accounting that you did, can you tell us how you arrived at, just on that line as the example, at the amount in column 7?

In this case it was 6974 under the column heading "Available as pre-1950 space by reservoir." And, in parentheses, I might add, it says "(lesser of 1 or 4.5)."

A. You have lost me on where we are referring at this point.

Q. Okay. On the Park Reservoir line, which is the first line of figures.

A. Yes.

Q. And those figures are in acre-feet; correct?

A. Yes.

Q. Okay. In Park Reservoir, we -- it shows that there is 7347 acre-feet of pre-Compact storage of capacity; correct?

A. Yes.

Q. And the next column shows that the post-Compact capacity in that reservoir is 3015 acre-feet; correct?

A. Yes.

Q. Okay. And the total is then given in column 3. In this case, for Park Reservoir, it's 10,362 acre-feet; correct?

A. Correct.

Q. Then you show in column 4, measured end of year. I think that's EOY stands for end-of-year storage; is that right?

A. This is where I'm not seeing the measure -- oh, yes, I see it now. Yes. The 3388 acre-feet figure?

Q. Yes.

SPECIAL MASTER: Can I just -- I'm sorry.

Just avoid my having to come back. What do you mean by "end-of-year storage"?

THE WITNESS: That would be carryover from the previous year. In this case, from the 2003 water year.

SPECIAL MASTER: So that's December 31st, 2003?

THE WITNESS: That would be October 1st of 2003.

SPECIAL MASTER: Okay. Thanks.

BY MR. DRAPER:

Q. So the column the Master asked about shows 3388 acre-feet as the carryover storage; correct?

A. Correct.

Q. And the next column, which is entitled "Unfilled as of 10/1/2003 acre-feet," it shows an amount of 6974, doesn't it?

A. It does show that.

Q. And that is the difference between the carryover of 388 and the total storage capacity of 10,362; correct?

A. That's correct.

Q. Okay. And let me see if we can skip over the next two. Column 7 is labeled "Available." And this is somewhat abbreviated in the column heading. But it

says "Available as pre-1950 space by reservoir, (lesser of 1 or 4.5)."

And in that column in this row, it shows 6974, doesn't it?

A. It does show that. What I was unsure of is this original format is a listing of reservoirs used for the Yellowstone River Compact. When I built this column, I inserted this column 5 storage as of 5/19/2004. I do not know if I did any editing over in column 7 or 8.

Q. Let me see, though, if the -- your understanding matches mine on how the carryover and the new fill is accounted for.

A. Okay.

Q. The fact that in column 7, 6974 is shown as available pre-'50 storage space, that amount of water is equal to the amount from column 5 of unfilled storage space; correct?

A. It is on this sheet. Yes, they are the same number.

Q. And that means that all of the inflow was accredited to the pre-1950 compact space, which totals 7347, as we see in the first column?

A. Yes.

Q. And if I understand this, this is fairly

standard accounting procedure for you; isn't that right?

A. This is not accounting that I normally do. Annually, I will calculate the carryover numbers and give them to Carmine. And he will take this sheet, minus the 5/19/2004 column, to the Yellowstone River Compact Committee meetings. This is unique in the aspect of having that one line.

SPECIAL MASTER: I'm sorry. Just to interrupt again, the sheet that would normally go to the Yellowstone River Compact is everything except for column 5?

THE WITNESS: Column 5.

SPECIAL MASTER: Thanks.

BY MR. DRAPER:

Q. But I think I'm driving at a point that may be obvious to you, and that is, doesn't this show that the normal way to assign new storage is to assign it first to the earlier priority, in this case, pre-Compact, and anything that can't fit into the pre-Compact space is then accounted for as post-Compact?

A. No. It's not obvious to me the point you're trying to make. I don't understand that statement yet at all.

Q. Well, when you do -- when you do this particular reservoir accounting, as we've seen in this example with Park Reservoir, the new water coming in for storage is assigned to the pre-Compact space until that space is exhausted as far as what it can hold?

A. I don't know. I get the end-of-the-year elevation, and that's the carryover. And I don't assign it to a priority.

Q. Okay. Fair enough. Thank you. Mr. Knapp, what are the typical travel times for deliveries from the reservoirs down to the ditches that have reservoir rights?

A. Typically in Little Goose, from Park and Big Horn, if they release at 8:00 in the morning, I would see it at approximately 4:00 that afternoon. So eight hours in that case. I think it's maybe an hour longer to get down Big Goose.

Q. So the travel times that you work with tend to be in the less-than-10-hour range?

A. Yes.

MR. DRAPER: Your Honor, if I could have a moment, I think I'm close to being finished. But if I could just have a moment?

SPECIAL MASTER: That would be fine.

MR. DRAPER: Thank you.

BY MR. DRAPER:

Q. Mr. Knapp, turn our attention to Exhibit W41. It's a one-page listing.

A. I have that.

Q. This is the one-page compilation that you did entitled "2006 reservoir data." Is that the page you have?

A. That's the page I have.

Q. And you have on the left-hand side all reservoirs filled and then you have order dates?

A. Yes.

Q. And you have the reservoirs listed with various dates. How did you determine -- looking at the Last Chance Reservoir, how did you determine that fill date?

A. That's not a fill date. That's an order date.

Q. Okay. In other words, the fill occurred no later than that; is that right?

A. That's correct.

Q. Okay. And as I understand it, you derived that from the hydrographer's annual report for 2006; is that right?

A. All of this data on this page, yes, came from the 2006 hydrographer's annual report.

Q. And you were looking at it there -- and you have a copy of that report; correct? It's designated Exhibit J62 in the lower right-hand corner.

A. Yes, I have that.

Q. Can you show us how you determined --

A. I can. It will take a moment. We'll go to...

SPECIAL MASTER: Actually, if we can just take another moment. I'm going to try to pull J62. I only have J61.

Thank you. So, Mr. Draper, whenever you and Mr. Knapp are ready, you can see I found my copy.

MR. DRAPER: Thank you, Your Honor.

THE WITNESS: I think I'm ready to at least start with this process.

BY MR. DRAPER:

Q. All right. Please go ahead.

A. All right. Page 99 of that report, that WY049988, is a summary of much of the -- the smaller of these reservoirs. So we can start with that page. We'll just start at the top. Willitts Reservoir.

Q. Let's just confine our attention to the third one, the Last Chance Reservoir, if you please.

A. Sure. And there may be an error in the data there because it says the first order on this gauge was

July 10.

Q. How does that compare to what you have in Exhibit W41?

A. 141 [sic] indicates June 10th.

Q. Now, is there a backup table here that we can check to see which is right?

A. Potentially. Last Chance, and I haven't looked to see what it says yet, but WY04993, which is 104 of this publication, is for the Last Chance Reservoir. And it indicates a date of July 10th, when 3 CFS is released.

Q. And what does it indicate about releases before that date?

A. That there were none out of the Last Chance.

Q. So is this listing correct that you've given us on Exhibit W41 for the Last Chance Reservoir?

A. Not for the Last Chance.

Q. And what should that read?

A. It should read July 10th.

Q. And is it, therefore, the earliest?

A. No, it is no longer the earliest order. We'd have to compare the dates on the rest of them.

Q. Okay.

A. Granger would now be the earliest at 6/14.

Q. Now, with respect to reservoirs in general,

we talked about the lack of notice to fill -- order to fill notices in the Tongue River Basin; correct?

A. That's correct.

Q. And you have not issued any such notices during most of your tenure as the chief hydrographer?

A. That's correct.

Q. And without issuing such a notice, it's not possible to charge someone for past water, is it?

A. Yes, it is possible. These people, without notice, I can still start charging people at that date of the beginning of the water year.

Q. All right. But you have never done so?

A. In years we didn't fill, I did not provide notice. And water was moved to -- determined not to belong to certain reservoirs. So, yes, I have.

Q. But as far as charging reservoirs for water releases during the winter?

A. No, I have not had the need to do that yet.

Q. So you've never done it in your tenure?

A. No.

MR. DRAPER: Your Honor, I think I need to admit -- or ask for the admission of one exhibit. That is M485.

SPECIAL MASTER: So which was 485? Even I've been overwhelmed by paper today.

MR. DRAPER: That is the one-page article that Mr. Knapp wrote entitled "Digging Deeper Into the Well."

SPECIAL MASTER: I think you're right.

Any objection?

MR. KASTE: No objection.

SPECIAL MASTER: Okay. Then Exhibit M485 is admitted into evidence.

(Exhibit M485 admitted.)

MR. DRAPER: Thank you. And that completes my questions for the moment. Thank you, Your Honor.

SPECIAL MASTER: Okay. So actually I have a number of questions. And so then you're free to ask any additional ones, Mr. Draper, after that that relate to my questions.

EXAMINATION

BY SPECIAL MASTER:

Q. So let me actually start with W41, which was a document that Mr. Draper was asking you about a moment ago, with respect to the 2006 reservoir data.

A. Yes.

Q. So I want to confirm. So the order dates, you obtain those from the hydrologists' annual report?

A. Yes.

Q. And in terms of determining what are the

appropriate dates, that's the document to look at?

A. Yes.

Q. Okay. And then on the information about all the reservoirs filled, where do you get that information?

A. From the same document. It will be right up on each individual reservoir.

Q. Okay. And, in fact, a moment ago, we were looking at the page where there was a quick narrative on each of them. And I noticed that on each of them it talked about the reservoir being filled?

A. Yes, it does.

Q. And where do you get that information for purposes of the hydrologists' annual report?

A. That would be from field inspections. I'd go to the mountain reservoirs as soon as I can get there, documenting elevation. Perhaps a week later, I will be back, document the new elevation. If I'm lucky and I get there at the time of spill, then I can document the actual date. Otherwise it's between June 6th and June 12th or whichever two visits where I saw it not full and full.

SPECIAL MASTER: And, Mr. Draper, you're welcome to stand there or sit down, wherever you're more comfortable. I just want to let you know, it's

not going to be one or two questions. I just didn't want you standing there if you're more comfortable sitting.

MR. DRAPER: I think I will take your offer. Thank you.

BY SPECIAL MASTER:

Q. And next, I just want to talk a little bit about the information that you provided in connection with what's marked as Exhibit W40, which is, again, the document that you identified you prepared entitled "Storage regulation 2004 water year."

And I want to ask you some questions here because I'm not as familiar with the overall system. And a lot of that information went by very quickly for me.

So my understanding is just looking at the information that you have attached, you have a listing of that information on the first page. My understanding was that the first several entries are in connection with the reservoirs which are in the Cross Creek watershed; is that correct?

A. Yes.

Q. Okay. And so that I can understand, then, turning to the schematic, which is Exhibit M423.

A. I don't have a paper copy of that one. So if

I could see it.

Q. Okay. Somebody could give you a copy of that.

A. I don't believe I looked at that earlier on my screen.

Q. Okay. And just so I understand, the reservoirs that draw from the -- the reservoirs that draw solely from the Cross Creek watershed are the ones to the left of the Park Reservoir?

A. They are, with the exception of the small little Willitts Reservoir that you can see --

Q. Uh-huh. I was going to ask you.

A. That one actually has a small diversion ditch out of a tributary of Little Goose that brings water in to fill it, and then it returns water to Little Goose.

Q. And then Park Reservoir draws both from Cross Creek watershed and also from the Big Goose watershed?

A. The east fork of the Big Goose, yes.

Q. And so if I understood what you were saying earlier, you were talking about the fact that by May 24th, that you were regulating Cross Creek?

A. Yes.

Q. And could you explain why that's relevant to the question of whether or not a reservoir is still storing?

A. That May 24th date would have stopped any storage in Cross Creek and in Big Horn or Martin or Last Chance. Because the priority ditch has a senior water right to the flows of Cross Creek, which comes through the mountain supply reservoir, which on this diagram -- it will -- well, in this diagram, it's technically the name of this ditch is Peralta Ditch, so right below Big Horn, you'll see a little arrow on the diagram.

Q. Maybe show me on the screen.

A. It's up. I will. Peralta Ditch, they're saying it's right there.

Q. I see. Okay. And so -- and I'm going to be asking you some factual questions. Then do Yellowstone County, Big Horn, Last Chance, Martin, do they all then divert Cross Creek to fill the reservoirs?

A. Last Chance and Martin are off channel, so they are filled by a ditch from Cross Creek. Their fill right is on Cross Creek. The physical location of the reservoir is not on the drainage of Cross Creek.

Q. Right. And what about Cross Creek and Big Horn?

A. Cross Creek and Big Horn are on the channel of Cross Creek.

Q. They are on the channel of Cross Creek?

A. Yes.
Q. And so when you regulate for Peralta, then what do you have to do with respect to Big Horn and Cross Creek Reservoir at that stage?
A. At that stage, they have to release --
Q. Start with what you do.
A. What I do?
Q. In connection with those two reservoirs.
A. Oh, I inform the reservoir company that we are no -- can no longer store in those two facilities.
Q. What does that mean, that they can no longer store?
A. That any inflows coming into the reservoir have to pass through the reservoir.
Q. So they're supposed to measure the amount that goes in at that stage and then let an equal amount go out even before they release any storage?
A. That's correct.
Q. And do each of those have measures for the inflow and outflow?
A. Well, in the case of the Cross Creek, that's why I said it's advantageous not to send that water down at Cross Creek until a later date because we can -- still have to go through the spills. It's water owed to Big Horn potentially or Park potentially. If

we can keep it full, then we get the inflows. We don't have to regulate through pipes to get it. It just shows up for us.

Q. I'm still curious on, for example, Cross Creek. There's a measuring device going in and a measuring device going out. And that's how they determine whether or not they're letting the flow through?

A. There is one going out. There have been attempts to put some on the inflows. But it's just a big swampy bog, and it's very difficult to measure the actual inflows and also two creeks coming in.

Q. And so how, then, when you regulate Cross Creek Reservoir, does the Cross Creek Reservoir understand how much to release?

A. We will dump -- it sits there in Cross Creek half of the summer. And it's released out of Big Horn. Later in the summer, we will open it up to Cross Creek's outlet gates to approximately 20 CFS and replace the water that they owe Big Horn from their storage facility.

Q. But what I'm still confused about, and can you help me and feel free -- if you think you understand what I'm saying and I'm not quite asking the question, feel free to explain it to me.

So my understanding is that once you -- once Peralta Ditch calls on the Cross Creek because they are senior, then you tell Big Horn and Cross Creek, okay, you guys are regulated. Whatever comes in you have to let out. And so I'm now the manager of the Cross Creek Reservoir.

A. Yes.

Q. And you've told me everything that comes in I have to let out.

Do you know how the manager there figures out how much is going in so that they know now how much to go out?

A. The manager of Cross Creek is the same manager of Big Horn.

Q. Okay.

A. It's John Becker. So we continue to let Cross Creek run through its spillway. And there is a good measuring device on Cross Creek above Big Horn. So we know what the flow at Cross Creek is coming into Big Horn. The assumption, since it's coming through the spillway, is it's the same. It's -- we're getting all of Cross Creek's because they have quit storage, they are now spilling. So we're getting it. And the measuring point is before it gets to Big Horn. So Peralta Ditch is owed -- or entitled to the amount of

water that the gauge above Big Horn says is in Cross Creek.

Q. I understand now for Big Horn, 'cause they have a gauge up above, how they figure out how much to let go down below. And my understanding is, once you regulate them, they are supposed to take the measure upstream and, at that gauge, measure it all downstream?

A. Yeah.

Q. Okay. So when I talk about the Cross Creek reservoir, you keep talking about the spillway.

A. Yes.

Q. So how is the spillway -- help me understand whether what's coming out of Cross Creek is what's going into Cross Creek Reservoir.

A. Other -- I guess other than the fact that it's brim full. So any inflows, there's no potential to store the inflows. It's spilling through the reservoir into Cross Creek again.

Q. Okay. So that assumes -- so if they are full, then for Cross Creek, anything that comes in is going to be coming out?

A. It's going to be coming out.

Q. I see.

A. For lack of good measuring devices, that's why the principal measuring devices for Cross Creek is

the inflow of Big Horn, which is also why it tends to stay full until such a time as it can replace water in Big Horn.

Q. Okay. And are these reservoirs just pulling in what's in Cross Creek? Let me ask that in a slightly different way. When I was up there and looked at some of these reservoirs, are they also just capturing water from the watershed in general in addition to the amount that's coming in through a particular -- or being diverted from a particular creek?

A. There probably are minor tributaries that we just cannot account for later in the season. I have not seen a live stream as I've walked around any of these reservoirs. Cross Creek is the principal source.

During snowmelt, you have live tributaries running in from all directions to help fill these reservoirs. By the time we get into a regulatory program, those become intermittent, if nonexistent.

Q. Okay. And so there could be. But what you're telling me is that it would be relatively minor during the irrigation period?

A. Yes.

Q. And then -- so the -- going back to -- again, to W40, then. My understanding is what you were

talking about in connection with some of the later entries, were you talking about gauges that are upstream and downstream of the Park Reservoir?

A. I believe -- let me make sure I understand. Item 4 is the recorder on Park Reservoir -- on Park Diversion Ditch, which is in that photo we looked at a little while ago, is that ditch that goes to the right off of the main channel of east fork out of the Park Reservoir Dam.

Q. Right.

A. That drops it into Big Goose. So that's what we measure, that quantity of water that's being exported transbasin to Little Goose, like I stated, Little Goose.

Q. Okay. So let me come at this from a different direction. So I understood, from the discussion this morning that in terms of your testimony, that -- about the filling of the reservoirs in the Little Goose Creek, that you're focused on when you were regulating Little Goose; is that correct?

A. No. This stems to the fact that --

Q. I mean Cross Creek.

A. Peralta has a right --

Q. I meant Cross Creek.

A. Yes. Okay.

Q. And then I also heard you testify as to why you believed that Park Reservoir had filled.

A. Yes. This is '06 we're talking? Yes, Park filled. I think that's different documentation than this one -- oh, no, it did not fill. Item 6 was a visual observation. Park Reservoir was down 10.1 feet. And that's from a diary notation.

I'm trying to remember -- there's a diary notation -- oh, item 1, May 24, Park Reservoir was minus 9.5 feet. So from May 24th to June 1st, we had released a foot of water by elevation which can be converted to acre-feet. The reservoir is now lower. So we'd see storage because it's releasing water between those two dates.

Q. Okay. So that's -- yeah, I was -- so let me ask this question again.

A. Okay.

Q. I know you're trying to remember back to what you were testifying earlier. And, unfortunately, I don't have it on the screen directly in front of me here. But in terms of your testimony that Park Reservoir was filled by May 24th, you were relying upon what documents?

A. Oh, Park Reservoir was filled in 2006.

Q. I don't mean -- I'm sorry. In terms of your

testimony that they ceased storage. I keep saying the wrong thing. Ceased storage as of May 24th.

A. That's strictly based on the elevation observed on May 24th as opposed to the elevation that I took -- I lost the date -- June 1st, which is, what, seven days later, a week later I was up. And we had released -- the reservoir had dropped from an elevation of 9.5 foot below full to an elevation of 10.1-foot below full. So we have reduced storage in seven days.

SPECIAL MASTER: Why don't we take the first ten-minute break right now and come back half an hour after. I'm going to stay here as to go through my various notes. And then we can come back at 2:30 or a little after 2:30. And everybody can go about their business.

(Recess taken 2:24 to 2:36 p.m., October 30, 2013)

SPECIAL MASTER: Okay. So back on the record.

BY SPECIAL MASTER:

Q. So turning again to M423, which is the schematic, just to keep track of the various reservoirs. So in your testimony this morning as to when storage stopped in the various reservoirs, which are shown on the schematic, I heard you talk about the

reservoirs in the Cross Creek watershed. I heard you talk about the Park Reservoir. And then I heard you at the very end say all of the reservoirs in your jurisdiction that filled by the date of May 24.

But I didn't hear you talk about Dome, and I didn't hear you talk about Sawmill.

A. No, we did not discuss that at all in any of these.

Q. I just want to make sure. I just went back over the record, and I didn't see any reference to it.

A. No. I think to get that data we would look at the hydrographers' annual report for 2004. But it's not a part of it.

Q. Okay. So let me then turn to Exhibit W175, which you were talking about with Mr. Draper a moment ago. And it's, again, the one sheet that says Wyoming reservoirs.

A. Yes.

Q. So for column 4, first of all, the measured end-of-the-year water storage in acre-feet, how would you obtain that data?

A. By elevation. On or near October 1 of the next water year, we will go physically and take and hand-level our way up to spillway elevation from water elevation and decide it's 5.7 foot and compare that

elevation to its capacity table.

Q. And then for column 5?

A. Yes.

Q. So does that mean on May 19th, you went to each of these reservoirs and actually measured what the height was of the reservoir, and from that you then calculated the storage?

A. Yes.

Q. Okay.

A. Exactly.

Q. And by May 19th, would there have been releases of storage from these reservoirs for use downstream?

A. There may have been. Again, the annual report for this year would indicate when releases began.

Q. Okay. So you would look again at the hydrologist annual report in order to obtain that data? And the answer to that is yes?

A. Yes.

Q. And column 5, then, is not necessarily the total amount that was stored in that water year but was the amount in storage as of May 19?

A. As of May 19, correct.

Q. Okay. And this might answer, then, the other

question I had. When Mr. Kaste was showing how you use your diaries, on May 9 of 2004 in your diary, you had indicated Dome filled?

A. Yes.

Q. But when I look at Exhibit W175 and I look at Dome, it doesn't appear as if it's filled?

A. Okay. I think in that diary entry it might say, "There's no boards in the spillway yet."

Q. No, just says Dome filled.

A. Okay. Can I look through that diary a little bit?

Q. You certainly may.

A. I just would like to look.

Q. There's not much in the vicinity of those dates.

A. Okay. I do only say that. Okay. I think it still falls back to what I suspected, and Dome probably didn't completely fill. They have 2 foot of boards they like to put in the spillway to get them to total capacity. I suspect Dome filled because I saw a reservoir fill online and wrote that in my diary. But when I physically went there on May 19, they did not have their boards in the spillway yet.

Q. But you don't know right now what the explanation is for the difference?

A. That's my speculation on how it differs.

Q. Okay. And Mr. Draper asked you about allocation between pre-1950 and post-1950 storage earlier. And I'm just curious, after a reservoir has filled, is there any relevance to your job as to what's pre-1950 and what's post-1950?

A. No. Some of the Park Reservoir companies themselves, specifically, and that's pretty much the only one, have A and B stock, so they have that concern. They will issue on some of the people that had B stock, which I -- I don't see their records, but they had lesser amounts of storage than the people that were strictly A.

So I think the company itself was apportioning out the lack of fill in those years. Park treats everybody equally, as does everybody else.

Q. So in your job, and I'll expand it more generally, is there any relevance to when storage water is pre-1950 or post-1950? Let me rephrase that.

Have you ever had to make a determination as to whether or not storage water is pre-1950 or post-1950 in your job?

A. No, I have not.

Q. Okay. Another question I had was -- I would love to just investigate for a moment the various tags

that you were talking about earlier.

A. They are going to be --

Q. Actually, no. I take it back. I don't think I need to talk about those. Actually, what I want to talk about is the reservoir --

A. Order sheets.

Q. -- order sheets, which are W327.

A. I have that.

Q. Okay. And I won't be very long here. But I'm just trying to figure it out.

So take the very first page. So you'll see that it says, under water commissioner, it's Alliance. So that's the ditch that that water will ultimately go into?

A. That is the ditch.

Q. Okay. And then underneath that it says, "We have ordered 2.0 off." So, first of all, with a 2.0, is that 2.0 CFS?

A. Yes, 2.0 CFS.

Q. And does the "off" mean it's reduced rather than added, or what does off mean?

A. That means they had at least two previously ordered. And so they are reducing the amount.

Q. Okay. And so if you go to the bottom of the page where it says, "We have ordered 1.0," that's

increasing it one?

A. Yes.

Q. And at the top where it says 2.0 off, it means decreasing?

A. Yes.

Q. Where it says for use on Wild Rose Water Group, that's the actual appropriator who is going to be taking it from the ditch?

A. Yes, that's who owns those particular shares.

MR. DRAPER: Your Honor, could I just get you to give the page again that you're on.

SPECIAL MASTER: Oh, I'm sorry. This is Exhibit W327. And I'm just on the very first page, the very first entry at the very top. And I'm just trying to understand what each of these means.

BY SPECIAL MASTER:

Q. And so the only other question I have with respect to understanding this sheet is I notice in the lower left-hand corner, it says "Two minus two equals zero" which is math that even Mr. Kaste and I can understand.

A. Yes. And John Wantulok is the guy who takes these orders obviously did that. So it did reduce them to zero from a previous order of having two going.

Q. Right. And similarly, for the second one,

it's five minus two equals three, which would indicate they had five before, they're reducing it two, so they'll have three after?

A. That's correct.

Q. And then two pages in, on the 894, that's a sheet where you basically keep track of what amounts are then coming out of storage for the various ditches?

A. Correct. I would like to go back to the five minus two equals three in Park Reservoir, just because I suspect what we will see on the 59 page is Park Diversion will have three from the J.C. Ranch now. It's actually four. So there's another order date between the 6th and the 9th.

So they have obviously changed again. But that's what he does is he's got three different appropriators ordering water for Peralta. So he just gives us kind of a Reader's Digest of the entire version.

Q. Okay. So then my next step was I went to your diary. And I expected when I looked at August 6 or the next day, August 7th, to see entries that corresponded with each of these various changes.

A. The 6th here?

Q. Yeah, so this is Exhibit, now, W34.

A. It's this pile. Okay. August 6. Am I in

2006? 'Cause we should not have an order on a Sunday -- oh, this is '04 orders, pardon me.

Q. '04. So this is W34.

A. Okay. Yeah, I did not go to the Peralta. I just am curious if -- sometimes reservoir orders will cancel each other and save me some trips. A lot of times the Alliance one, for example, is Pat takes care of a bunch of the releases. So my diary wouldn't reflect that. But I should reflect something in the Peralta. I would like to look at the Monday after. Oh, I did go to the Alliance on the Monday after and set that one.

Q. So let me ask you just a different question, which is really why I was sort of wondering once I actually got into the question. You get these sheets generally the end of the day?

A. No, first thing in the morning.

Q. You get them first thing in the morning, and that's because they are going to be making the adjustment?

A. Yes.

Q. Okay. And do you always get out on that day --

A. No.

Q. -- to make the changes?

A. No. We actually go out the next day. We allow travel time showing up so late in the day, that we will get it into the system. And then I go first thing in the morning or the following day and make the adjustments.

Q. Okay. But if I look at it in this case, I don't see them on the next day. So do you do it every time?

A. Sometimes there's a wash. This was a Saturday. Well, Friday, August 6th, I was at the Peralta.

Q. Yeah, I noticed the Peralta on that day.

A. Okay. So I did -- sometimes I will do that on a Friday, set, if it's minor changes, towards the end of the day. Yeah, and this was at 1646. I like the water to show up around that 4:00 time in the afternoon before I will make a set on the same day. Just so it doesn't affect the creek. The Alliance ones you're looking at, Pat may well have it in his diary. Because Pat sets my Big Goose water for me more often than not.

Q. I see. Okay. So, then, just one other question which I was curious. When you said that, correct me if I'm wrong -- that sometimes you see that somebody does not seem to be receiving as much water as

they are entitled to under their priorities. And you then actually seek them out to see whether or not they want more water, or you talk to them?

A. Yes, I will go to the -- whoever is in my contact for that ditch is.

Q. Okay.

A. Open up that conversation just to make sure they are satisfied with their right.

Q. Okay. And is that your typical practice?

A. Yes.

Q. Okay. I think those are all of my questions.

Mr. Draper first and then Mr. Kaste redirect.

MR. DRAPER: No further questions at this time.

SPECIAL MASTER: Okay. Thanks.

Mr. Kaste.

REDIRECT EXAMINATION

BY MR. KASTE:

Q. I thought I understood this this morning. I guess I don't. All right. Let's see if we can ferret a couple things out.

With regard to Exhibit W175, do you have that?

SPECIAL MASTER: Which one is that?

MR. KASTE: That is the --

SPECIAL MASTER: That's the Wyoming reservoirs sheet?

MR. KASTE: Yes.

THE WITNESS: Okay. I guess a little clarification of what it Looks like that I'm looking for -- oh, right on top. Looks just like this.

BY MR. KASTE:

Q. All right. Here's what I understand. As of July 20, 2006 -- that's not reflected on W175 -- there isn't any doubt that there wasn't storage going on in Wyoming; right?

A. Right.

Q. In 2006. All right.

As of May 18th, 2004, when we got a call letter from Montana, you went out the very next day and measured what was actually in Wyoming's reservoirs; correct?

A. Correct.

Q. And you wrote that number down in column 5?

A. Correct.

Q. So we know that all of the water reflected in column 5, which may or may not inhabit pre- or post-Compact space, but all of that water was stored before May 19?

A. Yes.

Q. All right. And we know some of that storage probably occurred after May 19 for a short period of time; is that fair?

A. That's fair.

Q. In some of these reservoirs, for example, your diary reflects before May 19th that Twin Lake had filled; isn't that right?

A. Dome Lake is the one.

Q. No, I think --

A. Yeah, I'd like to...

Q. Maybe let's look at May 19th in your 2004 diary. It should be Exhibit W234 -- W34.

A. Twin Lakes filled, yes.

Q. All right. Now, if I understood right, looking at the schematic and going back to Exhibit W40, when you see that the Big Goose -- or Beaver Ditch is trying to get its direct flow water out of the east fork of Big Goose Creek, that is an indication that storage on the east side is supposed to stop?

A. Yes.

Q. All right. And similarly, when you see the Peralta Ditch is asking for its water out of Cross Creek, that's an indication that storage on the west side is supposed to stop?

MR. DRAPER: Your Honor, I would object to

the leading nature of the questions. He's giving him a paragraph, and the answer is yes.

MR. KASTE: And they are very leading. I'm just trying to clear up everybody's confusion if I can.

SPECIAL MASTER: I think maybe. But I think you could probably ask him in a way that's not leading. You could simply ask the question of, you know, if Big Goose Creek is restricted, what does that mean with respect to the reservoirs?

MR. KASTE: All right.

SPECIAL MASTER: Minor change, but I know you can do it.

MR. KASTE: All right.

BY MR. KASTE:

Q. The question with regard to the Peralta Ditch, what does that mean about whether storage is occurring on the -- I'm backwards -- the west side reservoirs? Park and everything west of that?

A. Peralta Ditch would have ceased storage on Big Horn Reservoir, Cross Creek Reservoir, Martin Reservoir, Last Chance Reservoir.

Q. All right. Now, I saw something in the 2004 annual report in the pages after your narrative. There is some small narratives about each of the smaller reservoirs; right?

A. Yes.
Q. All right. The one for Willitts Reservoir says it filled sometime after June 21st; is that right?
A. Yes.
Q. All right.
MR. DRAPER: Your Honor, I think we're falling back into the same pattern.
MR. KASTE: I'm just trying to move along.
MR. DRAPER: A paragraph and a simple yes. That's the pattern.
MR. KASTE: I could have him read it out of there if you would like, but it would take longer.
SPECIAL MASTER: Just do your best.
MR. KASTE: All right.
BY MR. KASTE:
Q. All I'm trying to do, of course, is clarify when storage stopped. And it sounds like Willitts might have gone on longer than May 24; correct?
A. Willitts could have potentially gone longer. That's the first visit I was there when I noted it to be full.
Q. All right. And with regard to the other reservoirs, other than Willitts, I just want to be clear, is May 24th still the date that you believe storage ceased?

A. It is.

Q. All right. With regard to the wintertime releases from Park Reservoir, do you allow Park Reservoir to refill after it does the flushing flows for the Game and Fish?

A. If it's available, we do allow that.

Q. And you would do that with any reservoir; is that right? If water is available, everybody will refill; right?

A. Yes.

Q. You looked at the stream schematic for the Tongue River, and you talked about one point in time regulation to a specific date that was identified in your e-mail.

Do you remember that?

A. Yes.

Q. And you identified that right as the Rocky Ditch? Do I have that right?

A. That was the date for the Rocky Ditch, yes.

Q. All right. When you are regulating down to the date for Rocky Ditch --

A. Yes.

Q. -- tell me how -- where is the water in the stream? Does it dry up at Rocky Ditch? Does water flow past it? How are people downstream?water Is there

water available for them?

A. I would -- at that time would be allowing enough water beyond the Rocky Ditch to satisfy rights senior to 1884 downstream of the Rocky.

Q. So when you talk about regulating to a certain date, does that mean that the folks who are earlier than that are getting water?

A. Yes.

Q. And if they are not getting water, what do they do?

A. They have the opportunity to call us for their water if they are not getting it.

Q. I assume, unless they don't want or need it; right?

A. I assume that.

Q. All right. Now, before there's a call on the stream, before you go out and start regulating heavily, do folks with pre- and post-1950 right have the right to use water in the stream?

A. Yes.

Q. After a call comes on the river and you pick a date that you need to regulate back to, I assume that's tied to someone's individual appropriation; right?

A. It ties to who made the call.

Q. Okay. Do you attempt to ensure that folks who request post-1950 water rights are not receiving water?
A. Yes.
Q. Okay. In general, in your area, in the Big Goose and Little Goose area, are there a lot of post-1950 rights?
A. No, there are not very many.
Q. With regard to the movement of water between -- I think this happens -- and correct me if I'm wrong -- did you say between Cross Creek, Big Horn, and Park Reservoir?
A. Okay. That's -- those three would be involved.
Q. Are there others that are involved in moving water at the end of the season?
A. No, there's not.
Q. And are all three of those on the channel of Cross Creek?
A. Yes. Cross Creek is a tributary of east fork, and that occurs in Park Reservoir.
Q. So they are all kind of on the same line?
A. Yes.
Q. Fair enough.
Now, when water is stored in one of the

higher reservoirs and then either held for the benefit of the lower reservoir or transferred down to that reservoir, do the people who own the reservoirs have any say in that? Do they consent?

A. Yes, they consent. One guy operates all of the reservoirs but Park, and one guy operates Park. They work well together.

Q. So I'm just trying to see if that transfer is done by the agreement of the parties who own the reservoir.

A. Yes, it's done by an agreement between those reservoirs.

Q. All right. Thank you.

SPECIAL MASTER: Okay. I just -- this might clear up some of my confusion earlier.

FURTHER EXAMINATION

BY SPECIAL MASTER:

Q. So I notice that you were referring to the Big Goose and Beaver Diversion Ditch, which is that one that's sort of shown in the middle of the page there to the left.

A. Yes, that's right.

Q. Okay. And when they call and you have to regulate --

A. Yes.

Q. -- then which reservoirs do you regulate?
A. Well, when they called, and they called two days after Peralta was given the water, I have to regulate up -- everything above them. So they -- Peralta had their water for a total of two days before I had to turn around and give it to the Big Goose-Beaver. And at that point in time, we were regulated at a point below Park Reservoir and all the upper reservoirs as well.
Q. Okay. So when you say above the reservoir -- and this is where the schematic gives me a little bit of trouble. So that includes the various reservoirs you were talking about earlier and also Park; is that correct?
A. Yes.
Q. Okay. And does that include Dome and Sawmill?
A. No.
Q. Okay.
SPECIAL MASTER: Mr. Kaste.
MR. KASTE: I thought I understood it, and I thought it was Sawmill.
SPECIAL MASTER: I'm trying to understand this too. At some point, I'm going to have to write a report on this, is why I'm trying to figure it out.

MR. KASTE: Fair enough. I hate to add to the confusion.

FURTHER REDIRECT EXAMINATION

BY MR. KASTE:

Q. Well, with regard to Dome and Sawmill, do you know when they stopped storing?

A. I'll have to browse through some evidence.

Q. You'd have to put that information together from these other documents?

A. Yes.

Q. Okay. And you haven't done that yet?

A. No.

Q. But we know what they were at as of May 18th; is that fair?

A. We know that, yes.

Q. Did you record an ending elevation or a quantity in the annual hydrographers' report for those two reservoirs?

A. For the end of the water year, I would have.

Q. How about before they started making releases? Did you identify how full they were?

A. I can't say if I did that or not.

Q. All right. Did Dome and Sawmill ultimately fill in 2004?

A. We can look in the book.

Q. All right. Go ahead. And by book, you mean the annual --

A. The annual --

SPECIAL MASTER: This is J62? No, that's 2006. So is it J61?

THE WITNESS: J61.

SPECIAL MASTER: Okay.

THE WITNESS: 2004 Annual Hydrographers' Report. Page 97 of that indicates Twin Reservoir filled on May 19th. Okay. Page 116 discusses Dome Lake. And it indicates it filled during spring runoff. No date. Page 118 discusses Sawmill. And it also indicates Sawmill was filled this year between June 10th and June 30.

BY MR. KASTE:

Q. So Sawmill filled and Dome filled? And we can look back at the measurement you took on May 19 and figure out the difference between its capacity and what it was on May 19 to know what storage occurred after May?

A. Yes.

Q. All right.

A. We can do that.

SPECIAL MASTER: Okay. Stay up there just for a second. I have one more.

FURTHER EXAMINATION

BY SPECIAL MASTER:

Q. Earlier you said several times that all of the reservoirs filled by -- or I keep saying that, and I know I'm wrong. But that -- okay. So actually let me go back. Let me see if I can understand this.

Did you write this portion of the 2004 Hydrographers' Annual Report?

A. Yes, I did.

Q. Okay. When you say, "Sawmill Reservoir filled this year between June 10th and June 30th," I assume you do not mean that it filled -- that, in other words, all of the filling was done between those two dates?

A. That's typically what I mean, and I am puzzled. I don't know.

Q. So you don't know whether you mean that or whether you mean that sometime between these two dates, you went the first date, and it wasn't filled, and you went the second date, and it was filled, so it must have filled sometime in between?

A. Somewhere in between.

Q. You think that's what you meant by this language?

A. Yes.

Q. Okay. And so then earlier when you were talking about the various evidence you have as to -- I shouldn't say it that way.

Why you believe, in your role as the hydrographer here, that the reservoirs stopped storing by May 24th, what you were talking about was Park Reservoir and the various reservoirs in Little Goose -- not Little Goose -- Cross Creek watershed?

A. Yes, I think that would be specific to Cross Creek and the east fork.

Q. Okay. But you were not talking at that point specifically about Dome and Sawmill?

A. No, I cannot say at this time that it relates to them.

Q. Okay.

FURTHER REDIRECT EXAMINATION

BY MR. KASTE:

Q. But we can look at Exhibit W175, and we can compare its capacity to its contents on May 19th and know during -- sometime during that period as both of them filled, that difference was stored after May 19th?

A. That's correct.

Q. Okay.

MR. KASTE: I'm not going to do that math right now.

SPECIAL MASTER: I'm not going to try that either.

MR. KASTE: Okay.

SPECIAL MASTER: So I'm sorry to have gone back and forth like that, Mr. Kaste. But, again, I was really trying to just clarify exactly what this witness's testimony is. Because it's obviously, I think, important.

MR. KASTE: No, I understand. And apparently I was confused.

SPECIAL MASTER: You were not probably the only person in the room. There's a lot of information, a lot of data here.

So with this, then, Mr. Knapp, I very much appreciate your testimony, and you can be excused.

THE WITNESS: My pleasure. Thank you.

SPECIAL MASTER: You're welcome. And thank you very much for your part in the tour this summer, which also was really quite valuable.

Mr. Draper, you're standing up.

MR. DRAPER: Can I get the exhibits back?

SPECIAL MASTER: That would be fine. In fact, why don't we plan to take the second ten-minute break right now. And that would permit Mr. Kaste -- I assume you still have one more witness.

MR. KASTE: Uh-huh.

SPECIAL MASTER: So it would permit you then to get ready for that. And, Mr. Draper, you can retrieve your various exhibits.

MR. DRAPER: Thank you.

(Recess taken 3:14 to 3:23 p.m., October 30, 2013)

SPECIAL MASTER: Well, let's go.

(Pat Boyd sworn.)

THE CLERK: Have a seat, please. State your name and spell it.

THE WITNESS: Pat Boyd, P-a-t B-o-y-d.

PAT BOYD,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. KASTE:

Q. If would you bring the microphone a little closer to you, that'd be great.

Now, Mr. Boyd, can you tell us who you're employed by.

A. State of Wyoming Engineer's Office.

Q. And what's your position?

A. Water Commissioner.

Q. Can you tell us a little bit about your background after high school? Just walk us through,

basically, your employment history.

A. Worked for Kiewit Mining and Engineering for 23 years, 24 years.

Q. And what did you do for them?

A. Ran an exploration drill crew for them for precious metals, coal, and gold.

Q. And --

A. And did a lot of water, ground water, water wells in the Tongue drainage.

Q. So you went to different places and drilled holes?

A. Yes.

Q. All right. You did that for 23 years. And then what did you do?

A. I bought a couple snowcats and groomed snow machine trails for the State of Wyoming for five years. And I started as a water commissioner part-time.

Q. When did you start as a water commissioner?

A. In 1997.

Q. And that was a part-time job?

A. Part-time job until 2000.

Q. All right. In 2000, did you become full-time?

A. Full-time.

Q. And have you been in that position ever

since?

A. Been there since.

Q. What are your responsibilities as Hydrographer Commissioner in Division II?

A. Keeping track of water, measuring the stream gauges, making sure all of my stream gauges are up and running, and do the annual reports.

I do a lot of safety of dam inspections, proofs, new water right proofs, go out and inspect and make sure that they are what they are permitted for.

Q. All right. Which districts in water Division II are you responsible for?

A. 5 and 6.

Q. What streams are in Districts 5 and 6?

A. There's Big Goose -- I step a little bit into 4 with Bill. I do Big Goose, Soldier Creek, Wolf Creek, Smith Creek, East and West Pass Creek, Ash Creek, Fivemile Creek, Tongue River.

Q. All right. You have next to you a touch screen. And there is a map. And this is a map that's contained in Mr. Fritz's report. It's just up there for reference purposes. And can you just kind of outline with your finger the streams where you have responsibility and where you spend most of your time?

A. Well, everything from the Montana line, I go

above right on the Montana line. I come over. I do Smith Creek, and I come clear over to the headwaters of Wolf Creek. And I take care of Soldier Creek part-time.

And I do Big Goose down through the confluence. And then I take care of the Prairie Dog Stream gauge at the bottom, down by Tongue, which is down there.

Q. And that's actually in District --

A. Eleven. So I'm scattered everywhere.

Q. All right. Which of these streams do you spend most of your time on?

A. I spend most of my time on these little perennial streams; Smith Creek and Wolf Creek will eat up 80 percent of my day.

Q. All right. Are Smith Creek and Wolf Creek typically in regulation during the irrigation season?

A. They go in regulation every year.

Q. All right. And how far down -- let's look at the main stem of the Tongue River.

Smith Creek comes in fairly high, about the town of Dayton; is that right?

A. Yes.

Q. And Wolf Creek comes in about the town of Ranchester; correct?

A. Correct.
Q. So do you spend most of your time upstream from Ranchester?
A. Correct.
Q. All right. This is an important one. Between the state line on the main stem of the Tongue and the town of Ranchester, have you ever received a call for regulation from a Wyoming appropriator?
A. No.
Q. All right. Now, you understand that Montana made calls on Wyoming in 2004 and 2006. Did you ever receive any direction from the Wyoming State Engineer to take any action between Ranchester and the state line?
A. No.
Q. All right. I have a couple of exhibits, just a couple, to talk with you about very briefly. And, in fact, you brought the originals with you here today.
I'm going to hand you Exhibit W35 and W38. Can you look at Exhibit W35?
A. Yes.
Q. Can you tell us what that is?
A. That's a copy of my diary.
Q. For which year?
A. 2004.

Q. All right. Can you look through that real quick and tell me if it's complete?
A. It appears to be.
Q. You don't have to look at every page, just thumb through. Does this appear to be a copy?
A. This appears to be everything there.
Q. Of the hydrographer's diary for 2004 that you carried with you in 2004?
A. Yes.
Q. And you actually have the original up on the stand with you; correct?
A. Yes.
Q. All right. And did you write the notes inside that diary?
A. Yes.
Q. And you keep this record in the normal course of your employment; correct?
A. Yes, I do.
MR. KASTE: I'd move for the admission of Exhibit W35.
MR. WECHSLER: No objection.
SPECIAL MASTER: Exhibit W35 is admitted.
(Exhibit W035 admitted.)
BY MR. KASTE:
Q. Now I'd like you to look at Exhibit W38. And

can you tell us what that is?

A. It's a 2006 diary, my 2006 water diary.

Q. All right. Can you look through that briefly and tell us, does that look to be a complete copy of your 2006 diary?

A. Appears to be.

Q. Is the handwriting in that diary yours?

A. Yes.

Q. And do you create that in the course -- the normal course of your employment?

A. Yes.

Q. All right.

MR. KASTE: I'd move for the admission of Exhibit W38.

MR. WECHSLER: No objection.

SPECIAL MASTER: Exhibit W38 is admitted.

(Exhibit W038 admitted.)

BY MR. KASTE:

Q. And now we're going to talk about those two exhibits and talk about what isn't in there. If we look in your hydrographer diaries for 2004 and 2006, are we going to find any entries for regulatory activities that you might have undertaken between the town of Ranchester and the Montana state line?

A. No.

Q. Okay. Primarily your hydrographer diaries are going to be filled with entries on these other creeks that you've identified; is that fair?

A. Correct.

Q. All right. I have a quick specific question about the South Side Ditch. Could you show us where the South Side Ditch is on the map? And I'll take all the other marks off.

A. The South Side Ditch is on the main stem of Tongue above Dayton right at the -- not too far from the forest boundary.

Q. Where does it run?

A. It runs all the way to Ranchester on the south side of the river.

Q. Can you just draw a little line for us?

A. (Witness complies.)

Q. All right. Now, if I understand, when you -- you deliver water to headgates as part of your responsibilities on these creeks; right?

A. Yes.

Q. When you do that, does your responsibility for delivery end at the headgate, or do you go down the ditch and see where the water is delivered along the ditch?

A. We typically don't go down ditch unless

there's a real bad squabble. I might step in and just be a mediator. But, no, I don't go down ditch. I don't have the time or -- we just don't go down ditch.

Q. When you're in regulation, say, to a certain date and you set the headgate on, say, for example, on this ditch to -- I don't know what the priority is -- 1880 something -- do you let just enough water in to satisfy the early rights, or do you let more in?

A. I regulate it back to a -- I'll figure out where I need to be as far as water to get to push down to a lower appropriator, senior appropriators. And that will fall on a date with the amount of water. And that's where you come up with the date. If they -- say they got a right for 15 foot, as an example, 1885 and I need 3 feet and it happens to take it to an 1892, that's where that date is going to come up at is where I regulate it to an 1892 right.

Q. And who is it who ensures that the water goes where it's supposed to once it gets past the headgate?

A. The ditch riders.

Q. All right. I think I have one more question-ish. Might be a couple.

Mr. Knapp testified, kind of all morning today, which is longer than I hoped, but nevertheless. And you heard him talk about how he regulates in his

part of the Tongue River Basin; right?

A. Yes.

Q. Did he do a pretty good job?

A. Yes.

Q. All right. And I don't want to go through those same questions with you. That would be redundant as long as Bill did a good job.

But I do want to ask, are there any flows -- do you use a flow in the areas that you have responsibility for and you see that flow on a stream gauge and you say, I'm going to go turn off headgates? Do you utilize that procedure, or do you wait for a call?

A. I have to use those little triggers on these little streams because of the way they go. I'll sometimes -- it all depends on the year.

Q. All right. I'm confused now. You get calls; right?

A. Right.

Q. All right. You also watch the stream gauges?

A. Correct.

Q. When the stream gauge reads 20, 100, 5, do you go, a-ha, I'm going to go shut somebody off, even though I haven't received a call?

A. No.

Q. All right. When you shut somebody off, do you do that because you got a call?

A. Yes. If I'm shutting someone off, it's from a call.

Q. All right. That doesn't mean you're oblivious to what's going on on the stream?

A. Correct.

Q. All right. Thank you very much. That's all I have.

SPECIAL MASTER: Okay. Thank you, Mr. Kaste.

Mr. Wechsler.

MR. WECHSLER: Thank you, Your Honor.

CROSS-EXAMINATION

BY MR. WECHSLER:

Q. Good afternoon, Mr. Boyd.

A. Good afternoon.

Q. We did spent quite a lot of time with Mr. Knapp, and I won't try and plow that same ground, but you do regulate the main stem of the Tongue; correct?

A. Correct.

Q. And so you understand that that's an issue in this case, and I have to ask you certain questions and make sure that your answers are a thin layer or the same as Mr. Knapp?

A. Correct.
Q. So by far, the largest use of water on the Tongue River is for irrigation; is that right?
A. Yes.
Q. And people rely on irrigation for their livelihood?
A. Yes, they do.
Q. And, therefore, the availability of it is very important to them; right?
A. Yes.
Q. And if they are not regulated and water is available and they need it, they will take it; correct?
A. Yes.
Q. And you have a general sense for the water rights on the Tongue River; right?
A. Yes.
Q. And most of those water rights are used every year; is that correct?
A. Correct.
Q. In the spring, water rights generally have enough water; correct?
A. In the spring?
Q. During the spring?
A. Yes.
Q. And, in fact, there might be what's called

surplus water; right?

A. Correct.

Q. And that means that users are entitled to take twice their normal amount?

A. Correct.

Q. Once water starts to drop, regulation then becomes necessary; correct?

A. Yes.

Q. And when starting regulation, sometimes you get a written call; correct?

A. Yes.

Q. And I haven't seen any document here in this case with a written call. Have you seen an exhibit in this case that is a written call?

A. No.

Q. Oftentimes, when you get a call for water, it's not written; right?

A. It's usually a phone call.

Q. And it might be as simple as a senior water user calling and saying, hey, I'm short of water; correct?

A. Correct.

Q. And it's not necessary for a water user to use any specific words, correct, when he's telling you he's short of water?

A. No.
Q. They just need to make it clear that they need water; right?
A. Yes.
Q. And speaking of a call, and I think you spoke about this with Mr. Kaste, there are times when you initiate regulation without a call; right?
A. Correct.
Q. And you'll just begin regulation as the streams are dropping; correct?
A. Yes.
Q. And typically, the stream will drop very quickly, and regulation also occurs very quickly?
A. Correct.
Q. I want to talk a little bit about tagging. And in order to do so, I'd like to hand you what's been previously marked as Exhibit W191.
MR. WECHSLER: May I approach, Your Honor?
SPECIAL MASTER: You may.
BY MR. WECHSLER:
Q. Do you recognize what's been marked as Exhibit W191.
A. Yes.
Q. What is this document?
A. Well, the first page is a violation ticket.

And the rest of them are receipts out of my tag book.

Q. And does -- all of the handwriting that's on this document, is that your handwriting?

A. Yes.

Q. And this is a document that you used, I think between the years 2003 and 2010, to tag ditches?

A. Correct.

MR. WECHSLER: Your Honor, at this point I'd move the admission of W191.

MR. KASTE: No objection.

SPECIAL MASTER: Okay. Exhibit W191 is admitted into evidence.

(Exhibit W191 admitted.)

BY MR. WECHSLER:

Q. Mr. Boyd, if you'd turn, please, to the second page after the cover page. And this is the blank page that's the notice of regulation. I'm sorry. Yeah, the notice of regulation. At the bottom it's labeled WY061388. Do you see that? It should be on the very second page of the document. And it's the -- it's the page that has the blank notice and tag and the blank violation.

A. Oh, yes. It's on the back of the front.

Q. Double-sided. So looking at the top there, this is a blank tag; correct?

A. Correct.
Q. And so the right side you fill out an order to give notice to the diverters, the appropriators, and you actually place it on a headgate; right?
A. Correct.
Q. And then if you look at the bottom here, it says date regulated or checked; right?
A. Correct.
Q. And so in there, you'll actually fill that out?
A. Yes.
Q. And then if, during the same season, you go back to that headgate and regulate it, say, further down, you're going to indicate that further on this same sheet; right?
A. Correct.
Q. And then on the left side, you have your -- the sheet that you keep with you; right?
A. Yes.
Q. And that's what you call your tag book. And you have that with you?
A. Yes.
Q. And you have it with you pretty much every day?
A. Yes.

Q. And so if you regulate something down further on the headgate, then you also indicate that on the tag book, the part that you keep with you; is that right?

A. Regulate it down farther?

Q. I mean, if you go back to the same headgate and you turn the headgate a little bit further, and so you mark that down on the right side that's on the headgate; right?

A. A readjustment on a new gate type, yes, and a date.

Q. So you also do the same thing on your records?

A. No, I don't.

Q. Sometimes you don't?

A. I don't. No, 'cause I don't carry that tag book. This is out on the headgate, and I'll write it on the headgate, and I'll write it on my diary, and then I split.

Q. You understand one of your responsibilities is to place this tag; right?

A. Yes.

Q. And I think you told me that, in fact, that is your practice; that's what you do?

A. Yes.

Q. And so we can look at your tag book to

understand when regulation occurred; right?

A. Yes.

Q. My understanding is you use one tag book at a time; right?

A. Some years I got -- I got several of them floating around.

Q. I think in your deposition you told me you just do one at a time?

A. Well, lately. But there's a few years I had a couple of them floating around from different backpacks. Most of the time, I try keep it to one so it's easy for me at the end of the year.

Q. Do you know what years you had more than one?

A. It would have been probably in my -- '97 to 2000, somewhere in there probably.

Q. Since that time --

A. I probably got it down to one.

Q. And I think also in your deposition, we talked about this looked to you like a complete set of your tags from the years 2003 to 2010. If you want to take a second to review that, and if you could confirm it.

A. It looks like it's all there.

Q. Once you start regulation, you stay in regulation until the flow comes up; right?

A. Correct.
Q. And if you're going to come out of the regulation, you actually physically pull this tag; correct?
A. Yes.
Q. And that typically doesn't happen until the end of the year; right?
A. Most of the time, yes.
Q. And you don't adjust your -- you don't pull the tag for haying purposes, do you?
A. If they shut their headgate off.
Q. If the irrigator voluntarily shuts his --
A. Well, I mean, for haying season?
Q. Yes.
A. If they -- they can shut their headgate. They just can't turn it up. Just 'cause I have a tag on it doesn't mean that they can't close it.
Q. I'm wondering what you do. You don't pull your tag for when the irrigators are haying; correct?
A. No, not normally.
Q. And if I understand correctly, you told Mr. Kaste you actually don't go down the ditch?
A. No.
Q. And so you're not verifying on a daily basis when someone might be haying?

A. Correct.
Q. You also don't take measurements down the ditch; right?
A. Not normally. I will measure ditches periodically, just to check the weirs.
Q. And it's near the diversion works in order to --
A. Where the measuring devices are at. I'll double-check them once in a while.
Q. Make sure they are working correctly?
A. Yeah.
Q. To your knowledge, I understood you to say that Wyoming has only regulated the main stem of the Tongue one year; right? 2006?
A. I do believe so.
Q. And that was from -- if I understood your testimony, from the south side up?
A. Not -- no. From the O.Z.&K.
Q. So I thought we looked at south side earlier.
Is it possible to toggle to the map from Mr. Fritz's report?
Could you show us, Mr. Boyd, where the O.Z.&K. is?
A. Right at Dayton.
Q. So it's from that point up that there was

actually regulation?
A. Correct.
Q. And below that there was no regulation in 2006?
A. Correct.
Q. And --
A. I do believe I hit the York Ditch too.
Q. Where is the York Ditch?
A. The York Ditch is in between Dayton and Ranchester.
Q. Can you put a dot there, please.
Everywhere from there below there was no regulation?
A. Correct.
Q. And that was one time that you've done that?
A. I do believe so.
Q. And so in every other year prior to 2006, no regulation anywhere on the main stem; right?
A. Correct.
Q. Now, you understand that there's post-1950 irrigation below Ranchester; right?
A. Yes.
Q. I'd like to talk a little bit about the Interstate Ditch. Are you familiar with the Interstate Ditch?

A. Yes.
Q. To do this, I'm actually going to take an excerpt out of J58.
MR. WECHSLER: May I approach?
SPECIAL MASTER: You may.
BY MR. WECHSLER:
Q. I'll give you a second to look at that. Let me know when you're ready.
A. I'm ready.
Q. Have you ever seen this document before?
A. No.
Q. If you look at the second page, which at the bottom is labeled page 82. I'm looking at the references.
You see that?
A. Yes.
Q. And here it indicates that you are a reference; right?
A. Yes.
Q. You understand that to be you?
A. What's that?
Q. You understand that to be referring to you?
A. Yes.
Q. Do you recall doing an interview with the people doing the basin plan, which I believe would be

HKM Engineering, at some time around September of 2000?

A. Yeah.

Q. Looking at this description of the Interstate Ditch, first of all, you see the picture there. Do you recognize that as being a picture of the Interstate Ditch?

A. Yes.

Q. Okay. Now looking at the diversion here, it says on the left, diversion location. And it indicates that it's the last diversion from the Tongue before it leaves the state.

Do you see that?

A. Last ditch diversion. Well, no, it's not the last diversion.

Q. What's below the Interstate?

A. Well, there's -- we've got some Dunning pumps, Ankney pumps. There's a Helvey's pump. I'm trying to remember the name of the ditch. The McCuistion Ditch, I believe.

Q. Some of that is actually post-1950 irrigation; correct?

A. Yes.

Q. And in your experience, since you've been there, there's always water available in the Tongue River, right, at the Interstate Ditch?

A. Yes.
Q. Looking at the conveyance description on Exhibit J58, pages 81 through 83, it indicates that the Interstate Ditch is 9 miles long; right?
A. Is a what?
Q. I'm looking on this exhibit. It indicates conveyance description. Do you see that? It's on the first page on the left-hand side.
A. Okay.
Q. And then it says that the -- it's approximately 9 miles long?
A. Correct.
Q. Is that basically your understanding?
A. Could be.
Q. And then it has a listing of the water rights. Is that consistent with what you understand to be the water rights?
A. What's that?
Q. Is this consistent with what you understand to be the water rights?
A. Probably, yes.
Q. Under that it says, "The Tongue River and the Interstate Ditch are typically never under regulation." You agree with that; right?
A. Correct.

Q. It then goes on, "They," I think meaning the irrigators, "'take whatever we can get and as much as we can get,' as one irrigator explained."

You see that?

A. Yes.

Q. You agree with that statement?

A. No.

Q. What do you think is wrong with that statement?

A. Well, they couldn't get too much because they can't get underneath the highway at the first culvert. They can't get double their appropriation.

Q. But they take as much as they can get?

A. They drain those stream runoffs, yes.

Q. But they take as much as they can get?

A. Yes.

Q. So long as the water is available, they're taking it?

A. Correct.

Q. I think this, if you look at the next sentence, it might address what your concerns seem to be. And that is, it says "The size of the ditch governs the diversion."

Do you agree with that?

A. Correct.

Q. And "allowing for approximately 120 percent of the total rights to be diverted."

Does that seem about right to you?

A. I have no idea.

Q. Fair enough. It then indicates next that the "Flows in the diversion are approximated as follows." You see that little table? It's at the very bottom of the first page.

A. It says the flows in the diversion are approximate?

Q. Approximately as follows. You see that?

A. Okay. I see it.

Q. And then it indicates a dry year. And it's got some numbers there. Do those look approximately right to you for a dry year?

A. I don't know what those mean.

MR. KASTE: Okay. My objection was going to be to foundation.

BY MR. WECHSLER:

Q. If you'd turn to page --

SPECIAL MASTER: You might just want to pause just for a second before answering just so counsel for Wyoming, if he wants to object, has an opportunity to do it.

BY MR. WECHSLER:

Q. Mr. Boyd, could you turn, please, to page 82. Here we have the heading "return flows."

You see that?

A. Yes.

Q. And have you ever observed return flows coming off the Interstate Ditch?

A. Once in a while I'll run down just to see if there's anything running into Montana.

Q. And have you observed some years where there were no return flows?

A. Yes.

Q. I think we heard from Mr. Knapp earlier about the spot readings that we take, that you all take in Wyoming on the Interstate Ditch. And looking at the last page, page 83 of the basin report, do you see that?

A. Yes.

Q. And there's only two readings here; right?

A. Correct.

Q. And I looked yesterday or two days ago maybe with Mr. Whitaker in the 2004 hydrographers' report, and we didn't find a table for spot discharges for the Interstate Ditch.

Am I missing something?

A. No.
Q. So those aren't actually recorded?
A. There was no measuring device in that year.
Q. When was a measuring device -- or was a measuring device put on the Interstate Ditch?
A. When?
Q. First, is there one now?
A. There is now, yes.
Q. When was it put there?
A. I think around 2005, I think. The first time they attempted to put a weir in it, they set it too low so it didn't work. So there was a year or so that I fought with them to threaten to, if you don't get it fixed, I'm not going to let you turn your ditch on. So then they had to hire an engineer. And they got it remodified and fixed. And that's where it's at today.
Q. And what year did they fix that weir?
A. I'm thinking in 2007. I'm not sure.
Q. If we look at those demonstrative exhibits, I think we can confirm that the weir is actually there. If we turn to Montana Demonstrative 2, at 2P.

Mr. Boyd, does this look familiar? This picture on Demonstrative Exhibit 2P, does that look like the weir that's on the Interstate Ditch?

A. Yes, it does.

Q. Let's look at a couple more pictures here. The next one, which is 2Q, and that's a picture of the Interstate Ditch?

A. Dam structure.

Q. Why do they put those boards in there?

A. To raise the elevation up for head pressure.

Q. Get more water in the ditch?

A. Just to stabilize, to keep a good, steady head pressure on it so they don't lose the head pressure during the highs and lows.

Q. Let's look at the next one. This is the headgate again; right?

A. Correct.

Q. Can I get you to look, please, at your 2004 diary, which I think is W35? And then if you'd turn with me, please, to June 17th. Are you there?

A. Yes.

Q. Five lines down I see an entry for the Interstate Ditch.

You see that?

A. Yes.

Q. What does that entry say to you?

A. That the weir isn't there then and it's just an estimated flow. Because I had no measuring devices. So I just estimated it.

Q. And is the estimate 30 to 50 CFS?
A. As far as I -- yeah. I never seen any measuring in the ditch, so I didn't know exactly how much it could take. I just looked at it flat. It's hard to guess water. You know, I'll give it a shot.
Q. Fair enough. I didn't see any other listings in this 2004 hydrographers' report for the Interstate Ditch.
Does that sound right?
A. That sounds right.
Q. How about 2006?
A. Probably the same.
Q. In that part of the season -- when does irrigation season typically start?
A. What's that?
Q. In the area where the Interstate Ditch is located, when does irrigation typically start?
A. Oh, I see irrigation out there in the middle of May.
Q. And I think you said earlier, whenever you have visited the Interstate Ditch, there has been irrigation actively occurring on the ditch; right?
A. Correct.
MR. WECHSLER: Could we toggle back to that map again?

BY MR. WECHSLER:

Q. Mr. Boyd, could you please point to us where Columbus Creek is?

A. Columbus Creek is right there.

Q. And it's close to Fivemile Creek; correct?

A. Correct.

Q. Starting with Fivemile Creek, you have no responsibility for regulating Fivemile Creek; right?

MR. KASTE: I object to the form of the question. Responsibility is a whole lot different than what we're actually talking about. It's a very loaded question.

MR. WECHSLER: I'm happy to rephrase.

SPECIAL MASTER: You're free to do so. I was happy with the first question.

MR. WECHSLER: Well, then, if it's okay with you, I'll go ahead and ask the first question.

SPECIAL MASTER: Please.

BY MR. WECHSLER:

Q. Do you have any responsibility over Fivemile Creek?

A. It's in my district.

Q. And do you regulate Fivemile Creek?

A. No.

Q. Do you regulate Columbus Creek?

A. No.

Q. Does anybody else from the state engineer's office regulate either Columbus Creek or Fivemile Creek?

A. No.

Q. I don't have an exhibit up there for you, but I think it's enough to look at the screen, if I could also ask for that to be toggled. But if we could look at Exhibit M5 at page 62. And I hope this is going to be a figure of the Padlock Ranch.

SPECIAL MASTER: So, Mr. Wechsler, what is this from? Exhibit M5?

MR. WECHSLER: Yes, this is Exhibit M5, which is the Book original report.

BY MR. WECHSLER:

Q. And I think now on the screen there, Mr. Boyd, it's been enlarged. Can you see that okay?

A. Yes.

Q. Does this look like the area of the Padlock Ranch?

A. Correct.

Q. We can see here, in the bottom of the picture you can see Columbus Creek; right?

A. Yes.

Q. And towards the upper part, you can see

Fivemile Creek; right?

A. Correct.

Q. And both of those are labeled; right?

A. Correct.

Q. And then shown in blue is what's called the Fivemile Ditch.

You see that?

A. Yes.

Q. The Fivemile Ditch diverts off of Columbus Creek; is that right?

A. Correct.

Q. And it goes into the Wagner Reservoir; right?

A. Correct.

Q. And then after that, it continues on -- well, the line isn't shown there. It goes all the way to the Fivemile Reservoir; right?

A. Yes.

Q. Which one of those reservoirs fills first?

A. They fill Fivemile first.

Q. And then after that they fill Wagner Reservoir?

A. Correct.

Q. Do you know the capacity of the Fivemile Reservoir?

A. Somewhere around 500. I don't know for sure.

Q. And most of that is post-1950 storage?
A. Yes.
Q. And then they fill the Wagner Reservoir; right?
A. Correct.
Q. And do you know the capacity of that reservoir?
A. Under 400 acre-feet.
Q. Again, it's mostly post-1950 storage?
A. Correct.
Q. And then they -- the Padlock Ranch uses the water from those reservoirs to irrigate the fields which are shown here on this illustration; right?
A. Correct.
Q. And I think we -- again, looking at MT2, I think that we have pictures of the -- of those reservoirs. I'll just get you to confirm that's what they are.
Mr. Boyd, do you see now what is labeled as Exhibit 2L there?
A. Yes.
Q. Do you know what that is?
A. Looks like it's a picture of the Wagner Reservoir.
Q. And then if we look at the next one, which

will be 2M, do you recognize this picture?

A. A picture of the Fivemile Reservoir.

Q. Is the Wagner -- has the Wagner Reservoir ever been regulated by you?

A. No.

Q. Has the Fivemile Reservoir ever been regulated by you?

A. No.

Q. Are you familiar -- well, let's look at the -- we looked at Exhibit M5 before. And, again, I'll just ask you to look at a page. We don't need to take out the whole document. This time I'm going to look at Table 9, which is on page 39 of Exhibit M5, which is Mr. Book's original report.

Mr. Boyd, do you recognize these as some storage facilities that are located in the Tongue River?

A. Yes.

Q. And we talked about the ones at the bottom except for the Padlock Waste Reservoir?

A. Yes.

Q. Are you familiar with the Padlock Waste Reservoir?

A. Yes.

Q. That's a much smaller facility; right?

A. Yes.
Q. If you look up from there, it's got the Windy Draw Reservoir; right?
A. Correct.
Q. And that's got a capacity of 533? Does that seem --
A. Seems about right.
Q. Is that used for irrigation?
A. Yes.
Q. Is it used every year?
A. I do believe so.
Q. To your knowledge, is the Fivemile Reservoir used every year?
A. Yes.
Q. And is the Wagner Reservoir used every year?
A. Yes.
Q. Do you know about when they start releasing water from the Fivemile Reservoir?
A. I have no idea.
Q. How about the Wagner?
A. I have no idea.
Q. Let's talk a little bit about the Big Goose Creek.
MR. WECHSLER: And if I could beg the clerk's indulgence again to toggle back to Mr. Fritz's image.

BY MR. WECHSLER:

Q. We heard from both Mr. Whitaker and Mr. LoGuidice who indicated that on Big Goose Creek, it's typically the Alliance Ditch that's the calling right. Would you agree with that assessment?

A. Yes.

Q. And actually, if we wanted to, we could confirm that with your tag book. I notice that there's many times that you have regulated the PK Ditch; right?

A. Correct.

Q. Which is above the Alliance?

A. Yes.

Q. Can you show us, using this schematic, where the Alliance Ditch is?

A. Somewhere right around there.

Q. Towards the base of the mountain?

A. Yes.

Q. Below that, in a typical year, there's not regulation; is that right?

A. What's that?

Q. Below that point, in a typical year, there is not regulation on Big Goose; right?

A. Typically.

Q. Is there post-1950 irrigation below the Alliance?

A. Oh, I'm sure there is.
Q. Have you ever regulated the post-1950 rights that are below the Alliance?
A. No. When I regulate, it's a way earlier right than that.
Q. Which -- but it's ones that are further up in the creek; right?
A. Correct.
Q. In the ones below Alliance Ditch, have you ever regulated that post-1950 irrigation?
A. No.
Q. You don't actually regulate on Prairie Dog Creek; right?
A. No.
Q. Currently, that's the responsibility of Mr. Schroeder?
A. Correct.
Q. You do -- if I understand correctly, you do take measurements there right before the state line; right?
A. I run the lower Little Goose -- or Prairie Dog gauge.
Q. I want to just ask a couple questions about reservoirs. As I understand it, Mr. Boyd, you do not have primary responsibility for the reservoirs in the

Tongue River Basin; is that right?

A. Correct.

Q. You do sometimes deal with calls for reservoir water; right?

A. Quite often.

Q. And as I understand it, when water users want to take reservoir water, what they will do is call the dam tender; is that right?

A. Correct.

Q. They don't deal directly with you?

A. No.

Q. And then it's your responsibility to make sure that that water gets to the correct diversion; right?

A. Correct.

Q. And you accomplish this by measuring diversions; right?

A. Yes.

Q. And making sure that the reservoir water doesn't go up the wrong headgate?

A. Correct.

Q. You typically apply a 10 percent transit loss?

A. Oh, yes.

Q. We heard from Mr. Knapp that the typical

amount of time to get from the top to a diversion towards the bottom is somewhere between eight to ten hours. Is that consistent with your experience?

A. It's -- yes, it is.

MR. WECHSLER: May I have one moment?

SPECIAL MASTER: You may.

MR. WECHSLER: Nothing further, Your Honor.

SPECIAL MASTER: Thanks.

EXAMINATION

BY SPECIAL MASTER:

Q. I have one quick question which is: To the degree you know, are the water rights held by the individual users, or are they held by the ditches?

A. They are held by the individual -- it's tied to land.

Q. Okay. Thank you.

REDIRECT EXAMINATION

BY MR. KASTE:

Q. Okay. Mr. Boyd, do you have any reason to go into Fivemile Creek or Columbus Creek?

A. No.

Q. Why not?

A. I run the gauge up there. I know how much water is running down it. And their first 1882 right is for 1720 acres. When I got 4 feet of water to deal

with, there's -- it's a dry turnip.

Q. Is there anybody on Fivemile Creek or Columbus Creek calling you to regulate somebody else?

A. No.

Q. You talked with Mr. Wechsler about some of your tags. And that was Exhibit M191. Do you have those?

A. Yes.

Q. All right. Mr. Wechsler went awfully fast through his examination. And I think I heard you say that that exhibit has all your tags in it that you've ever issued in your whole life?

A. No.

Q. No. All right. There are other tags out there that you have affixed to people's headgates; correct?

A. Correct.

Q. And I assume, like Mr. Knapp, you don't always put a tag on headgates?

A. Not always.

Q. All right. Now, you talked about people with water rights generally tending to exercise them. Now, I assume you're -- I'm going to hand you Exhibit M438, which is a collection of stream schematics, and I'm just going to have you look at the ones related to

Tongue River; all right?

A. Okay.

Q. On the stream schematic for the Tongue River, can you tell me which ones for the folks with water rights that the stream schematic indicates that they don't divert water?

A. On this stream schematic? It -- the ones that don't divert water? It says it doesn't divert water.

Q. I just want you to read the ones that say don't divert.

A. The ones that don't divert?

Q. Yes, sir.

A. The IXL. It's the only one I see.

Q. Turn the page. It's a two-page schematic for Tongue River.

A. The Grinnell. Keep going? Or just these two pages?

Q. Just for Tongue River.

A. Okay. The Kooi Water Supply. The Wyoming Coal Mining Company water Supply.

Q. And that's fine. You don't have to go through all of them.

Here's what I'm really wondering. You've identified, even on your stream schematic, some folks

that they have a water right, don't they?
A. Yes.
Q. But they are not diverting water?
A. Correct.
Q. And does that happen with other folks who have water rights at certain times, that they may have a water right but at times they don't divert water?
A. Correct.
Q. All right. Now, is it your job to keep track of what fields get irrigated by whom and when?
A. No.
Q. Your job, if I understand it, is to make sure water gets in the appropriate headgate; right?
A. Correct.
Q. So folks who might be irrigating on the various ditches who are downstream of Ranchester, which is where I understand you don't spend too much of your time, they may or may not be irrigating any given field at any given time, and you wouldn't know that?
A. I wouldn't know.
Q. Fair enough.
Mr. Wechsler asked you some questions about the Interstate Ditch. Remember that?
A. Yes.
Q. And he gave you a piece of paper from

something called the basin plan; right?

A. Yes.

Q. All right. And how often do you have an occasion to need to go down to the Interstate Ditch and see what they're doing?

A. Never.

Q. All right. Do you know, at any given point in maybe 2004 and 2006, where water from the Interstate Ditch was being applied?

A. Not offhand, no. But I have to go down there to check other pumps. And I see tailwaters. And sometimes I see it, and sometimes I don't. But I'm just going to check pumps.

Q. You understand generally there's some irrigation going on there. But is it fair to say you don't have any specific information?

A. Correct.

Q. All right. Now, Mr. Wechsler talked to you a lot about never regulated -- in the places where we had met, you had never regulated; right?

A. Correct.

Q. If you are advised by the state engineer to go all the way to the state line and regulate to some specific date, could you do that?

A. Yes.

Q. And would you do that if the boss told you to?

A. Yes.

Q. All right. Thank you very much.

SPECIAL MASTER: So thank you very much, Mr. Boyd. You're finished.

THE WITNESS: Okay.

SPECIAL MASTER: So we don't have a lot of time today. And if I remember correctly, we're going to have two more witnesses. We're obviously not going to succeed with that. We are going to have both Mr. Littlefield and Mr. Schroeder at one point. Is that correct? Are either of them short?

MR. KASTE: Given how the other two witnesses went today, my intention to get Mr. Schroeder done in 10 or 15 minutes is likely not going to happen.

SPECIAL MASTER: So I agree that Mr. Knapp went probably slower than anyone thought. But he obviously had a lot of important things to talk about. Mr. Boyd seemed to go relatively quickly, to me, but maybe not as fast as you expected. But based on what you've heard with both witnesses, you don't think we'll finish Mr. Schroeder today?

MR. KASTE: I would anticipate that my direct would be fairly short. But I get the impression cross

might be somewhat longer.

SPECIAL MASTER: Maybe if you -- what about doing your direct today?

MR. KASTE: Sure.

SPECIAL MASTER: Does that make sense? I think at one point you were going to do Mr. Littlefield before. But I'm just thinking it might make more sense to -- 'cause Mr. Littlefield is going to have to come tomorrow anyway. And probably Mr. Schroeder will too, but we can get him off faster.

MR. DRAPER: Very good, Your Honor.

SPECIAL MASTER: Okay. So, Mr. Schroeder, you can come on up now.

(David Schroeder sworn.)

THE CLERK: State your name and spell it, please.

THE WITNESS: David Erik Schroeder. Erik is with a "k," E-r-i-k S-c-h-r-o-e-d-e-r.

DAVID SCHROEDER,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. KASTE:

Q. All right, Mr. Schroeder. Where are you employed?

A. I am currently employed by the Wyoming State

Engineer's Office in Division II, the office located in Sheridan, Wyoming.

Q. And what is your job?

A. Hydrographer commissioner.

Q. Can you give us an indication of your education and work history since high school?

A. I graduated high school in 1995. I attended Sheridan College in several stints. I took some time off, worked construction, worked on fishing boats in Alaska, spent a short time in Flagstaff, Arizona, ultimately ended up at the University of Wyoming where I graduated in December of 2002 with a degree in civil engineering.

I then went to work for HKM Engineering in Sheridan, Wyoming, where I was employed through June of 2005, when I took a job with the state engineer's office as a CBM reservoir inspector. I was in that capacity until roughly spring of 2009, when I succeeded Mr. LoGuidice as the water commissioner of Districts 9, 11, and part of 10.

Q. So you currently have responsibility for the Powder River?

A. Correct.

Q. What did you do you as a CBM reservoir inspector?

A. Several -- the big thing was getting an inventory of the impoundments, inspecting for compliance with the permits, dealing with the operators, violation letters, follow-up. I spent a lot of time in meetings with both companies and higher-ups in the state engineer's office. We developed policy, kind of as we went along, to deal with the industry and some of the issues that we were facing.

Q. And so in the course of your work, did you have the opportunity to go and actually inspect or visit CBM ground water -- what's the right term? CBM impoundments?

A. CBM produced water impoundments, and I did in the order of 1500 to 2000 inspections.

Q. And those are all different impoundments?

A. Absolutely. Yes.

Q. All right. What do you do when you go out and do an inspection of a CBM impoundment?

A. There's quite a bit of legwork beforehand. Try to contact the landowner or the operator. I gather the permits.

But as far as the actual inspection, I just -- we carry hand levels, measure the height. We, you know, get a rough approximation of the dimensions in the dams, spillway freeboards.

Although it was not required, I did begin to log the information from the discharge points that were feeding the reservoir. It became apparent as we went along that, you know, I would send a letter or correspond with an operator saying you have a reservoir that's not in compliance, and they would retort with, that's not our reservoir.

Well, then I was able to implicate the reservoir to a certain discharge point. So that became a routine part of the inspection.

Q. Did you, as part of your inspection, get a look at how the reservoir is made?

A. I did, on several occasions, witness the actual construction of reservoirs. You know, I saw all facets of, you know, completed reservoirs. There were quite a few reservoirs that had existed previously to coalbed methane development that they either rehabbed or enlarged. Quite a few of these were unpermitted facilities that the operator filed on. It became policy that any reservoir storing coalbed methane water needed a low-level outlet. So that became a key sticking point in many of these violations, that it did not have an outlet.

Q. Were you able to -- when you visited these reservoirs and did your inspection, would it be obvious

or would you be able to ascertain whether or not the reservoir itself was lined or unlined?

A. Yes, it's very easy to tell.

Q. All right. Can you give us a sense, of the 1500 to 2000 CBM impoundments that you saw, how many of them were lined?

A. Very few. In order to be conservative, I would say in the Powder River Basin as a whole, the Powder River/Tongue Basins, less than 5 percent.

Q. And what does that mean? What difference does it make whether the reservoir is lined or unlined?

A. The key difference would be water migrating through the embankment or the --

MR. SWANSON: Objection. Foundation.

MR. KASTE: Reservoir inspector, for goodness sake.

SPECIAL MASTER: I think I'm going to permit the question to be answered.

MR. SWANSON: Your Honor, can I clarify? To this point, he's laid no foundation that he's observed any kind of ground water coming from a reservoir into the ground.

SPECIAL MASTER: Why don't we do this: Just so that if there's ever a question you're on firmer ground, why don't you ask the witness what the basis

for his understanding is of water leakage from the reservoirs.

BY MR. KASTE:

Q. Please answer that question.

A. You know, every engineer will tell you every dam leaks. To what degree? That varies. You know, we typically are not concerned with seepage unless it posed a major threat to the integrity of the structure.

However, in many cases, seepage out of the reservoir posed a DEQ issue. Many of the discharge permits were classified as full containments, meaning that any migration of water outside that containment was a violation of their permit. Now, while obviously the state engineer's office did not enforce the policies of the DEQ, we did work closely with both the DEQ and the BLM in many of these instances. And it's my understanding that these facilities, when they were lined, it was due to seepage or migration of water.

Q. So the facilities that were lined, the lining is trying to prevent seepage?

A. Correct.

Q. All right.

A. I mean, that is the chief reason, is my understanding.

Q. And I assume you have an understanding what

the purpose of all these impoundments was?

A. The purpose of the impoundments was to -- you know, to produce methane gas. They needed to pump off the water in the aquifer before they could release the pressure and produce gas.

Q. And what were they trying to do with the water in these impoundments that they were building?

A. They were, in essence, trying to get rid of the water, whether, you know, just through evaporation or seepage into the ground, or very common were misters where they would, you know, evaporate the water in a much quicker fashion than just laying in the impoundment. Irrigation was a big tool to manage water.

Q. What do you mean by "irrigation was a big tool"?

A. Well, I mean, irrigation, obviously, is important to a lot of landowners in this region, and treated properly, it could be used for irrigation to grow crops. Obviously, with a coalbed methane production, they had a lot of water on their hands they needed to get rid of. So irrigation was a tool that was utilized.

Q. All right. Now, with regard to CBM impoundments, I think you said that -- if I can turn

what you said to the other side of the coin, about 95 percent of the ones you witnessed are unlined?

A. Correct.

Q. And do I understand correctly that an unlined impoundment would seep into the ground more than a lined one?

MR. SWANSON: Objection. Your Honor, at this point, he's asking the witness for an expert opinion.

MR. KASTE: Wow. Do you have to be an expert to know that a lined impoundment is --

MR. SWANSON: Your Honor, I'd appreciate if we could deal with the objection before he continues on with his next expert opinion question.

MR. KASTE: This is a lay opinion, obviously.

SPECIAL MASTER: I understand.

MR. KASTE: And I'll tell you what this is for. This is entirely to lay some factual background for a discussion of the opinions rendered by Mr. Larson about the amount of recharge that has occurred in the basin as a result of CBM production.

MR. SWANSON: Your Honor --

SPECIAL MASTER: Let me just --

MR. SWANSON: May I respond?

SPECIAL MASTER: What I would suggest at this stage, if you could ask him about, you know, his

knowledge of what was happening with respect to the particular reservoirs, any information he has, then I think that's the best approach.

MR. KASTE: All right.

BY MR. KASTE:

Q. You already told us how many you found that were unlined. Did you have information or knowledge about how the companies who were creating these impoundments were choosing sites?

A. Direct information, no. I mean, in my communication with operators, it became clear that some sites were better than others for managing water, that they could put more water in reservoir A because it would disappear quicker than reservoir B.

Q. Disappear how?

A. Most likely into the ground.

Q. All right. That's all we needed to get.

You saw Mr. Knapp testify?

A. I did.

Q. Did he do a pretty good job of --

A. I thought so. Sorry to interrupt you.

Q. -- of describing how regulation works in Division II?

A. Yes.

Q. All right. Since you guys get a little bit

confused or troubled by certain words, I'll do my best to ask this as straightforward as I can. You regulate appropriations and diversions in the Powder River; right?

A. Correct.

Q. Do you use a trigger flow, or do you react to calls?

A. I'm aware of trigger flows. I watch my creeks very closely. But I do not regulate and have not regulated just because of a certain flow. I will wait for a call.

Q. Who trained you how to do your job?

A. Primarily Carmine LoGuidice.

Q. And is that how you were trained to do it?

A. Yes.

MR. KASTE: Thank you. I have no further questions.

SPECIAL MASTER: So, Mr. Swanson, I assume you're the person who's going to be doing the cross-examination?

MR. SWANSON: That's correct, Your Honor.

SPECIAL MASTER: And I assume it's going to take more than five minutes?

MR. SWANSON: I think that's correct, Your Honor.

SPECIAL MASTER: Then why don't we break for today. And, Mr. Kaste, I appreciate your going all the way out of the order you originally expected to, but also the end of today.

And I am going to stay up here and begin to try, once again, to sort through all the various papers I have so I don't misplace things. So, everyone, we are adjourned for today.

MR. KASTE: Thank you.

SPECIAL MASTER: Oh, actually, really quickly. So tomorrow we will have -- we'll finish with Mr. Schroeder. Then we will go with Dr. Littlefield and then --

MR. DRAPER: Your Honor, then I think we're scheduled to call Mr. Rich Moy.

SPECIAL MASTER: And I notice it looks like Mr. Moy has a lot of exhibits. So does that mean he's another person that's going to be taking more than an hour's worth of time.

MR. DRAPER: He will take a little bit longer, Your Honor, yes.

SPECIAL MASTER: So do you think, then, those three witnesses are who we'll cover tomorrow.

MR. DRAPER: I would say most likely, although we do have some additional witnesses scheduled

on our original list, so it's possible we'll get to them.

SPECIAL MASTER: Okay. I just -- you know, I don't want people to have to string things out because we don't have the next witness. So I just want to make sure that, in fact, in case things go well, we have another witness here. So that's the only reason I ask.

So, again, we're adjourned for today. Thank you.

MR. DRAPER: Thank you, Your Honor.

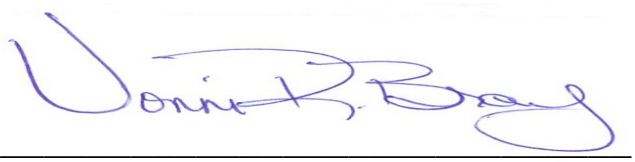
(Trial Proceedings recessed at 4:36 p.m., October 30, 2013.)

REPORTER'S CERTIFICATE

I, Vonni R. Bray, a Certified Realtime Reporter, certify that the foregoing transcript, consisting of 230, is a true and correct record of the proceedings given at the time and place hereinbefore mentioned; that the proceedings were reported by me in machine shorthand and thereafter reduced to typewriting using computer-assisted transcription.

I further certify that I am not attorney for, nor employed by, nor related to any of the parties or attorneys to this action, nor financially interested in this action.

IN WITNESS WHEREOF, I have set my hand at Laurel, Montana, this 11th day of February, 2014.



Vonni R. Bray, RPR, CRR
P. O. Box 125
Laurel, MT 59044
(406) 670-9533 - Cell
(888) 277-9372 - Fax
vonni.bray@gmail.com