UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

OUR CHILDREN'S EARTH, a non-profit corporation, and ECOLOGICAL RIGHTS FOUNDATION, a non-profit corporation,

Plaintiffs,

vs. No. C13 0402(EDL)

LELAND STANFORD JUNIOR UNIVERSITY,

Defendant.

2550 Hanover Street
Palo Alto, CA 94304
December 20, 2013
8:26 a.m.

Deposition of
TOM WENDELL ZIGTERMAN

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ALSO PRESENT:
Mike Costa, Our Children's Earth

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PALO ALTO, CALIFORNIA DECEMBER 20, 2013

TOM ZIGTERMAN,

being first duly sworn by the Certified Shorthand Reporter, was deposed and testified as follows:

EXAMINATION BY MR. SPROUL

MR. SPROUL: Q. Can you state your full name for the record, please?

A. Tom Wendell, W-e-n-d-e-l-l, Zigterman, Z-i-g-t-e-r-m-a-n.

Q. And where are you employed, Mr. Zigterman?

A. Stanford University.

You can call me Tom.

Q. And you can call me Chris.

A. All right.

Q. So, Tom, how long have you been employed at Stanford?

A. Fifteen years.

Q. What's your current job title?

A. Associate Director, Water Services and Civil Infrastructure.

Q. So is there a director who is above you in the hierarchy at Stanford?

A. Yes.

Q. And who is that individual?

A. Joe Stagner, S-t-a-g-n-e-r. He's the Executive Director of Sustainability and Energy Management.

Q. And are you the highest person up in the Stanford hierarchy with respect to managing the water distribution system at Stanford University?

A. Yes.

Q. And do you supervise other individuals?

A. Yes.

Q. And who are those?

MS. FLANAGAN: You're talking about all of his -- all employees under him, or just his direct reports or --

MR. SPROUL: Q. I mean if there's 712 people, I don't want you to give me the names of each of those 712 people, but, as a general sense, to maybe just kind of establish the playing field, can you give me a rough sense of how many people you supervise?

A. Yes. Twenty.

Q. And do those 20 people have differing jobs or do they have very similar jobs?

A. Differing jobs within the general category of water services and civil infrastructure, scientists and engineers and technicians.

Q. The scientists that you supervise, do they all

have similar expertise, or do their areas of expertise vary?

A. It varies.

Q. And what's the range of their expertise?

A. Geology, water quality, regulatory compliance. That's it.

Q. And who's the -- the person on your staff that you supervise that has responsibility for water quality?

A. Margaret Laporte, L-a-p-o-r-t-e.

Q. Is Margaret Laporte sometimes referred to in documents as Marty Laporte?

A. Yes.

Q. Do you know whether Ms. Laporte does field work or field survey or gathering of field data to assess water quality for Stanford University?

A. Yes.

Q. Do you know what water quality parameters she supervises -- I mean what water quality parameters she has focused on in her field work?

MS. FLANAGAN: Are you talking about a particular period of time, or just --

MR. SPROUL: Q. Just in general. If it's like, well, over the years it's been 612 different areas, okay, then we'll narrow it, but if it's like no, of the time she's worked under me there's really been

three things, or somewhere in between.

A. Can you repeat the question?

Q. Is there a particular parameter of water quality that Margaret Laporte's field work or analytical work for Stanford has been directed to?

A. Yes.

Q. And what parameters are those?

A. Potable water, chlorine residual. Another would be waste water constituents. Those are the primary areas.

Q. Would it be fair to say that her work in the assessment of water quality has been on the assessment of water supply delivered to Stanford for domestic use, as opposed to the water that's still in the field? Would that be fair?

MS. FLANAGAN: I'm going to object to the question as vague and ambiguous, especially since he mentioned waste water.

MR. SPROUL: Q. Do you understand the question?

A. I think you should rephrase it.

Q. In my mind, water quality assessment could be directed towards assessing the water quality of different types of water, or water that might show up in three different areas.

A. Okay.

Q. One in the -- natural water that's in natural water bodies; two, water that is gathered and is stored in a reservoir or tank or some other anthropogenic feature, taken out of the natural system and stored by humans; and the third would be water that's been used by humans and is in a waste water disposal system or process.

Of those -- does -- do those categorizations of three types of water make sense to you?

A. Yes.

Q. Of those three types of water uses, which of those types of water uses has Margaret Laporte's water -- field water quality work been directed to?

A. All three.

Q. During your 15 years at Stanford, have you had the same job?

A. Yes.

Q. And where did you work before you came to Stanford?

A. Prior to my current 15 years stint in this position, I was self-employed as a civil engineer.

You want me to go back further?

Q. I'm sorry, how long before your Stanford job were you employed as a --

A. Just six months, and then prior to that I also worked at Stanford, but in a contract employee role as a project manager for them in the same department I'm in now, and I did that job for three and a half years.

Q. In your contract role with Stanford University did you do anything fundamentally different from the types of job tasks that you do now for Stanford?

A. Yes.

Q. And what was the fundamental difference?

A. I managed projects on an individual basis, rather than managing the functions of the group entirely.

Q. But, in both instances, would it be fair to say that the projects that you have worked on or the program that you've worked on has all been related to Stanford supplying -- acquiring, storing and supplying water to Stanford campus for various purposes?

Would that be fair?

A. Not totally.

Q. It would be partly accurate?

A. Partly.

Q. And what would you need to add to make it more accurate?

A. A broader category of civil infrastructure. I worked on road projects, landscaping projects, so more

than just the water areas specifically.

Q. Are you currently still working on road and landscaping projects?

A. Yes. My group is water services and civil infrastructure, and all of those roads, dams, bridges - hardscape as we call it - portion of the landscaping all fall under my group for operation, maintenance, and new projects.

Q. So how much autonomy would you be given with respect to a road project at Stanford University?

Is that something that you have the authority to build or approve to not build, or someone else proposes?

Can you explain what your authority is with respect to road projects?

MS. FLANAGAN: That is his current authority?

MR. SPROUL: Q. Your current authority.

A. Our group is fundamentally operations and maintenance, but that encompasses construction of new projects and projects that involve rebuilding an existing infrastructure. None of that work is done in isolation.

We have other Stanford functions of planning, funding, development of the campus, programming that all affect these projects, so I implement what's decided by

the broader group of Stanford departments.

Q. I'm sorry for being dense, but I didn't really quite understand.

What I got out of what you told us was that you interact with other departments about a project that might come along, but whether --

Whose ultimate responsibility would it be to say we're going to move this road that goes down to the golf cart crossing and goes across San Francisquito Creek -- would that be a decision that your department would make and then you, as the head, would make, or that would be not a decision that you could make? Someone else would have to make it?

A. Someone else would have to make it.

Q. But you could recommend it to that person?

A. I could.

Q. And have you typically, for road projects that have come up in the last 15 years, made recommendations about yes, that's a good road project; no, someone has proposed that but I don't think that's a good idea?

A. I have.

Q. And who would you make your recommendations to?

MS. FLANAGAN: Could we talk about something specific, because you're talking about 15 years of all types of projects, so -- give him an example and then

perhaps he can respond.

MR. SPROUL: Q. All right. I suppose -- I don't know if that's entirely necessary, but we'll try this angle, maybe the specific and then the general.

The specifics aren't necessarily so important, only to the extent they illustrate the general.

So, are you aware of the Stanford University project to move the golf cart crossing the San Francisquito Creek?

Are you aware of that project?

A. I'm aware of it.

Q. Did you have any role in -- any role in that project?

A. No.

Q. Did anyone from your department have any role in that project?

A. No.

Q. Didn't that project involve at least some removing -- or realigning at least of a Stanford road, or a portion of a Stanford road?

A. It may have; I don't know.

Q. So there are some Stanford road moving projects that would not involve your department?

A. Correct.

Q. And what -- how is it -- how does Stanford

decide which of the road projects it undertakes are going to be routed through your department versus routed through some other department?

A. Okay. Various entities at Stanford, athletics, Jasper Ridge Biological Preserve, for example, have -- and lessees of Stanford lands have some autonomy in road and driveways constructed on their areas that do not involve my department because they're not within the main campus area, or areas where generally the university lands are concerned.

Q. So who up above you would have the authority to decide whether to go forward with the project or not, since you said you don't have authority. Someone above you does.

A. Right.

Q. And who would that be?

A. Primary individual involved in those broader areas would be the campus architect.

Q. And who's the campus architect currently?

A. David Lenox, L-e-n-o-x, and Robert Reidy is the Vice President for Land, Buildings and Real Estate. Robert Reidy is ultimately responsible for all of those decisions.

Q. So Robert Reidy is above David Lenox?

A. Yes.

Q. And Robert Reidy is above you?

A. Yes.

Q. And you're in the direct chain down from him --

A. Yes.

Q. -- in the Stanford hierarchy.

A. Correct.

Q. And Robert Reidy's title, again, was?

A. Vice President Land, Buildings and Real Estate.

Q. When it came to the Stanford project to remove the golf cart crossing, was that a project approved by Robert Reidy, do you know?

A. Can you be more specific about this project location?

Q. Yeah. I've got some documents that we'll pull out. It might take a little while, but we can circle back to it.

You don't know exactly where it is just hearing that reference?

A. Not the one you're referring to.

Q. Is there more than one?

A. There have been a couple of crossings, yes.

Q. Who does Robert Reidy answer to?

A. President Hennessy.

Q. So he's one level under the president of Stanford University; is that correct?

A. Yes. He also has a dashed line reporting to the provost.

Q. And can you explain the difference between the provost and the president in terms of their respective authorities?

MS. FLANAGAN: Do you feel qualified to answer that?

THE WITNESS: No.

The provost reports to the president. The provost is primarily responsible for the business of the university and the academic departments. The president has broader responsibilities beyond that, and I'm not able to delineate those right now.

MR. SPROUL: Q. Okay.

A. For example, the president has Stanford Hospital under him. That does not fall under the provost.

Q. Okay.

MS. FLANAGAN: Stick to what you know.

MR. SPROUL: Q. Have you ever had an occasion to brief either the provost or the president about a decision facing Stanford University?

A. No.

Q. Have you ever had the occasion to produce briefing materials that you knew were going to be used

by someone else to brief the provost or the president about a Stanford decision?

MS. FLANAGAN: I'm sorry, was that "prepared material", or --

MR. SPROUL: Q. Yeah, have you ever prepared material that somebody else used, or were going to use?

A. Not that I recall.

Q. I have a couple of foundational things. Have you ever had your deposition taken before?

A. Yes.

Q. And when was that?

A. A couple years ago. I don't recall exactly when.

Q. Was it in your capacity as a Stanford employee?

A. Yes.

Q. Was Stanford suing some other party or individual?

A. No.

Q. Some other party or individual was suing Stanford?

A. Yes.

Q. Do you recall what the lawsuit was about?

A. Generally.

Q. And what was that?

A. Had to do with a trip and fall medical claim.

Q. Were you called on as a fact witness, someone who just observed, you know, eye-witnessed the facts, or were you called for some other reason?

A. Some other reason.

Q. What was the reason why you were asked to testify?

A. To describe the nature of our maintenance of hardscape in the university.

Q. Do you know whether you were qualified as an expert witness in that case?

A. Can you define that for me, expert witness?

Q. Well, yeah.

I don't think we need to belabor it too much. My question is, did anybody tell you, "You are an expert witness"?

There's a whole procedure in the law for having somebody formally designated as an expert witness. You might or might not have been privy or savvy about that going on or not going on, but, generally, if someone is being used as an expert witness, more than one person would tell them they're an expert witness.

A. No, it wasn't as an expert, it was as to my role at Stanford.

Q. And any other depositions besides this slip and fall case?

A. Not that I recall.

Q. You understand that in a deposition you're being asked to answer my questions under oath and your obligation to speak truthfully is the same as if you were in a court of law; is that clear?

A. Yes.

Q. And it's also really important for the court reporter, who's the most important person in the room, that we try not to speak over each other.

Sometimes I'll -- maybe I'll be asking you a question and maybe I'll pause for a second as I'm ponderously gathering my thoughts, such as they are, and it's tempting to blurt out an answer, and that can make it very difficult for her, so it's a good idea to pause and make sure I'm done and not try to talk over each other.

She also, of course, can't take down nods and hand gestures, only spoken words, so it's important to articulate clearly, and --

Yeah, any other questions about the logistics?

A. No.

Q. Any time if you need a break, please let me know, and we'll take breaks as needed.

And it's not, you know, interrogation tactics or bright lights shining on you kind-of-thing.

So -- and did you prepare any documents in -- did you review any documents in preparation for today's deposition?

A. Yes.

Q. What documents did you review?

A. Various documents pertaining to our water operations.

Q. Is that quite a few documents, or just one or two?

A. A few.

Q. Did you learn anything new in your review of these documents, or was it all material you felt, "Oh, I already know that"?

A. Mostly the latter. I already knew pretty much about it, but it helps to see documents to recall things that happened many years ago.

Q. Did you review any electronic mail messages from others to prepare for today?

A. Email from others?

Q. From others.

A. Possibly. I don't recall specific ones though.

Q. And any email messages that you sent to anyone else?

A. Yes.

Q. Like email messages to Catherine Palter, did

you look at those?

A. I don't recall if there were specific emails to Catherine that I reviewed.

Q. Email messages to Alan Launer?

A. Possibly. Again, I don't recall that specifically. I can't think of one specific one that I reviewed to Alan.

Q. Can you give me a sense of roughly how many email messages you looked at to prepare for today?

A. Half a dozen.

Q. Do you recall the identity of any of the people?

A. Yes, I remember an email exchange with Gary Stern, National Marine Fisheries.

Q. Do you recall what that email was about?

A. Yes, it was about diversions at Searsville.

Q. Do you know what the occasion was for the email?

Were you spontaneously reaching out to Mr. Stern or is Mr. Stern spontaneously reaching out to you, or is it part of an ongoing dialogue and you just picked out one in what had been a series of email messages?

A. The email exchange was part of a series of exchanges that had gone on with Gary.

Q. Do you recall the time frame?

A. Roughly two, three years ago.

Excuse me. There may have been some earlier this year as well, last -- excuse me, late 2012, about a year ago. ***

Q. Were these emails focused on the topic of Stanford removing Searsville from the HTP, or did it have other topics?

A. Other.

Q. Was that one of the topics?

A. No.

Q. So do you recall what the topics were?

A. Clarification about our Searsville diversions, how much, when.

Q. So Gary had some -- is it that Gary had some questions about how much water Stanford is diverting from Searsville Reservoir and how those diversions are taking place or being managed, and you were attempting to answer some of those questions?

Is that fair?

A. Generally.

It had to do with the amount of monthly diversions over the last several years.

Q. Is that email dialogue ongoing, or do you think it reached a resolution where Mr. Stern seemed to be

satisfied with your responses?

A. The latter. It's no longer ongoing.

Q. Can you please tell us what your educational background is.

A. Sure, I have a Bachelor of Science in Civil Engineering.

Q. And when did you get that degree?

A. 1978.

Q. You beat me, not by much.

Where did you get your BS degree?

A. University of Arizona in Tucson.

Q. And you came to Stanford in what year?

MS. FLANAGAN: Are you talking about as the contract employee or as the full-time employee?

MR. SPROUL: Q. Backing up, let's just start with when did you first come to Stanford University for any reason, other than to visit the campus, when you came to Stanford to do some work here at some time.

A. I think it was 1993.

Q. And that's when you were retained as a contractor?

A. Correct.

Q. So without providing all the details, which I don't think are necessary, can you give us just a sense of what you did between 1978 and 1993 professionally?

A. Sure. I worked as a civil engineer in Tucson for two different engineering companies. The second engineering company I worked for was Brown & Caldwell. I worked there until 1981, and then was transferred to Brown & Caldwell's California office in Walnut Creek.

I was employed there for a few months, and then we moved to the peninsula, where I worked for an engineering company through the remainder of the 1980s, and became a partner in that firm, and that firm went into demise in 1989 because of a previous recession, and I went in the business for myself for a year and a half, and then joined Stanford as a contract employee.

Excuse me. I worked for Barrett Consulting Group, two r's, two t's, from 1991 to 1993 before I went to Stanford.

Q. Have you written what you would call academic publications in the field that you are educated in?

MS. FLANAGAN: This is post education?

MR. SPROUL: Q. Yeah, post education.

A. No, not that I can recall.

Q. Have you written any publications in the field of civil engineering that you would describe as a trade journal level publication?

A. No.

Q. Just to be sure I'm not unduly narrowing it --

I think those are fair categories -- is there anything that you would point to that you would call "This is a publication I have written on a civil engineering topic"?

A. No.

Q. Have you ever been involved in a peer review or peer review panel evaluating somebody else's publication in the field of civil engineering?

A. No.

Q. Have you ever taught civil engineering academically at Stanford University?

A. No.

Q. Do you consider yourself an expert in civil engineering?

A. Yes.

Q. Do you consider yourself an expert in any subset of the field of civil engineering?

MS. FLANAGAN: If you're going to be asking the word "expert", I think we need a little definition on that. There's expert witnesses as you've defined to him before, or are you asking does he think he has expertise with respect to something?

MR. SPROUL: Q. Well, yeah. So I guess -- I'm going to start -- I'm going to route back. Those are fair things.

If he said no, there's no way I'm an expert, it would be a short line of questions, so we'll find out what it means to you to be an expert.

So right now I'll just ask -- maybe we'll back up and just say right now when I'm using the word "expert" -- I'm using it the way my 12-year old uses the word "expert", just a common sense understanding, not a legal one, not a -- an esoteric one within the world of science, just how would Webster's define an expert. Common sense understanding.

With that in mind, would that change any of the answers I just asked you?

Are you an expert in civil engineering in the way that, you know, common English usage would have you use the term?

A. Yes, and I'm basing that on a credential I have from the Society of Civil Engineers called a Water Diplomate, DWRE, Diplomate Water Resource Engineer, so that's a credential recognized by ASCE for my water engineering background, and I was given that credential a couple years ago, so that's what I'm basing my yes answer to.

Q. Okay. And then are you an expert, again, in the same common usage sense of the word "expert" in any subfield of civil engineering?

A. No, not beyond that general water resources engineering category.

Q. In the water engineering category, that's an officially recognized category by ASCE, or -- I'm sorry, did I miss -- it's water resources engineering?

A. Diplomate, Water Resources Engineer, yeah.

Q. And that's a subset of civil engineering as a whole?

A. Right. It's awarded by the Environment and Water Resources Institute, which is a subset of ASCE.

Q. The water and environment --

A. Environment and Water Resources Institute, EWR.

Q. So you're recognized by that organization as a civil engineer with broad expertise in all aspects of water engineering, management of potable water, management of waste water, and so forth?

A. Correct.

Q. But beyond those two areas, or beyond those areas of engineering, you wouldn't consider yourself an expert in civil engineering?

MS. FLANAGAN: You're asking him outside the area of water resources engineering does he have any other expertise in civil engineering?

MR. SPROUL: Yes.

MS. FLANAGAN: That's the question?

MR. SPROUL: Yes.

THE WITNESS: No, I don't have other areas of expertise.

MR. SPROUL: Q. Like, for example, you wouldn't have the expertise to evaluate the structural integrity of Searsville Damn and its ability to withstand a given magnitude of earthquake.

A. Correct.

Q. Have you ever been designated as an expert witness -- as the law uses that term, expert witness -- in any field of civil engineering that you're aware of?

A. Yes.

Q. And when was that?

A. Several years ago. I don't recall the exact date, or year.

Q. Was that for Stanford University?

A. No.

Q. And it was for who?

A. I was retained by an attorney to discuss aspects of a trip and fall incident case that he was involved in with an individual claimant and a municipality. I don't recall if I actually was deposed in that process. I know I had discussions with the attorney, but I don't recall if I went through a deposition formally in that case.

Q. Do you recall what municipality that was?

A. Cupertino.

Q. Is there any other topic besides these civil engineering topics we've been discussing that you consider yourself an expert in the way that that term is used in common parlance?

A. No.

Q. Earlier you indicated that you supervised an individual who worked on regulatory compliance issues, and who was that person?

A. In my group?

Q. Yes.

A. Margaret Laporte.

Q. Ms. Laporte works on both water quality and regulatory compliance?

A. Yes.

Q. And how long has Ms. Laporte worked on both of those topics?

A. For at least the 15 years that I've been in this position.

Q. Do you know what Ms. Laporte's educational background is?

A. It's a non-engineering science area. I believe geology is her -- I don't know the specific degree she has.

Q. Do you know if Stanford has provided her any specific on-the-job training or on-the-job training courses?

MS. FLANAGAN: When you say on-the-job training, most people think of that as doing a job.

MR. SPROUL: Well, maybe some people think of it that way.

MS. FLANAGAN: Why don't you define it so we know what you mean.

MR. SPROUL: Q. Has Stanford done anything like to give her specific curricula to review, papers to review, and say, "Hey, you need to study this and learn what this has to say. This is important information."

MS. FLANAGAN: Are you ranging from HR --I mean -- or you're talking about her substantive area of geology and water resources?

MR. SPROUL: Right, right, not telling her how to fill out leave slips, but teaching her, you know, things germane to the regulatory compliance -- directly germane to the regulatory compliance and water quality assessment of work that she does.

THE WITNESS: Has Stanford provided that information?

MR. SPROUL: Q. Yeah, that on-the-job training to her.

A. Not that I know of offhand.

Q. Or sent her to outside vendors to get more training in either of those two areas? Do you know if Stanford has done that?

A. Yes, we go to seminars on those topics.

She would have gone to seminars in that general area sponsored by Stanford as an employee.

Q. Do you feel like you have a good sense of what Ms. Laporte knows about water quality and regulatory compliance, or you don't really know the extent of her knowledge?

MS. FLANAGAN: Could you be more specific about what it is you're asking does she know? It's a very broad question as to what she knows about a lot of things.

MR. SPROUL: Q. Yeah, it's a broad question, but I'm just -- at the outset here, I'm trying -- you know, for clarity, just so you understand, just think of a broad survey.

If you say, "Geez, I don't really don't know anything about what she knows," I don't have to start delving down into the weeds, but if you say, "Yeah, I know something," then we'll delve.

MS. FLANAGAN: Your question was, though, do you have a good sense of what she knows, not do you have

some knowledge about what she knows, so I want the record to be clear.

MR. SPROUL: Q. Okay, I think it's clear.

But do you have any sense of what Ms. Laporte and -- Ms. Laporte knows about water quality or regulatory compliance?

A. Yes.

Q. How good is your sense of what she knows?

A. I have a general knowledge and awareness of what Marty -- what her involvement is in the water and other environmental areas of work that she's familiar with at Stanford.

Q. Do you know, for example, would she be able to get an alkalinity measurement from a stream monitoring location and know what that level of alkalinity signifies, if anything, to the environment?

A. Yes.

Q. She would know that?

A. She would know that.

Q. And would she know what the significance is of a differing range of temperature readings in a creek, why it might matter whether the creek was 15 degrees Celsius or 22 degrees Celsius?

MS. FLANAGAN: And are you asking just generally, as opposed to impacts on different species or

plants, or --

MR. SPROUL: Yes, would she know why that might matter environmentally, that's the question.

MS. FLANAGAN: That's the general question.

THE WITNESS: Likely not.

MR. SPROUL: Q. She likely wouldn't know?

A. Right.

Q. Regulatory compliance, my understanding of that phrase when I hear it is it's a person who helps the organization they work for figure out what permits they need to do their activity without being held, arguably, in violation of the law.

Is that how you use the term "regulatory compliance"?

A. That is one --

MS. FLANAGAN: You're asking is it limited to that?

MR. SPROUL: Q. Well, I'm asking him the question I asked him, which is, is that how you use that term?

MS. FLANAGAN: Just yes or no.

THE WITNESS: No.

MR. SPROUL: Q. How do you use the term?

A. I use the term "regulatory compliance" in our area of operations regarding water supplies and systems

to mean compliance with regulations pertaining to potable water quality, because we distribute potable water to the University, and waste water discharge to the Palo Alto treatment plant, that's where our sewer system discharges to, and also to runoff from construction sites.

That's the three areas of regulatory compliance that Marty and our group focus on.

Q. So the three areas that Marty and you focus on here are the quality of potable water, construction site storm water runoff and waste water disposition or disposal.

MS. FLANAGAN: Okay, and I'm going to object to the formulation of the question, because you said it was what Marty and the witness focus on, and he earlier testified to what Marty focused on, so you need to clarify that.

MR. SPROUL: I think he said both.

Do you work on all three of the areas I just listed?

MS. FLANAGAN: Exclusively, or inclusively?

I'm trying to be clear on the record. He told you those are the three things that Marty focuses on, and now you're switching it to what he focuses on. That may be right, it may be part of what he focuses on.

I just want a clear record.

MR. SPROUL: We'll try again, but too much more of it and we might have to have a little sidebar conversation.

I ask the questions. If he can understand them, he's to answer them, rather than the constant coaching about, "Hey, let's think about this."

MS. FLANAGAN: That's not what I did. You can go back and read the original line of questioning. He said it was Marty's focus, and then you mischaracterized that in your next question.

I'm entitled to have a clear record. The witness is entitled to have clear questions.

MR. SPROUL: You get a chance to ask your questions at the end to clean it up, but the constant interrupting to slow down the questioning process and -- I've let it go, but just in the last few exchanges it's going a little beyond where it needs to go.

MS. FLANAGAN: If you don't understand questions, or if he's not accurately characterizing what you've said, then do not respond.

THE WITNESS: Okay.

MR. SPROUL: Q. I would say that --

MS. FLANAGAN: Go ahead and ask your question.

MR. SPROUL: Q. What the law clearly says is,

if I ask you a question and you don't understand it, say "I don't understand your question, can you please rephrase it."

And I'll do my best to ask clear questions. I don't want to have you here any longer than you have to be here.

That's probably the one thing we all agree on.

Anyway, so the -- in your department there are three types of regulatory compliance issues with respect to water that you are concerned with in your department as a whole, yes?

A. State the three again.

Q. The three are potable water, construction site storm water runoff and waste water; is that correct?

A. Correct.

Q. And then for each of these three areas, do both you and Marty, in a general sense, work on all three areas?

A. Yes.

Q. So with respect to potable water, what do you do at Stanford?

A. I oversee the management of the day-to-day operations of those systems by my operations group, and look to the long term supplies -- for example, the contract with San Francisco Public Utilities Commission

for potable water brought to the campus, and I oversee particularly Marty's efforts on filing the various reports about water quality sampling and analysis that she oversees on a day-to-day basis.

Q. Okay. As part of the potable water supply work that you just discussed, does your department -- anyone in your department take water samples in San Francisquito Creek to measure any quality of the water as it would then relate to potable water?

A. Does anyone in my department take samples?

Q. Yes.

A. No.

Q. Does anyone take samples like this for your department?

A. Yes.

Q. And who does that?

A. Balance Hydrologics, consulting firm.

Q. And do you know what water quality --

Let me back up. Does the term "water quality parameter" have a meaning to you?

A. Yes.

Q. So I'm not confusing you if I use the term "water quality parameter"?

A. No, it's a general category, though. It's a broad category.

Q. It's a broad category.

Alkalinity, pH, dissolved oxygen, levels of phosphorus, levels of phosphorous, levels of nitrogen, all those could be water quality parameters, correct?

A. Correct.

Q. So what water quality parameters does Balance Hydrologics take measurements of for your department?

MS. FLANAGAN: If I could just ask, you earlier were talking about all of this in the context of potable water.

Are you now talking about for any purpose, or just potable water?

MR. SPROUL: We're still talking about potable water until I change topics, okay?

MS. FLANAGAN: So what sampling they do for potable water you're talking about.

MR. SPROUL: Q. Sampling --

Let me put it this way. What I asked, just literally, was do they do sampling for your department that you use for potable water. That was the question.

So maybe Balance Hydrologics has some other motivation for taking it and maybe they give it to other people at Stanford University, but I'm only asking you.

When you said yes, other people take samples, water samples that are relevant to us for potable water,

I said who, you said Balance Hydrologics, so I'm asking you -- I'm continuing to ask you those same questions.

Does that change anything of what you said a moment ago?

A. Yeah, I didn't catch that you were still in the potable water context, so Balance Hydrologics does not take samples for us for potable water supply. Those samples are taken by own technicians from our potable water distribution system.

Q. So, again, there's not confusion, I'm talking about taking samples in the creek as part of an assessment of potable water supply, and I want -- I thought when I asked you does anyone in your department take samples within the creeks for potable water supply, you said no, right?

A. Correct.

Q. And then I said does anyone else take potable -- take supplies -- take samples within a creek for potable water purposes assessment.

MS. FLANAGAN: Actually, I don't think you said potable water. That's when I asked for the clarification, because sometimes you said it, sometimes you haven't.

MR. SPROUL: Q. Okay, so then the true answer is nobody takes water samples within any of the creeks

at Stanford for the purposes of getting information that is then used in an assessment of potable water supply.

A. Correct.

Q. So people in your department do take some water samples and have them analyzed as part of their work at Stanford, just generally.

A. We're not restricting this to potable water or non-potable water, just in general?

Q. No, just in general.

A. Yes.

Q. And what are all the reasons that people in your department take water samples for?

A. We take water samples from our potable water distribution system to verify compliance with regulatory requirements.

Q. Is that it?

A. To your question about do we take water quality samples for other purposes?

Q. Yeah, anything, your department. What's all the list?

MS. FLANAGAN: Again, you're asking them themselves as opposed to having consultants.

MR. SPROUL: Yes.

MS. FLANAGAN: So just your own people.

MR. SPROUL: Q. Yes, your own people, what do

you take water samples for?

A. Can you clarify? You're asking if people in my department actually collect water samples?

Q. I guess -- yeah, I'm starting with that, and then I'm going to ask next -- well, if they don't take any water samples, are there any contractors that --

A. Okay.

Q. -- or other Stanford people that they direct or ask to do it.

A. Okay.

Q. That be would the next question.

A. All right. We also collect water quality samples in our waste water system infrequently, and, on occasion, we've taken water quality samples from our storm drainage system. We've also taken water quality samples from our -- what we call our lake non-potable water system.

Q. Does that include Felt Reservoir?

A. Possibly. I don't know if we've taken samples there.

Q. Why do you take samples at the storm drain system?

A. We wanted to determine or find out the constituents of that storm water runoff to consider storm water as a possible alternative water source.

Q. When was that done?

A. Within the last couple years. I don't know specifically.

Q. And whose idea was it to do that?

A. Mine, I guess.

Q. And did you reach conclusions about whether storm water was a potential alternative water source?

A. We're in the process of studying that.

Q. In your study, have you come to any conclusions about the potential volume of storm water that can be captured and used?

A. We're studying that. Not yet.

Q. Not even a rough sense?

A. No.

Q. Did you have the storm water analyzed for any pollutant parameters, level of pollution present in the storm water?

A. I don't recall if we've taken storm water samples to detect levels of certain pollutants specifically, no.

Q. Who else is working on this assessment of the storm drain system?

A. My water systems engineer.

Q. And who's that?

A. Mark Quady, Q-u-a-d-y.

So another aspect of my group's activities that I think I didn't list earlier is water systems engineering. We have operations, water quality, and engineering, and he's part of that engineering group.

Q. Did you have to get approval from anyone up above you to do this study?

A. Not specifically.

Q. It's within your authority to use the resources that you oversee to decide this is what we're going to do?

A. Yes.

Q. Have you received any feedback from Stanford personnel outside of your department about the merit or lack of merit of this study effort?

MS. FLANAGAN: I want to object to the -- I've let it go because this is general background, but what is the relevance of the storm drainage system -- studies on it -- to this case?

He's not here to satisfy curiosity, he's here to answer questions germane to the lawsuit.

MR. SPROUL: The potential impact on water quality, dealing with species that depend upon the aquatic quality of the watershed, rerouting storm water, managing storm water, in your own papers, is something that is talked about as a way to perhaps help the

species that are at issue in this case.

MS. FLANAGAN: What papers are you referring to? My papers?

MR. SPROUL: There's material in there.

MS. FLANAGAN: What material? I'm not familiar with references we've made to storm drains being rerouted to assist in this case.

MR. SPROUL: Not that specific.

MS. FLANAGAN: If we could just keep on the topics that are germane.

MR. SPROUL: This is a germane topic.

So, can you read back my last question?

THE REPORTER: Question: "Have you received any feedback from Stanford personnel outside of your department about the merit or lack of merit of this study effort?"

THE WITNESS: Could you clarify the study effort that you are specifically referring to?

MR. SPROUL: Q. Yeah. You mentioned that there's been some investigation of looking into taking water out of the storm drain system as an alternative water source.

Have you had any conversation/communications with anyone outside your department about whether that seems like a good idea or not a good idea?

A. Yes.

Q. And who was that?

A. I think by department, you mean my group, or the department I work within?

Q. Let's say the group that you work within.

A. Okay. Yes, I have talked with my boss, Joe Stagner, about the concept, and he's agreeable to looking at the possibility.

Q. In any of the conversation you've had with people at Stanford about this, has anyone brought up the idea that capturing the storm water could have important environmental benefits by keeping storm water out of local creeks and, therefore, keeping the pollutants that are potentially in local storm water out of the creeks, like this is a benefit of what this project could be?

A. Could you repeat the question? That was a long one.

Q. Yeah. Has anyone -- has there been any discussion that you heard about this project that capturing storm water, rather than letting the storm water run into local creeks, could help the water quality and thus the environment of those local creeks by keeping pollutants out of them?

A. Yes, there's been general discussions academically with faculty, as well as operationally,

about storm water capture, as we call it, but we're primarily responding to increasing regulations about storm water treatment, as we call it, from our development of the campus, so it's within that context that we are investigating this approach of not just having our storm water from new building sites and construction sites go through bioswales, for example, but also to capture and intercept that water. We would then store it, treat it, and then use it for irrigation on our own land.

So that's the context of the study that we're doing.

Q. It seems to me that, as I would look at it, exploring this project would have two components: One, we'd want to look at would this actually be beneficial, would it yield some benefit. More water and/or less pollutant runoff would be the first benefit.

Would you agree that that seems to you -- let me -- is that one of the potential benefits of this project that comes to mind for you?

A. Sure, it's both, to me. Water, an alternative water supply, primarily we could use that for irrigation, for example.

MS. FLANAGAN: Just yes or no.

THE WITNESS: Yeah.

MR. SPROUL: Q. Well, can you explain, use it for irrigation supply, and you were explaining?

A. As well as reducing the storm water that runs off our campus to creeks.

MR. SPROUL: I would just note, I don't think it's proper, when the witness is answering the question -- not in the middle of a question.

MS. FLANAGAN: It's perfectly acceptable to say yes or no -- the answer is yes or no.

MR. SPROUL: You can tell me him all you want, but in the middle of an answer -- I don't think it's proper to interrupt a witness in the middle of answer, so I'd ask you not to do that.

Tell him to answer him yes, no, whatever you want, when he's not in the middle of answering a question.

BY MR. SPROUL:

Q. And the second aspect to looking at this would be, well, is it feasible. It might be good for the environment, pass the first criteria. Second criteria is, like, we just can't do that, it's not really a very worthwhile idea, right?

Would you agree with that?

A. Yes.

Q. Have you looked into the feasibility of this

storm drain system idea and, therefore, have an opinion about how likely it is this could actually be done?

A. Can you clarify what the "it" is? What are we specifically talking about?

Q. Capturing storm water runoff that currently is not being captured and then re-using it for water supply on campus.

That's what I understood your idea was.

A. We're still conducting that study.

Q. And you haven't gotten so far as to have any rough initial sense about whether it's possible or not possible that this could actually work.

A. Correct.

Q. So when the -- you indicated that Ms. Laporte's job includes regulatory compliance matters. Can you explain to me a little bit more about what it is she actually does for regulatory compliance?

A. Yeah, she stays abreast of the potable water quality requirements, and she stays current on the requirements of our waste water discharge requirements, and she stays abreast of the requirements pertaining to storm water runoff from construction sites and then reviews the various sample analyses and construction projects and operations at Stanford to match those activities up with the regulatory requirements.

Q. Does -- storm water runoff from construction sites, do you know what regulatory requirements apply to that?

A. Generally, yes.

Q. And what's your general understanding?

A. It's a Regional Storm Water Permit issued by the Regional Water Quality Control Board implemented by, in our case, Santa Clara County for the Stanford campus lands within Santa Clara County.

Q. And do you know that that's something that Ms. --

MS. FLANAGAN: Laporte.

MR. SPROUL: Q. Laporte -- Ms. Laporte knows also?

A. Yes.

Q. Have you ever heard of the term NPDES?

A. Yes.

Q. What does NPDES mean to you?

MS. FLANAGAN: Again, I'm going to make it clear here that he doesn't -- he's not a lawyer and not testifying as to a legal meaning, so he's just asking for your understanding.

MR. SPROUL: Yeah.

THE WITNESS: Non Pollution Discharge Elimination System is my recollection of what the

acronym stands for.

MR. SPROUL: Q. Close. The N stands for National.

A. Okay.

Q. Have you ever helped Stanford apply for a National Pollution Discharge Elimination System, or NPDES for short?

A. Not that I recall.

Q. Do you know whether Ms. Laporte has ever helped Stanford apply for an NPDES permit?

A. No.

Q. Do you know whether your waste water system has to have a NPDES permit?

MS. FLANAGAN: Again, this is just your understanding, not a legal understanding.

MR. SPROUL: Q. Just if you know.

A. I don't know that we're required to have one for our waste water discharge to Palo Alto, no.

Q. Have you heard of the term "Clean Water Act, Section 404, permit"?

A. Yes.

Q. What is your understanding of what a Clean Water Act, Section 404 permit is?

A. In our area of work, it most usually applies to work we do in creeks. Waters of the U.S.

Q. The term "Waters of the U.S.", what does that term mean to you? How do you use it in your job?

A. It applies to the creek corridors that flow through Stanford lands.

Q. Do you know what the boundaries are of the Waters of the United States within these creek corridors?

A. Generally, yes.

Q. What's your general understanding of what the boundaries are?

MS. FLANAGAN: Again, this is just his layman's understanding that he's asking for. So just whatever your understanding is.

THE WITNESS: San Francisquito Creek, Los Trancos Creek, Corte Madera Creek, Matadero Creek.

MR. SPROUL: Q. All those creeks are Waters of the United States within their creek corridors, is that what you're saying?

A. Correct.

Q. You've been in the field in the stream bed of San Francisquito Creek, for example, haven't you?

A. Yes.

Q. Many times?

A. Yes.

Q. If I were there with you today and I said,

"Point out the boundaries of the Waters of the United States that are in front of me," could you do it, and, if you could, how?

A. I would look to the definition used by the Corps of Engineers that we work with on these 404 permits to what's called the ordinary high water mark. It's a break in the bank's slope where it goes from relatively flat to steep. That would be the border of the Water of the U.S.

Q. And how about as further evidenced by things such as rack lines?

A. What's the term?

Q. Rack lines, and changes or breaks in vegetative type from primarily terrestrial to more aquatic.

I'll stop right there, but -- what I just said to you, does that sound familiar, or you haven't heard that before?

A. I've not heard the term "rack line" before. The break in the slope I've heard before.

Q. Break in the slope, but not the change in the break and vegetation? You haven't heard that phrase before?

MS. FLANAGAN: Haven't used that -- heard that term or haven't heard it used as a boundary?

MR. SPROUL: Haven't -- well, I think we were

talking in context, right?

MS. FLANAGAN: That's what I want to be clear that we were in context.

MR. SPROUL: Q. We were talking in the context of you haven't heard any of those things in the context of what is the ordinary high water mark, where is it. You told me some things, and I said and how about these few other things, would those also be things you would use, or have been told to use in identifying where the ordinary high water mark is.

A. I'm much less familiar with those other things than with the break in slope.

Q. Okay. So would it be fair to say that you're not an expert in the ordinary high water mark determination?

A. Yes.

Q. Is there any work that you've done for Stanford where knowing where the boundary was of the creek was useful to you, or necessary to you?

MS. FLANAGAN: Compound.

Which one are you asking?

MR. SPROUL: Q. Okay. Let's start with useful to you, and then we will ask necessary to you.

A. Okay. Can you repeat that, was there any --

Q. Was there, at any point in any of your work in

these creeks that we were just discussing -- work for Stanford in these creeks we've been just discussing, was it useful to you to know where the ordinary high water mark was in the creek?

A. Yes.

Q. And when were those occasions where that was useful?

A. Well, generally they have to do with siting and working on our water systems' infrastructure, pump stations, pipelines, valves.

There would be many instances specifically where those facilities near the creek -- I use that information about -- when I'm actually in the creek versus not when I'm working on that -- when my people are working on that infrastructure.

Q. What difference does it make to you or your crews when you're doing this infrastructure work whether you're below the ordinary high water mark that's in the creek or above the ordinary high water mark and that's out of the creek?

A. It goes to whether or not we need state permits for the work activity.

Q. Whether you need to seek permits for the activity from whom?

A. The various state and federal agencies involved

with work in creeks.

Q. Do you know specifically what state and federal agencies that you would need to have permits for to do this maintenance work within the ordinary high water mark that you were just describing?

A. The state agency that we would first look to would be the California Department of Fish and Wildlife, and the federal agency we would look to initially would be U.S. Army Corps of Engineers.

Q. Do you know what type of permits the Army Corps of Engineers issues?

A. Yes.

Q. What type of permit is that?

A. Section 404 I think it's called. Their permit titling is a bit vague and nonspecific right now, but that's generally what it is, Section 404 of the Clean Water Act.

Q. Okay. So -- but I take it that you don't feel personally qualified to make an ordinary high water mark jurisdictional call, correct?

A. Correct.

Q. And for this work that you were telling me about, maintenance work on pipelines and valves and so on, did Stanford have somebody in the field making the ordinary high water mark determinations?

A. For what specific area?

Q. Oh, for -- well, let's -- let me try and break it down a bit.

There's something known as the Searsville booster pump, correct?

A. Searsville Booster Pump Station.

Q. Searsville Booster Pump Station has some pipelines going into it and pipelines going out of it, correct?

A. Correct.

Q. And it also has what I believe are flexible hoses that can be used to backwash out accumulated leaves and debris from the booster pump, is that also correct?

A. The Searsville Booster Pump Station has a backwash station on its filters, yes.

Q. When that backwash filter system on the booster pump is operated, a slurry of water and various materials are pumped out of the backwash area and then sent somewhere; is that correct?

A. Correct.

Q. And the place to which they are sent is via flexible hoses; is that correct?

A. No.

Q. Okay. How are -- how is it sent?

A. The booster pump station with its filter system and filter backwash system was constructed with a discharge of the filter backwash to a perforated pipe which was laid along the bank near the pump station.

Q. Was it a permanent connection from the booster pump to this perforated pump you just described?

A. It was constructed with a connection -- yes, a piped connection. Not a flexible hose, a piped connection to this perforated pipe.

Q. Great.

How long is that perforated pipe?

A. I don't know exactly because it's partially buried, but roughly 50 feet long.

Q. And when was the perforated pipe placed?

A. When the pipe station was constructed.

Q. Which was in 2004?

A. Yes.

Q. Who installed the perforated pipe?

A. I don't recall if we had a contractor do that installation or if we installed it with our own -- I'm sure -- I'm quite sure it was a contractor.

Q. Do you recall what contractor?

A. I don't.

Q. Do you recall whether there was a -- have you heard of the term "jurisdictional determination" or

"jurisdictional delineation" in the context of Waters of the United States?

Have you heard that term before?

A. Yes.

Q. And sometimes jurisdictional determination is referred to as a shorthand, JD, a JD.

Have you heard that term?

A. Yes.

Q. Do you know whether Stanford performed or had someone else perform a JD in conjunction with the installation of this perforated pipe that we've just been discussing at Searsville Booster Pump?

A. Do I know if we had one -- had one done?

Q. Yes.

A. I don't. I don't recall if we did that delineation.

Q. Have you heard the term "adjacent wetlands"?

Let me put it in context.

A. Yes.

Q. Adjacent wetlands in the context of Waters of the United States.

A. Yes, I've heard that term.

Q. Do you have an understanding of what adjacent wetlands are in that context, Waters of the United States context?

A. Yes, generally.

Q. And what is that concept?

A. It would be low lying areas adjacent to a waterway that are sufficiently inundated by water that soils and vegetation are similar to what's in that water body.

Q. Do you know whether waters -- do you have a personal understanding -- again, I'm not asking you to make legal rulings here --

A. Right.

Q. -- just your personal working understanding.

MS. FLANAGAN: If we can just have that understanding throughout, then I won't have to be clarifying as we go along either.

MR. SPROUL: Sure.

MS. FLANAGAN: Unless he says otherwise, it's just your personal understanding. He's not expecting you to give a legal description.

MR. SPROUL: Q. Just as you how these terms. It might not be how a judge would use them, but how you use them.

So do you have an understanding of the term "adjacent wetlands" in the Waters of the U.S. context? What does it mean?

A. I think, as I just described, it's the

characteristics of that area, the low lying adjacent to the waterway with sufficient inundation that the soil and vegetation characteristics are similar to what's in that waterway.

Q. Have you ever heard about the Army Corps of Engineers' Wetlands Delineation Manual? Is that a document you've ever heard of?

A. No.

Q. Or heard that the Army Corps says that there's a three-part methodology for determining wetlands?

A. Yes, I'm familiar with that.

Q. And are you familiar that that three-part wetlands delineation methodology is that you look at soil type, you look at hydrology, and then you look at vegetation?

A. Yes.

Q. You've come across that before?

A. Yes.

Q. Do you know whether Stanford or any consultant for Stanford made any determination of the extent of the adjacent wetlands at the Searsville Booster Pump?

A. We did not conduct such a delineation at the Searsville Booster Pump.

Q. Do you know how far it is from --

Well, back up. Do you have a sense of -- your

own personal sense of where you think the ordinary high water mark is in San Francisquito Creek along the reach where the booster pump is located?

A. Yes.

Q. And in relationship to your personal sense of where the ordinary high water mark is, how far is the booster pump building proper from that high water mark?

A. Horizontally or vertically?

Q. Well, at the closest point -- you know, over the land -- you know, just running along the land, how far from the perforated pipe to the building that constitutes the pump station at Searsville?

A. First of all, the pump station is not in a building, it is a facility of equipment on a concrete pad. There is no building there.

The pump station and the perforated pipe are clearly in what we call an upland area, based on vegetation, slope. It's -- I don't have measurements, but it's distant from the ordinary high water mark.

Q. Okay. How about the perforated pipe, how close is that to where you think the ordinary high water mark is located?

A. The same. The perforated pipe is approximately ten feet away from the pump station. It's very close to it.

Q. Does Stanford have any plans to modify what -- the configuration of the backwash operation that you've described earlier at the booster pump?

A. Well, we occasionally modify our facilities in a general operational way. We don't have a project to reconfigure the pump station or do anything major to it.

Q. So when I read various documents, what I gathered out of them is that from time to time as Searsville does the backwashing process at the booster pump, a slurry of materials flows down an embankment and into the creek, and that Stanford, I believe in its HCP, said Stanford is attempting to do this during high flow conditions to get the sediment-laden slurry diluted as quickly as possible, something to that effect.

Do you have personal knowledge about that conduct, or that activity, what I just said? Is that accurate?

A. I'm generally familiar with descriptions about a Searsville backwash discharge. I don't think what you just said is totally accurate about that discharge going to the creek.

Q. Have you -- have you witnessed the backwash operation yourself?

A. Yes.

Q. How many times?

A. Very rarely. The perforated pipe distributes the backwash water in such a way -- its purpose is to dissipate that discharge flow -- not concentrate it, dissipate it, so that the water has a large area of bank above bank to flow over before it would get to the creek, so in that time it's percolating, as well as flowing over, so that water doesn't cascade or go directly to the creek from that perforated pipe.

Q. How many times have you witnessed the -- the discharge from the Searsville Booster Pump backwash operation?

A. I haven't witnessed it from the perforated pipe system. I'm basing this description on what my project manager for the installation conveyed.

Q. And who is that person?

A. Joe Kearney. He was the project manager back in 2004.

Q. Have you spoken with Mr. Kearney about that issue, or about the backwash water being disposed of since then, since 2004?

A. Yes.

Q. When was the last time you spoke with him?

A. Couple months ago.

Q. Do you recall the occasion when you were speaking with him about the topic?

A. Yes, we were talking about one of these upgrades to the facility, adding another filter to the filter system on the pump station, and we talked about the backwash piping, perforated pipe system, and decided that it would be good to upgrade/modify that system as well and move the perforated pipe further away from the bank, make it longer, make the dissipated flow even more than it was.

And that's an operational change, not a reconfiguring of the whole pump station, but a refinement in its operation that we've implemented.

Q. You've already implemented this?

A. Yes. The second filter is installed and the perforated pipe system has been redone. I think we're just waiting for one component in that system to be installed, which should be done this week.

Q. When do you think you'll be done with all the upgrade work?

A. Hopefully this week.

Q. Whose idea was to it do this upgrade work?

A. My operators and mine.

Q. So it would be Joe Kearney --

A. No, he's -- he was the engineer for the pump station's construction project in 2004, but Richard Souza is my water systems operations supervisor, and he

and I talked about the filter system upgrade, adding a second filter to the system and reconfiguring the backwash.

Q. So the heart of the improvement is an upgrade to the filter system so you're getting better filtration, number one, yes?

A. Better filtration, and it backwashes less frequently, yes.

Q. How often did it backwash before this upgrade?

A. It would backwash dozens of times a day during diversion periods.

Q. And how often do you think it will back up -- you need to use the backwash system now?

A. Well, with the second filter, the backwash should happen maybe half the time it does now. We've doubled the capacity of the filtration system.

Q. Okay. And in relocating the perforated pipe, where did it move to?

A. Just above the pump station.

Q. So does it still -- in the past did it operate sort of as a -- kind of a drain field or leach field structure almost? Would that be a way of thinking it?

A. Yes, you could characterize it as that.

Q. And it still does, right?

A. Yes.

Q. But it's now longer?

A. Correct.

Q. How much longer?

A. Probably four times as long, from about 50 feet to about 200 feet.

Q. And how far away from its former location have you moved it to?

A. Maybe 20 feet, 30 feet away. It's all in kind of a flat area above the creek, so it's all in the same general vicinity.

Q. Do you know whether Stanford ever made any attempt to systematically monitor and record whether any of the materials that were being routed into the original perforated pipe were making it into San Francisquito Creek?

A. I don't know of any such measurements or observations.

Q. Are you okay? Do you want a break?

THE WITNESS: What time is it?

MS. FLANAGAN: It's ten after ten, so we've been going an hour and 40 minutes.

MR. SPROUL: Do you want a break?

THE WITNESS: Five minutes would be nice.

MR. SPROUL: Five minutes.

(A break was taken.)

FURTHER EXAMINATION BY MR. SPROUL

MR. SPROUL: Q. So why did Stanford elect to make these changes to the Searsville Booster Pump that you were talking to us about a moment ago?

A. We're always looking at ways to refine the operations of our facilities, and Richard expressed the desire to modify the filter system.

Q. And who's Richard?

A. Richard Souza is my water shop supervisor. He manages the technicians who operate the system.

Q. Did he say anything about this would have water quality benefit and it would reduce the level of sediment that would reach San Francisquito Creek?

A. No.

Q. Well, is there some other reason why -- you said to improve the system or upgrade our system, but how or why would it be better as a result of what he did? What's better about it?

A. Mostly mechanical. These mechanical systems, when they go into backwash mode and water is sent to the filter backwards, in effect, it has a long-term wear effect on the filter and pump system, so, by putting in a second filter, he was able to decrease that mechanical wear and tear.

Q. So there wasn't any environmental rationale for

making this change, it was just to improve the mechanical operation of the backwash filter practice or operation?

A. Yes.

MR. SPROUL: Okay.

At this time I'd like to -- I'd like to have you mark this as an exhibit...

(Exhibit No. 1 marked for identification.)

And please look over the document, and when you had a chance to do so, please let me know that you're ready to talk about it.

(Document reviewed by witness.)

A. I'm ready.

Q. Okay, great.

Is this a document that you wrote?

A. The text looks familiar to me. I don't recall writing this specific document. Looks like it's taken from another.

Q. Do you have any sense what document it's taken from?

A. I prepared this information during the course of the preparation and writing of the HCP.

Q. And who directed you to prepare that information?

A. I was asked for -- not directed, but asked for input from the Land Use and Environmental Planning group at Stanford.

Q. And that would have been Robert Reidy's group?

A. It's within Bob Reidy's Land, Building and Real Estate group, yes.

Q. You don't recall a specific individual who asked you to do this exercise?

A. Yes, I do.

Q. Who was that?

A. Catherine Palter.

Q. You interacted with Ms. Palter quite a lot, yes?

A. Yes.

Q. You regularly exchange emails back and forth about various topics with her?

A. Yes.

Q. Would you say it's a rare week that doesn't go by that you don't email her at least once?

A. Yes.

Q. In the last year or two, would it also be fair to say that a good percentage of your email messages to and from Ms. Palter have dealt with the "Searsville" committee?

A. Yes.

Q. Are there topics that you would consider addressing Searsville Dam and Reservoir that would be separate and apart from the Searsville committee that you would have had email traffic with Ms. Palter about?

MS. FLANAGAN: What time period?

MR. SPROUL: Q. In the last two years.

A. The "Searsville Committee" term is a little unclear. We have a Searsville Study, which has a steering committee, which I'm not a part of, and also has a working group, so if you're talking about that collective of Searsville folks, then that's the primary subject of the emails that we've exchanged.

Q. I'm sorry, of the three Searsville committee entities, you're a member of two but not three, or all three?

A. Just one.

Q. Just one?

A. The working group.

Q. You're not a member of the advisory group?

A. Correct.

Q. And who are the -- who are all the members of the Searsville working group?

A. Jean McCown, M-c-C-o-w-n; Catherine Palter; Alan Launer, Eric Wright, W-r-i-g-h-t; Philippe Cohen.

Q. Okay, thanks.

So back to Exhibit 1, did somebody expressly ask you to do this breakdown of Searsville diversions into these categories by hundred acre-foot increments that this document depicts?

A. I don't recall a specific request for this specific characterization. I was asked for diversion information, historic diversion information.

Q. And historic diversion information, would that be just raw data, this is how many acres being diverted each year?

A. I prepared this itemization based on the raw data of annual diversion amounts.

Q. Did this characterization scheme have any significance to you? Did you think -- let me stop there.

Did this characterization scheme have any significance to you?

A. Significant in that it characterized the nature of the magnitude of our annual diversions and that frequency.

Q. Is that useful information to you personally?

A. Well, I know it, but it was useful to the folks who wanted this information about our diversion.

Q. And why was it useful to them?

A. To obtain a historical understanding of the

water diverted from Searsville, the quantity and frequency.

Q. Why did they want to know that? I assume that that wasn't knowledge for knowledge's sake. The knowledge was to be put to some kind of use or purpose?

A. Yes.

MS. FLANAGAN: If you know why they wanted it, then you can tell him.

THE WITNESS: It was to clarify the activity of diverting water from Searsville.

MR. SPROUL: Q. Was it just to get a sense of here's how much water we get from Searsville in a given year on average and here's the range, here's, like, the bell curve? Is it just that?

A. That characterizes it pretty well.

Q. So it looks like, from what you draft here -- well, the numbers don't add up to 100 percent, right, so this is -- this table is, in some sense, cumulative. This isn't like -- a given amount of water diversion wasn't placed exclusively in one category and not another, obviously, right, because 76 percent plus 72 percent is well over 100 percent, for example, right?

A. Right.

Q. Can you explain a little bit more the math that's employed here? What are you actually

representing?

A. Well, it's probably easiest to start with the bottom bullet, and we have some years we divert less than a hundred acre-feet, but, of all the years we've been diverting, 1932 to 2008, 76 percent of those years' annual diversion amounts more than 100 acre-feet, and then 72, a lesser percentage of all of those years had diversion amounts over 200 acre-feet.

So this information presents the frequency at which we divert various amounts of annual total. Up to four percent of the time we divert over 700 acre-feet.

Q. Another way of looking at your data here is the median is pretty close to 400 acre-feet a year; is that correct?

A. Correct.

Q. And so, roughly, half of the years you're going to divert less than 400 feet, roughly half the years more than 400 acre-feet, correct?

A. Not we would; we did, yes.

Q. Right.

How about the average? I don't see an obvious way of calculating the average based on the data you had presented, but maybe you can tell me how you could do that.

A. I can tell you how we would do that. We would

take each year from 1932 to 2008, that annual total diversion amount, and we would add all those numbers up and divide it by that number of years.

Q. Right, sure. And you haven't done that exercise.

A. I didn't do it here. I don't recall ever doing that exercise specifically.

Q. So like today, if I were to ask you what's the average amount of water Stanford has diverted historically, going back to 1932, from Searsville Reservoir, you'd say "I don't know," correct?

A. Correct.

Q. Do you think it's useful to know what the median diversion rate has been from Searsville Reservoir?

MS. FLANAGAN: Useful?

MR. SPROUL: Q. Is it useful to you?

A. Not particularly. It's interesting.

Q. Why is it interesting to you?

A. Well, because I am dealing with Stanford's water supplies, planning for the future, as well as operating what we have now, and looking at the median or average gives me an idea of the Searsville components' contribution to that overall water supply picture, so that is interesting.

"Useful" is a term that connotes that I actually do something with that number, and I don't, really.

Q. For planning purposes, do you think it would be -- for your planning purposes, would it be more useful to know the median acre-foot diversion from Searsville Reservoir, or the average?

A. Median.

Q. And why is that?

A. Average is affected by the magnitude of the number. If three times four percent of the time I diverted 2,000 acre-feet from Searsville, that would really affect the average, but it would be very, very few years that I could rely on that quantity.

If three times four percent of the time we diverted 702 acre-feet, that would greatly reduce the average, as opposed to some of those years being 2,000, but it would still tell me I can count on that much water very rarely.

So median is much more reflective of how often I can expect to get that water amount.

Q. Okay. Do you have any information that would lead you to redo your -- these calculations --

Well, let me ask you this. Is there anything that you know now that in your -- that would lead you to

opine "I think the numbers written down here are fundamentally wrong, and I think the actual -- the median doesn't look anything like that because of other data"?

A. I don't have any other data that would tell me that these numbers are wrong.

Q. Anything -- is there anything that you know that would lead you to not point to this if someone were to ask you for this type of information and you could say -- would you give this sheet of paper to them and say, "Here, here's some calculations. I think they're still essentially accurate."

Would you do that?

A. Yes.

(Exhibit No. 2 marked for identification.)

Q. Let me know when you're ready.

MS. FLANAGAN: Do you want him to actually review the data or just --

MR. SPROUL: Q. You don't have to read it line by line, just read it to the point where you feel, "Yeah, I recognize that."

A. I recognize it.

Q. Okay. Have you seen this document before?

A. Not exactly in this form, but, yes.

Q. Did you write it?

A. Yes.

Q. And it looks like it was corrected in 2010, on the face of it.

Do you recall it being corrected in 2010?

A. I remember making revisions to this kind of a table, and I think the shading I'm seeing is a yellow highlight that I have done at that time, and December 2010 looks about right, from what I recall.

Q. Actually, let me direct you to -- to this -- I don't know whether to make this a separate exhibit or --

Without objection, I would propose we consolidate this, make this page one and this page two of the same exhibit.

MS. FLANAGAN: That's fine.

You'd like him to take a look at the email.

MR. SPROUL: Q. Yeah, take a look at the email, right.

Let me know when you're done.

And particularly at the bottom of the email. That's the part that I think is pertinent.

(Document reviewed by witness.)

A. Okay.

Q. Okay. So that the email message at the bottom says something to the effect of "We have some

corrections to make to a table."

Do you see that language?

A. Yes.

Q. Did you write that language in that email?

A. Yes.

Q. And can you explain how this came about, why you wrote this email?

A. Okay, three years ago, I'll tap the memory banks as best I can.

We have a myriad of data of meter readings, and I work with Richard Souza on compiling various sets of information from his large spreadsheet of all these meter readings that he records, and I believe that he talked to me when we were producing various diversion information like this table that he realized he had not read some notes which affected the data that he was reporting about the monthly diversion amounts from Searsville, so those were the corrections that we made for those years that are highlighted there in those months.

Q. Okay. As far as you know, the upgrading of your data collection and recording system to reduce these rare but unacceptable errors that are referred to in the bottom of this email on page Bates 5079 happened?

A. Are you asking if the errors happened?

Q. No, the upgrading.

It says, "We are working on upgrading our data collection reporting systems to reduce those rare but unacceptable errors," so my question to you is, like, well, did you do that and is it done, finished?

A. It's a continuous process. We make upgrades to our diversion meter reading and reporting processes often. Richard talks to his guys about being more careful about the readings, how they record them in the database, and then how he has them note when meters are not functioning. That's a continuing refinement effort, and we did at that time, certainly, really make sure that we improved the way we were doing that, yes.

Q. Okay.

Are you aware of any other corrections analogous to this one that we're looking at that were necessary for the reasons you explained this one was necessary?

MS. FLANAGAN: Is this in any table he's ever prepared?

MR. SPROUL: Q. Yeah, any other -- is this aberrational, or has this happened on other occasions, too?

A. It has happened once or twice besides this specific occurrence, yes.

Q. And was corrected in those instances?

A. Yes, uh-huh.

Q. Are you aware of any data on the total amount of Searsville diversions that Stanford has currently communicated to the outside world that you know has errors in it and should be corrected?

A. No.

Q. Okay. So, on to the next page, page two, this purports to be a table, Searsville Diversions By Month, 2001 to 2010, and I believe you indicated you were familiar with this table.

A. Yes.

Q. And did you write it?

A. I don't recall if I wrote it or got it from someone in this form.

Q. The person who you might have got it from, would they have been writing down your work, or would they have been doing original work?

In other words, if someone else wrote it, was it using information they got from you?

A. No, it would be using their own information.

Q. And you don't know?

A. I don't recall if I actually formed this table, or if the table was sent to me and I attached it to the email.

Q. All right, but do you have any reason to doubt the accuracy of this table that you attached to the email?

A. No.

Q. So I note that -- some things jump out, at least to me, the acre-foot --

Let me go to the last column. The last column that says "Total." That's total acre-feet of water diverted from Searsville Reservoir.

Is that what that column represents?

A. For that year, yes.

Q. And the year, that first year column, is that calendar year or water year?

A. I believe -- we use both, calendar year and water year, so I believe this is calendar year, because it doesn't have "WY" in front of the year.

Q. Okay. Do you think there's -- do you more typically, personally, use one more than the other, water year, WY, versus calendar year, CY?

A. We use both.

Q. In 2001 -- I would just note, this is an aside, and you can tell me if you disagree, in some way it's a moot point because all the months are spelled out and you could draw your own calendar year or water year from the data if you wanted to, correct?

A. Yes.

Q. So I note that in January 2001 there are no diversions reported from January through April, and then there's a couple other years where there's no diversions at all in early months of the calendar year, but that one year really stands out.

Do you have any explanation for that, why were there no water diversions from Searsville Reservoir through April 2001?

A. I don't know the reason for that specific year, but the rainfall and flow in the creeks and spilling over Searsville varies tremendously from year to year, so there's a high variability in not only creek flow but diversion rates and volume.

Q. Well, did you just list all the drivers for making water diversion determination, or are there others?

A. There could be others.

Q. So water determination drivers could include rainfall.

A. Variability.

Q. Rainfall variability. And it could include reservoir level?

A. Yes.

Q. And it could include variations in demand for

water?

A. Yes.

Q. Anything else?

A. Mechanical difficulties.

Q. Anything else?

A. Those seem to pretty well cover it.

Q. So I haven't come across any documents where Stanford expressly changed a water diversion or altered a water diversion decision to specifically target improvements to steelhead habitat, for example.

Am I missing something? Is there a Stanford document where Stanford says we're going to divert water from -- we're going to change our water diversion decision at Searsville specifically to affect steelhead as one of the drivers?

A. Are you asking me if I --

Q. Yeah. I haven't seen any such thing.

My question is, is there such a thing?

A. Not that I'm aware of.

Q. And is there anything that Stanford has written that expresses that one of the drivers for managing Searsville diversions is the effect of the diversions on California red-legged frog?

A. Not that I'm aware of.

Q. Okay -- so back to 2001, why there would have

been no diversions in January, February, March, April, is that because -- I mean do you have any sense of why, and I think you said "Well, not really," but -- focusing on those specific four months, and not maybe -- not a memory of those four months, but just kind of knowing the dynamic of the system, like why in the -- that's the wettest time of the year in California, typically, yes?

A. Yes.

Q. And why, during the wettest time of the year, would there be no diversions from Searsville Reservoir?

A. Well, factors could have included a lot of rainfall that year and a lower irrigation demand, successful diversions from Los Trancos Creek to fill Felt Reservoir and a decreased look to Searsville diversions that year, in addition to these factors that we listed about a mechanical problem with a pipeline, maybe that year.

Those would be my list of factors that would have possibly explained that, but I don't know specifically why those months, actually.

Q. And then it pumped up a bit into the spring, but then really started to increase in the late summer, August, September, October, where there was bigger drawn-down months.

I haven't done any rigorous regression analysis

analyzing -- correlating those three months and water diversions, but it doesn't necessarily look like water diversions always bump up in August, September or October, but they did a bit in this year, and there's some other years as well.

Any explanation why -- for this pattern, sort of gradual increase in water diversion through the early summer and then picking up in the late summer, early fall?

MS. FLANAGAN: You're looking at 2001?

MR. SPROUL: I'm looking at 2001.

THE WITNESS: Sure.

Demand would be -- pre-irrigation water would be high in the late summer, August-September, combined with rainfall. That would have enabled us to divert from Searsville.

MR. SPROUL: Q. So by September -- well, by August, you would only be diverting stored water from Searsville Reservoir, rather than inflow into Searsville Reservoir, right?

MS. FLANAGAN: Again, you're asking about 2001?

MR. SPROUL: In 2001?

MS. FLANAGAN: Do you know?

THE WITNESS: Could you repeat the question?

MR. SPROUL: Q. Yeah.

Let me make this a little broader, and I can ask you a question, which is a good thing.

So, just in general, all the water years that are on this table, water diversions in September -- let's take that month, September.

My hypothesis, all of that water comes from stored Searsville Reservoir water. It doesn't come from water -- it's not augmented from water that's inflowing into Searsville Reservoir once you get into September.

My hypothesis.

MS. FLANAGAN: I'm going to --

MR. SPROUL: Q. Am I right or wrong?

MS. FLANAGAN: -- the question is vague and ambiguous, because the diversion point is in the reservoir. All diversions are from the reservoir, so I'm not sure what you're asking.

MR. SPROUL: Well, I think he understands, but we'll try one more time.

BY MR. SPROUL:

Q. So my question is, does all inflow into the reservoir stop -- first question: Does all inflow into the reservoir stop by September every year, in your experience?

A. No.

Q. What sources of inflow into the reservoir do

you see in September?

A. Early rainfall, which would have water from the creeks flowing into Searsville Reservoir, comprising inflow.

Q. Do you ever look at long-term weather records for the Stanford campus area? Do you?

A. Yes.

Q. And average monthly rainfall for the month of September through the period of historic recording is really low, yes?

A. Yes.

Q. So the late summer/early fall September rain as a driver for water inflow into Searsville Reservoir is a fairly rare event, yes?

A. I wouldn't comment on the statistics. It's not common, but it can happen.

Q. And looking at the September column for 2001 through 2010, you see varying rates of diversion. The high was in 2001, it's 11 acre-feet, down to several years has zero.

Do you have any sense of how much of that acre-foot diversion was capturing water that was added to Searsville -- or capturing a volume of water that was equivalent to the volume of water added to Searsville Reservoir from a late summer rain versus how much of it

was taking water that had been stored there for quite some time?

A. I don't.

Q. Something else I noticed about your graph, your table, water diversions are quite low, comparatively, from 2001 to 2004. They're always in the double digits, and then in -- after 2005 they're always in the triple digits, and in some cases much, much larger than the 2001 through 2004 diversions.

One, have I accurately characterized your table?

A. Yes, sir.

Q. And what's the explanation? Why did water diversions from Searsville dramatically ramp up in 2005 and stay at a high level, at least through 2010?

MS. FLANAGAN: Objection.

Just the -- I object to the use of the word "dramatically", because you're only comparing it to the preceding years on this chart and not history.

THE WITNESS: May I answer it then?

MS. FLANAGAN: Yeah. Go ahead, if you understand.

THE WITNESS: Yeah, that increase coincides with the installation of the Searsville Booster Pump Station.

MR. SPROUL: Q. So prior to the Searsville Booster Pump Station being installed in 2004, correct --

A. Uh-huh.

Q. -- the Searsville diversions were by gravity feed, yes?

A. Yes.

Q. And now, post 2004, the Searsville diversions are pumped via pressure via the Searsville Booster Pump, therefore significantly increasing Stanford's capacity to take more water, yes?

A. Not quite.

Q. What's wrong?

A. The Searsville diversion remains to be gravity inflow into the intake at Searsville Reservoir to the piping that the booster pump station is located along. It didn't change from a gravity system.

Q. So what portion of the system is gravity?

A. The portion from Searsville to the booster pump station.

Q. And it becomes pressurized from -- downstream of Searsville Booster Pump?

A. Correct.

Q. And that's where the increase in capacity is?

A. Correct.

Q. Do you know whether Stanford acquired any

permits to increase the capacity of its Searsville water diversion operation? Any permits?

MS. FLANAGAN: I'm going to object.

If you could just explain what you mean by "capacity". It has different meanings that are applicable.

MR. SPROUL: Q. Okay, we'll back up and say did Stanford get any permits for the Searsville Booster Pump?

A. Yeah.

Q. What permits were those?

A. They were San Mateo County permits for building this facility, and the typical mechanical, electrical and planning permits from the county to do that.

Q. Do you know if there was an Environmental Impact Report done in conjunction with the San Mateo County permits?

A. There was an environmental document. I don't recall if it was an Environmental Impact Report.

Q. Did you have any role in drafting any of the sections of the Environmental Impact Report?

MS. FLANAGAN: I'm going to object to the characterization, because he said he doesn't know if it is an Environmental Impact Report.

MR. SPROUL: Q. Of the environmental document

that you referred to?

A. I provided a description of the pump station to San Mateo County. They used that information to prepare various documents associated with the permits.

Q. Who was your point of contact at San Mateo County?

A. I do not recall.

Q. Okay. Any other permits besides the San Mateo County permit?

A. No.

Q. Did anyone in your department recommend to anyone that we should get a Clean Water Act NPDES permit for the discharge from this pump station?

A. No.

(Exhibit No. 3 marked for identification.)

MS. FLANAGAN: Do you want him to read this?

MR. SPROUL: Q. Yes, please.

Could you look this over, and let me know when you -- I don't think you need to read every line. It's kind of a long document, but read it to the point where you can say yes, I'm familiar with this, or, no, I've never seen this before, or general familiarity, and we can take it from there.

We're not going to go over each line, line by

line.

MS. FLANAGAN: Just so he knows, is your first question to him has he seen this document before?

MR. SPROUL: Yes.

THE WITNESS: I don't recall having seen this before.

MR. SPROUL: Q. Do you know the people -- well, do you know Catherine Palter?

A. Yes.

Q. Do you know the people that she sent this email message to?

A. Yes.

Q. So who is Shawn Zovod?

A. She's --

MS. FLANAGAN: It's the cc line.

THE WITNESS: Yeah, yeah.

She's an attorney that assists Stanford on the HCP.

MR. SPROUL: Q. And who's Charles Carter?

A. He was Director of Land Use and Environmental Planning, Catherine Palter's supervisor. Since retired.

Q. And Alan Launer?

A. Also in Land Use and Environmental Planning, campus biologist.

Q. Did you ever participate in any conversation

with anyone from National Fishery Service about whether there should be 300 acre-foot maximum winter withdrawal from Searsville in the HCP as part of the conservation program?

A. Not that I specifically recall. I was involved in conversations with Gary, but I don't recall about that specific topic.

Q. Other than talking about it with a Stanford lawyer, have you talked to anyone else about a 300 acre-foot maximum winter withdrawal requirement from Searsville as part of the conservation program?

A. No.

Q. Have you ever written anything about such a conservation program with a 300-acre maximum limit?

A. No.

Q. Have you ever seen anything in writing about a 300-acre maximum winter water withdrawal from Searsville conservation program conservation effort?

A. Not that I recall.

Q. So this letter right here, looking at it today, this is news to you? This is the first you've heard of maybe Stanford should be -- should agree to a maximum winter withdrawal from Searsville of no more than 300 acre-feet?

That's the first time you've heard that?

A. Yes.

Q. The second bullet from the bottom on page one says that -- the last sentence says, "We described the Covered Activity as a maximum of 300 [sic.] acre-feet (300 acre-feet in the winter) which was a realistic expectation of Stanford's Searsville water diversions."

You can read the larger paragraph if you feel like you need more context, but I had a couple questions to ask you about that sentence in particular.

A. Yeah. That's the context that I recall.

It was not the amount of the total diversion but the timing of it that 300 acre-feet in the winter, that would be December 21 to March 21 typically, but 600 acre-feet overall.

That's the nature of the discussions I recall having, not anything about a 300 acre-feet total annual maximum.

Q. Did you have any role in shaping a recommendation around that as an acre-foot water diversion regime, 600 overall, 300 in the winter?

A. I recall discussions about it. I don't recall being part of a formulation of a statement that really got that specific.

Q. Do you recall expressing opinions about such a

water regime for Searsville?

A. Yes.

Q. And who did you express opinions to?

A. Catherine Palter and Alan Launer.

Q. What did you tell them?

A. That, looking at our typical distribution of diversion month by month, that 300 acre-feet during those winter months and a 600 acre-foot total would be fitting with respect to the historic numbers.

Q. And was it -- in coming up with your analysis of fitting, were you specifically looking at how much water has Stanford diverted historically and said, well, we can meet this because that's what we've done, so we can keep doing it?

Is that your analysis?

A. Yes.

Q. And you weren't asked to analyze, well, how much water diversions should we target if we're trying to help steelhead, for example? That wasn't one of your tasks?

A. No.

Q. Okay.

(Exhibit No. 4 marked for identification.)

I'll represent to you -- and this might jog

your memory. This is -- like the footer says at the bottom, this -- this is a page from Stanford's Response to Interrogatories.

A. Sorry, I don't have a footer on mine.

Q. You don't have a footer?

MS. FLANAGAN: Are they otherwise the same?

MR. COSTA: Yeah.

MR. SPROUL: Q. So I'll represent to you that this is a page from Stanford's Interrogatory Responses to the plaintiffs, and just to pick up this one page, because this is the page that's relevant, and ask you whether you have seen this particular table before.

A. It looks familiar, yes.

Q. Did you help write it?

A. Yes.

Q. Did anyone help you to write it?

A. Yes.

Q. And who helped you?

A. Richard Souza, my water shop supervisor, who tracks diversions.

Q. Okay. To the best of your knowledge, is everything -- all the data that's reflected in this table accurate?

A. No.

Q. What's inaccurate about it?

A. Well, I recall having to revise a couple of these numbers, so this wouldn't be the latest version of this tabulated information.

Q. When did you do that?

A. Very shortly after this was issued.

MS. FLANAGAN: Before he answered, I was going to ask you about using the pre-revised version.

MR. SPROUL: Did you send us the revised version?

MS. FLANAGAN: Yes.

MR. SPROUL: Q. Actually, before we come off of this, one thing in particular, in 2013, the data for 2013, it shows no diversion starting April, May, June, July, August -- no water diversion during that time period.

Is that information accurate?

A. Yes.

MS. FLANAGAN: It was just a correction to a few of the numbers that he had found.

MR. SPROUL: Q. Okay.

MS. FLANAGAN: And you can ask him about the table if you're not going to be getting into the specifics of numbers, just understanding that some of the numbers were revised.

MR. SPROUL: Q. All right, fair enough.

And is there a reason why water diversions ended in April 2013?

A. Yes.

Q. And what was that reason?

A. This has been one of the driest years on record. We've had very little, if any, rain since January, so we stopped diverting in March or early April -- actually in March, because we had zero for April.

Q. There was still water in Searsville Reservoir, right?

A. Yes.

Q. And -- but you decided not to divert any of that water out of Searsville Reservoir from April onward, yes?

A. Yeah.

Q. And why? What was your motivation for not wanting to take water out of Searsville Reservoir after April?

A. I have to think back to -- we don't want to deplete the reservoir. We impound water with the dam and extract some of that impounded water down a few feet from the spillway, but, beyond that point we don't empty the reservoir's water supply typically -- actually, ever. We use our other water diversions or water

supplies for diversion instead.

Q. Does the term "dead pool" have any mean to you?

A. Pardon me?

Q. Does the term "dead pool" have any meaning to you?

A. D-e-a-d, dead pool? No.

Q. Not a term you use?

A. No.

Q. As in taking a reservoir to dead pool?

A. Yeah, I'm not familiar with that term.

Q. Okay.

So I understand you to say that Stanford doesn't want to take the reservoir down to -- essentially as far down as it can be drained given the current configuration, it wants to -- instead, wants to leave some water in it, even if it's a really dry year, and the answer to that is yes?

A. Yes.

Q. And why? Why is that important to have some water left in the reservoir?

A. I interact with Philippe Cohen at Jasper Ridge, which is right at the location of Searsville Reservoir, and he monitors various habitat and research activities up there, and lets me know when he thinks we've taken the water -- the reservoir's water level down enough,

and then we stop diverting.

Q. Do you ever argue with Mr. -- is it Dr. Cohen -- Dr. Cohen about him cutting you off from water diversions out of Searsville Reservoir?

A. No.

Q. Does he have to get someone's authority above his to give you the cutoff order, or is it on his own authority?

MS. FLANAGAN: I'm going to object to the characterization of "cutoff order".

THE WITNESS: Philippe and I have a casual conversation about diversion timing. There's no ordering going on.

MR. SPROUL: Q. But you're the person, operationally, who actually controls whether the diversion continues or stops, correct?

A. I manage those who control it, yes.

Q. Do you consult with any other Stanford people besides Dr. Cohen about when to stop the Searsville diversion?

A. Occasionally Alan Launer, but -- I can't remember specific instances offhand, but, yes, he would be the other person I would consult about that.

Q. And why? What would Mr. Launer bring to the table for you?

A. Similar to Philippe, understanding of the species, habitats, research activities up around Searsville Reservoir and Jasper Ridge.

Q. Do you talk to Catherine Palter about when to adjust Searsville diversions?

A. No.

Q. Have you ever talked to Gary Stern about when to adjust Searsville diversions?

A. No.

Q. Or anyone at National Marine Fishery Service?

A. No.

Q. Or anyone at the U.S. Fish & Wildlife Service?

A. No.

Q. Or anyone at the California Department of Fish and Wildlife?

A. No.

Q. Looking at this table -- and perhaps we'll find the revised that's got the absolute corrected numbers -- it looks to me that from 2009 to 2013, the amount of water diversions were roughly comparable to the level of water diversions we were seeing from Searsville in the few years prior to that, is that a fair characterization? Or would you look at it differently?

MS. FLANAGAN: You're asking him with reference to your Exhibit 1 or 2?

MR. SPROUL: To Exhibit 2.
THE WITNESS: The pattern is similar.
MR. SPROUL: Q. The pattern is similar, yes?
And that Stanford is generally falling within the 300 to 600-acre-foot range?
A. Yes.
Q. Neither under 300 nor over 600 acre-feet of diversion, correct?
A. Yes.
Q. And the corrections you've made aren't so dramatic that they would change that basic fact.
A. Yes.
Q. Yes, they would not change it?
A. Correct.
(Exhibit No. 5 marked for identification.)
Q. Can you please look through that document -- I'm not expecting you to memorize page after page and numbers -- but to look through it to see if this is a document you have seen before and are -- otherwise consider yourselves knowledgeable about, and let me know when you're done.
(Document reviewed by witness.)
A. Okay.
Q. Have you seen this document before?

A. Yes.
Q. Did you write it?
A. No.
Q. Do you know who wrote it?
A. Yes.
Q. And who was that?
A. Richard Souza.
Q. And that's a person on your staff?
A. Yes.
Q. Did he do that at your direction?
A. In general. This is data from the spreadsheet that he keeps water information on.
Q. Do you have any reason to think that the data that your employee has written into this spreadsheet is inaccurate?
A. No.
MS. FLANAGAN: I'm just going to -- you're representing to us that you printed it off of -- this is something you printed. It doesn't have Bates numbers on it.
MR. COSTA: You provided it in a spreadsheet format, and it just didn't have Bates numbers on it, just the title of the document.
MS. FLANAGAN: And I'm asking, you're representing all you did is you just printed it out as

is.

MR. COSTA: Yes.

MS. FLANAGAN: Just so you can make that assumption.

MR. COSTA: It's locked. The spreadsheet is locked.

MR. SPROUL: Q. So the first column to the left says "Meter readings at Searsville pump meter."

Can you explain what those are?

A. Yes, it's flow -- it's a reading of a meter at a point in time near the Searsville Booster Pump Station.

Q. On the upstream side of the Searsville Booster Pump Station, or downside?

A. I, frankly, don't know which side of the pump station the meter is on.

Q. More to the point, do you know -- the next column over, Gallons Register, I take it that this is an attempt to show -- or this column is meant to show what's the gallonage of water flowing past this meter --

Well, let me just stop there. Is that what that column is meant to show?

A. It indicates the gallons that have flowed through the meter as of that point in time.

Q. So then my question is, flowing into the pump

or out of the pump? The pump meaning the Searsville booster pump.

A. I believe it's into the pump. I'm just trying to picture the pump station, and I just don't recall which side of the pump the meter is on, but I believe it's upstream on the Searsville side.

Q. And then the next column over, Meter readings at Searsville Dam meter, what is that referring to?

A. The gallons that have flowed in the pipeline where that meter is right at Searsville Dam.

Q. And then the next over, Gallons Register, so, again, that would be the amount of gallons of water that have flowed past the -- that meter located on Searsville Dam, or near Searsville Dam, at that point in time, yes?

A. Yes.

Q. I see that there's -- on 12/29/07 there's an entry of zero. Any explanation why it would have been zero on December 29th?

A. I'm sorry, why is the meter reading zero?

Q. Yeah.

A. It looks like a reset of the meter.

Q. I see.

Okay, and why the pairing between these two -- this spreadsheet seems to be presenting these two informations next to each other, as if there's some

relationship between the two, so let me stop you there.

Is there a relationship between these two pieces of information that this document is meant to portray?

A. Yes, it's just two different meters basically at the two different ends of a pipeline.

Q. So measuring the amount of water that went in, that's the meter to the right in this column, and then meter to the left in these columns is measuring water exiting?

A. Correct.

Q. And why would Stanford want to track that?

A. In case one meter goes out, we have the other one to measure the same flow.

Q. Is it simply a system of redundancy and not to capture loss, for example?

A. It would have the benefit of capturing loss, but the predominant reason is redundancy.

Q. Is this information used by you for any other purpose?

MS. FLANAGAN: For any purpose other than what?

MR. SPROUL: Any other purpose than what he just mentioned, which was redundancy.

THE WITNESS: Yes.

MR. SPROUL: Q. What else do you use it for?

A. Richard and I use the information to report our diversions.

(Exhibit No. 6 marked for identification.)

Q. I'd like you to please look through this document. You don't have to read it word-for-word, generally familiarize yourself with it, and let me know when you're ready to answer a question about whether you've seen this document before.

A. All the pages, or do you want to start with the first page?

Q. Why don't you quickly look through it. You don't have to read each page, but if you can get a sense of what's there.

MS. FLANAGAN: Well, they're different documents. They're just sequential documents. That's creating confusion.

MR. SPROUL: Q. All right. If you're done looking at the first page, we can handle it that way.

A. Okay.

Q. Have you seen this document before?

MS. FLANAGAN: Just the first page?

MR. SPROUL: Just the first page.

MS. FLANAGAN: Yeah.

THE WITNESS: I don't recall specifically

looking at it before, but it's quite possible.

MR. SPROUL: Q. Why do you say it's quite possible?

A. It was the first year I was in -- here at Stanford in this job doing this role. Larry Andrews is Richard Souza's predecessor. We had been preparing these reports for years, and this is just another one in the series.

MS. FLANAGAN: He's asking had you seen this before.

MR. SPROUL: Q. Have you ever prepared a document like this one to the State Board yourself, a Supplemental Statement of Water Diversion and Use?

A. Yes.

Q. When was the last time you did that?

A. A few years ago.

Q. Do you know whether Stanford is still doing that?

A. I know that we are still filing reports, yes.

Q. And those reports are filed annually?

A. The Division of Water Rights, DWR, is changing their procedure from a manual process to an online process. Along with that, they're changing reporting from a three-year reporting cycle to an annual cycle, so different diversions are being reported different ways

right now in this transition period.

Q. Do you know when the last report was that Stanford filed with the State Board along these lines?

A. For which diversion?

Q. For Searsville.

A. Yes, just recently, for the last water year, within the last few months.

Q. Okay, we can go on.

There seems to be some handwritten -- this is how we got it from Stanford -- how it was given to us. There's some handwritten notations on this, and we're just curious if you can recognize the handwriting.

MS. FLANAGAN: This is on page one?

MR. SPROUL: It's page one, right, where it says Richard Souza --

MS. FLANAGAN: Which page are you on?

MR. SPROUL: On Bates stamp 1687.

MS. FLANAGAN: So page two they've gone to now.

And your question is?

MR. SPROUL: Q. Do you recognize the handwriting?

A. Yes.

Q. Whose handwriting is that?

A. Mine.

Q. And why did you cross out Larry Andrews and

write Richard Souza?

A. Larry had retired and Richard Souza had been hired to replace him.

Q. And up in the upper right corner, 2002, 2003, 2004 is crossed out, and different years are written instead, and why was that?

A. This was several years ago I did this, so what I recall is that we needed to file reports for subsequent years, that we had not received what we called the template from DWR for those years, so we used the template they had sent us for a subsequent year and used that for the prior year, so that's why it's crossed out. It wasn't that something was wrong, we didn't have a template for those for '99, 2000, and 2001 years, so we had to use this one to fill out the report for the prior years.

Q. I see.

Did you use the same information to calculate the acre-feet values that are in the box in the middle of this document that you used in the earlier tables that we were referring to?

MS. FLANAGAN: You're talking about Exhibits 4 and --

MR. SPROUL: Yeah.

MS. FLANAGAN: -- for example?

THE WITNESS: The numbers would have been from the same base spreadsheet that Richard keeps for this data collection over time. I don't know how that correlates to the previous exhibit.

MR. SPROUL: Q. You can't think of a reason why -- I'm not saying there is a difference, but you can't think of a reason why this type of reporting you would use a different methodology that might come up with different numbers than the methodology you would use in the other spreadsheets that we were talking about in the earlier exhibit?

A. There wouldn't be a different methodology, no.

Q. Now down to Bates stamp page 1689.

A. Okay.

Q. Are you familiar with this page?

A. Yes.

Q. And is this a page that you wrote? Looks like it has your initials.

A. Yes, it's over a decade ago, but, yes, it looks like I wrote it.

Q. To the best of your knowledge, is it accurate?

A. Yes, I have no reason to doubt it. I don't think there were revisions in the water years from 2001.

Q. Okay.

And when I look at the data, it seems fair to

say -- I think you might have said it yourself earlier -- that there's very wide variability in the amount of acre-feet per year that Stanford diverts from Searsville Reservoir.

Would you agree with that?

A. Yes.

Q. I notice that there were a couple years, 1993 and '94 and 1996, where, according to your data, Stanford didn't divert any water from Searsville Reservoir.

Do you believe that's true?

A. I have no reason not to.

Q. Do you have any -- do you have any explanation why Stanford didn't divert any water at all from Searsville Reservoir in those years?

A. No.

Q. I also see that there's just large gaps, or there's just gaps between 1981-2, and 84-85, there's no entry at all.

Do you know why that is?

A. No.

Q. And the same for 1933-34?

A. No.

Q. If I were to say would it refresh your recollection -- oh, yes, those were years we just didn't

have any data available for whatever reason, there's no data that shows zero, no data that shows positive, just no data, would that be an explanation, or still don't know?

A. Well, we do not have data for those years.

Q. If you had data for those years, you would have put it in the table?

A. Yes.

Q. The other thing that jumps out at me in this data is that the very highest amount of acre-feet diverted is 1,021 acre-feet. Do you have any explanation how it was that Stanford was able to divert that large of a volume in that year?

A. I don't know why that year's volume is that.

Q. I also note that starting around 1987, or maybe even more particularly 1981 onward, through the year 2001, the amount of the water diversions are quite obviously very much lower than the average or median water diversions in the rest of the data set.

Does that also look apparent to you?

A. Yes.

Q. And do you have any reason for that?

A. No.

Q. Did it have anything to do with Searsville Reservoir silting in, for example?

A. Well, it's before my time here, so I can't explain what's going on in the operation then.

(Exhibit No. 7 marked for identification.)

Q. When you've had a chance to look over that document, please let me know.

(Document reviewed by witness.)

A. Okay.

Q. Have you seen this email message from Catherine Palter before?

A. I don't recall seeing it before, no.

Q. Are you familiar with the topic of conversation that Ms. Palter is addressing in the email message?

A. I'm familiar with the question about continuing diversions. I'm not familiar with the term "cumulative analysis".

Q. Okay. Were you aware that the National Marine Fisheries Service was asking Stanford something to the effect of what are your future plans with respect to water diversion?

Is that right?

A. Yes.

Q. Did anyone at the National Marine Fisheries Service ask you that directly?

MS. FLANAGAN: In this time period?

MR. SPROUL: Yeah, in this time period.

THE WITNESS: Did anyone at National Marine Fisheries ask me about the future of Searsville diversions.

MR. SPROUL: Q. Yes.

A. No, I don't recall that question from them.

Q. At any time?

A. Well, this is two and a half, almost three years ago. We were discussing Searsville diversions generally. I don't remember them asking that specific question: "Will you keep diverting as you have in the past."

Q. Or, how about this: Do you recall ever, I mean ever, anyone from the National Marine Fisheries Service asking you what are Stanford's plans with respect to future diversions of water from Searsville Reservoir?

A. I can't say that I do, no.

Q. Do you recall telling Ms. Palter that actual future diversions from Searsville will vary, as they have in the past, with creek conditions and rainfall?

A. Yes.

Q. Did you also say future diversions will be similar to those that have occurred in the past?

MS. FLANAGAN: You're asking has he ever said that to Ms. Palter?

MR. SPROUL: Q. Yes, have you ever said that to Ms. Palter?

A. I don't recall specifically saying that, but that would have been logical, and something I would say to her in the context of those discussions.

Q. Is that right now your belief, as the person who's the head of Stanford's water system, that right now Stanford's plan is to continue its water diversions along -- similarly to how it has diverted water in the past? That's your current plan?

A. Yes, but we do have the Searsville Study going on to look at the future of Searsville, including diversions, but all of that is being deliberated right now as a part of that study.

Q. But, pending an outcome to that study, you don't have any plans to change your water diversions.

A. Correct.

(Exhibit No. 8 marked for identification.)

Q. This document purports to be a couple emails. If you'll just look through them, and let me know when you've looked at them enough to know whether you've seen them before and have some familiarity with them.

It's really the bottom email that matters.

MS. FLANAGAN: He's asking have you seen it

before.

THE WITNESS: No.

MR. SPROUL: Q. Do you ever recall hearing that the National Marine Fisheries Service was inquiring about Stanford -- inquiring of Stanford about the relationship between inflow and outflow at Searsville Dam?

Do you recall that as a topic?

MS. FLANAGAN: Is that in this time period, or ever?

MR. SPROUL: Q. Well, let's start with ever.

A. No.

Q. Have you ever discussed with anyone the relationship between inflow and outflow at Searsville Dam?

A. Ever?

Q. Ever.

A. Yes.

Q. And who have you discussed that with?

A. I believe it was Corrine Gray at the Department of Fish and Wildlife, and I don't remember if Gary Stern may have been on that phone call -- he could well have been -- where we discussed that.

Q. Do you recall roughly when that was?

A. Yes, a few months ago.

Q. Were they asking you for a water balance -- a water balance model for Searsville?

A. Yes. We called it a water budget. Same thing.

Q. And have you done a water budget before for Searsville?

A. No.

Q. Have you done one anywhere before?

A. Sure.

Q. And what other water bodies have you done a water budget for?

A. Well, not water bodies, but water budgets for flow into our pipe system.

In our potable water system, for example, we know how much water we buy from San Francisco and how much water we deliver to customers, so that's another form of water budget. It's just a pipe system instead of a water body.

Q. But you haven't personally done a water budget for a freestanding water body before?

A. I have not.

Q. Do you know if anyone at Stanford has done a water budget for a freestanding water body?

A. I don't.

Q. Do you know why the resource agencies -- can I say resource agencies, rather than --

A. Right.

Q. -- why the resources agencies were interested in a water budget for Searsville?

MS. FLANAGAN: Do you know why?

THE WITNESS: No.

MR. SPROUL: Q. They didn't express to you or in this conversation anything that you recall about what use they would make of a water budget for Searsville?

A. No.

Q. A water budget for Searsville would include the amount of water that flows into Searsville from the various upstream creeks as one component, yes?

A. Yes.

Q. It would also include the amount of water that exits the reservoir via any egressing creeks or waterways, yes?

A. Yes.

Q. And it would include any amount of water that evaporates from Searsville Lake, yes?

A. Yes.

Q. Any water, I guess -- similarly, but is removed by plants through evapotranspiration?

A. Yes.

Q. It would include any water removed by subsurface percolation into the ground?

A. Yes.

Q. And then any water removed by water diversion, actual act of pumping out of the water, or gravity flow out of the lake, yes?

A. Yes.

Q. Of all those factors that we just listed, have you analyzed any of them to the point where you would have a good personal opinion, or a personal opinion that you would say is reliable, on what's happening with respect to any of those parameters that would go into a water balance?

MS. FLANAGAN: I'm going to object to the question. It's vague and ambiguous in terms of what is it you're -- you mean in terms of anything that's happening.

Is it the amount in a given year, or what?

MR. SPROUL: Q. All right, we can frame it a little more.

So you haven't done a water balance, yes.

A. Correct.

Q. There are lots of things that would go into a water balance, yes?

A. Yes.

Q. Foundational question: Have you done any of the things that would go into a water balance, or just

not worked on that at all?

A. We have worked on some components of that.

Q. What are the components of that that you have worked on?

A. Well, the measurement of rate of spill over the dam, and the diversion amounts.

Q. Anything else, or is that the only data that would go into a water balance?

A. We do have creek flow gauges on the upstream tributary creeks. Corte Madera Creek's gauge has been there for a few years so we have some data collected on that one, but not the other creeks.

And that's it.

Q. You've made no attempt to estimate evaporation from the lake?

A. No.

Q. And no attempt to estimate subsurface percolation of water stored in the reservoir.

A. No.

Q. Do you have any sense of the subsurface geology from the lake, whether it's characterized by bedrock on one hand versus alluvial deposition down to depth at the other end of the spectrum, any sense of that?

A. Yes.

Q. And that would affect subsurface percolation,

would it not?

A. Yes.

Q. And what's your sense of the what the substrate underneath Searsville Reservoir is, from the work you've done?

A. It's bedrock.

Q. Which would tend to slow down subsurface percolation as a factor of loss in a water budget.

A. Yes.

Q. Do you know whether Stanford is -- has current plans to development a water budget for Searsville?

A. Yes.

Q. Is Stanford going to do that?

A. Yes.

Q. And is there a deadline for doing that?

A. We have a commitment, self-imposed, to start that process with this coming rainy season, assuming we have one.

Q. Let us hope.

A. Yeah.

Q. Who's going to do the water budget?

A. We have consultants who will assist us with that effort.

Q. Is that URS?

A. Primarily Balance Hydrologics, who is a

sub consultant to URS for the Searsville study, but Balance will be primarily involved with us on the water budget.

They work with us directly, contract with us directly.

Q. Do you have a sense of how long it will take to complete the water budget analysis?

A. We're going to collect the data for it starting with this coming rainy season, and, hopefully, we'll gather enough data to get a good handle on it.

We'll compile all our data, share it with agencies this coming spring or summer, and then decide what data we collect the following year to supplement the water budgeting effort for the next year.

Q. I just want to direct your attention back to Bates page 5090, and ask this question: Do you know Amanda Morrison?

A. Yes.

Q. And who is Amanda Morrison?

A. She's a staff person at the National Marine Fisheries Service.

Q. And how have your dealings been with Ms. Morrison?

A. Sorry?

Q. How have your dealings been with Ms. Morrison?

MS. FLANAGAN: I'm going to object to the question as vague and ambiguous as to what you mean by "How have they been." Content or cordial or what?

MR. SPROUL: Q. Is she easy to work with, in your opinion?

A. Yes.

Q. So she notes that, "Really all we are trying to say is that the water levels in the reservoir are mainly dependent upon inflow and that evaporation and water loss in the surrounding aquifer is not significant."

Let me just stop there.

Have you heard that statement before? And, if so, do you have an opinion about it?

A. I haven't seen this email, so I can't say I've seen this statement before.

Q. Not this particular one, but something to that effect. Have you seen or heard somebody say that, and if you did, when they said that, did you have an opinion about it?

A. I've heard discussion about the main inflow to Searsville Reservoir being the creek inflow and the percolation losses being very low. I don't know that anybody has quantified evaporation yet.

Q. And then the next paragraph, "During the period between mid-April and mid-June of most years, reservoir

inflow from Corte Madera Creek drops off and the water surface elevation in Searsville Reservoir drops below the crest of the spillway."

Is that a true statement, in your experience?

A. Generally, yes.

Q. And, "At this point water passing down the spillway from the reservoir to lower Corte Madera Creek ceases."

Is that so? A true statement, in your experience?

A. Yes.

Q. "Reservoir outflow is highly correlated within flow rates, but daily stream flow measurements are not available to present this relationship."

Now, is that still true, or has gauging improved that would -- that would no longer have this be totally accurate? I mean I don't know.

A. We have more creek flow gauges in place now so we're able to know that more definitively than we have in the past.

Q. And when did those new gauges go in?

A. This year.

Q. Was that at URS's direction, the new gauges?

A. No.

Q. At whose direction was it?

A. Mine.

Q. Oh, okay.

Was that your unilateral decision, or was there someone that you consulted with?

A. No, I consulted folks about the water budgeting process, but the decision was mine to activate the installation.

Q. And how many new gauges did you direct that be installed?

A. I think it's three.

Q. And where are they located?

A. The tributary creeks to Searsville.

Dennis Martin, Sausal, Alambique, and I don't know if the one on Bear Creek, which is below Searsville, was a new installation or if we already had a meter there. I don't recall.

Q. So the gauges, they measure flow and CFS?

A. Yes.

Well, they measure parameters which calculate effluence of CFS. They measure depth of --

Q. Water level?

A. Yeah, uh-huh.

Q. Do they record other parameters, like water temperature?

A. Different monitoring stations, as we call them,

measure different parameters. I don't recall which ones measure which parameters, but they all measure flow rate.

Q. And how long have the new gauges been in place?

A. Just a few months.

Q. Do you have any data back yet from them?

A. There hasn't been much flow, so I don't -- I haven't seen a report of flow information from them yet.

Q. Of course, no flow is data.

A. Well, it is. I just don't think they've compiled this year's numbers yet.

Q. And there's a subcontractor or a contractor that's actually handling the physical component of the gauges?

A. Yes.

Q. And who is that?

A. Balance Hydrologics.

Q. And who at Balance Hydrologics is the point of contact for the gauges?

A. Jonathan Owens.

Q. Do you think any additional gauges are needed beyond these three new ones, or do you think this is it for now?

A. I don't know. I'll be reviewing that whole configuration of gauges and comparing that to the data

we want to collect in the next couple weeks.

We're going to meet as soon as we get back from our break in January and review all of that.

Q. And you consulted with others in placing these new gauges. Who were the others that you consulted with?

A. I consulted with the Searsville working group folks, just in general, about the water budget and creek flow monitoring effort. I didn't consult with them about the specifics of what gauges and monitoring go where.

Q. There was no one on the working group who had more detailed knowledge than you had about flow gauging or flow dynamics on the creeks; is that true?

A. Yes.

Q. Okay. So, the bottom of page Bates stamp 5090, "Once the reservoir stops spilling, water diversion, evaporation, and groundwater recharge continue to draw down the reservoir elevation throughout the dry season," does that statement strike you as in anyway controversial?

A. I don't know if it's controversial, but I don't see anything untrue about it.

Q. Next, "Evaporation and recharge rates are unknown, but Freyberg and Kim, 2001, report the

interaction between open water at Searsville and the surrounding aquifer is not significant."

First of all, that's a couple concepts. Let's break it down.

Evaporation and recharge rates are unknown. From what we said earlier, I think your answer to that is yes, am I right?

A. Yes.

Q. Do you know the Freyberg and Kim 2001 report that's referred to here?

A. No.

Q. "And the interaction between open water at Searsville and the surrounding aquifer is not significant," I think that's something you indicated you don't have specific knowledge of, yes?

A. Yes.

Q. And then "Evaporation rates are likely low, but for such a small body of water, the effect is more noticeable," is there anything that would cause to you take issue with that sentence?

A. It's so subjective and indefinite, I wouldn't have any comment about it.

Q. Is that, among other things, because it says evaporation rates are low, with no definition of what low means?

A. Yes, and the term "likely."

Q. Then "Seepage of water from the base and sides of the dam keeping portions of the lower Corte Madera Creek channel wet through the dry season."

Let me stop right there. Is that a true statement, in your experience?

A. Yes.

Q. For example, there's a plunge pool at the base of Searsville Dam that stays wet through the dry season due to seepage from the dam, yes?

A. Yes.

Q. The sentence goes on to say, "But the amount," meaning the amount of the channel, "is very small," the amount of the channel that's wet is very small, "and is inadequate to --

MS. FLANAGAN: Where are you getting "the channel"?

MR. SPROUL: Q. Well, it says, "but the amount is very small."

This is how I'm interpreting it.

I'll back up, just read what it says, and I'll talk about it.

So "Seepage of water from the base and sides of the dam keep portions of the lower Corte Madera Creek channel wet through the dry season, but the amount is

very small and is inadequate to sustain most native fish and other aquatic biota in Corte Madera Creek between the dame and the confluence with Bear Creek."

So, have you ever seen a statement along those lines before?

A. Possibly. Not that I recall specifically.

Q. Have you personally observed the reach of the Corte Madera Creek that is downstream of Searsville Dam?

A. Yes.

Q. Many times?

A. Yes.

Q. In the dry season?

A. Yes.

Q. And, in the dry season, this fall, fall 2013?

A. Yes.

Q. Would you agree that most of the -- that Corte Madera Creek channel was dry during the dry season this year?

A. I don't know if the term "most" is right. I haven't measured the creek to see what the length is of the stretches that are dry compared to those that are wet.

Q. You can't look visually and see like large areas that were dry and a couple little puddles? That wouldn't be something you would use to describe what you

saw?

A. There's a lot of dry stretch of that creek.

Q. And do you have any opinion about whether the statement is accurate that it is inadequate to sustain most native fish and other aquatic biota in Corte Madera Creek between the dam and the confluence of Bear Creek?

A. I don't know about that. I am not a biologist. I'd have to defer to them.

Q. And who you do you think on the working group --

Well, let me ask you this: Is there anyone on the Searsville working group who you think could answer that question whether that statement is accurate?

A. Which part?

Q. Who can answer that -- whether the -- that sentence, that last sentence, just before, 2.30, is -- is accurate, an accurate sentence, "Seepage of water from the base and sides of the dam keep portions of the lower Corte Madera Creek channel wet through the dry sentence, but the amount is very small and is inadequate to sustain most native fish and other aquatic biota in Corte Madera Creek between the dam and the confluence of Bear Creek."

Is there anyone on the Searsville working group that you think would be qualified to answer whether that

question -- that statement that I just read is accurate or not?

A. Yes. Alan Launer, Philippe Cohen and I can speak to the first part, that the seepage rate is low, and Alan Launer would be the best to address the statement about the adequacy or inadequacy of that seepage rate to sustain fish.

Q. And there's no one better than Alan Launer, in your view?

MS. FLANAGAN: On the working group?

MR. SPROUL: Q. On the working group.

A. Correct.

(Lunch break was taken.)

AFTERNOON SESSION

FURTHER EXAMINATION BY MR. SPROUL

MR. SPROUL: Q. So the three new gauges in Dennis, Sausal and Alambique Creek, why, what's the rational for the new gauges?

A. Measuring creek flow coming into the Searsville Reservoir.

Q. Let's see. I got a map and I could look it back up, but, just from memory, do you know which of these creeks flow into Corte Madera Creek, if any, for Searsville Reservoir, or which flow directly into Searsville Reservoir?

A. Corte Madera, Dennis Martin and Alambique all flow into Searsville Reservoir directly. Corte Madera Creek also flows into Searsville Reservoir.

Q. And why did you want to know the inflow from these streams into Searsville Reservoir?

A. It's part of the water budget that we talked about earlier, to quantify the inflows, compare that to the outflows from Searsville Reservoir.

Q. Okay. Are you also measuring sediment bed load or suspended sediment transport at any of these locations where the three new gauges are going in?

A. Sediment estimates will be made. I'm not sure of the details of exactly how that's done.

Q. That's not something you're doing personally.

A. Correct.

(Exhibit No. 9 marked for identification.)

Q. Take a moment to look through it, and let me know when you're ready.

MS. FLANAGAN: You're representing that the document, the pages that follow it, are attached to the email?

MR. COSTA: Yeah. These were from the federal agency as a part of our request, and these were PDF copies. They sent this in electronic files, and this is

one PDF, so we just printed it out and stapled it.

MS. FLANAGAN: Okay. Well, the reason I asked, the dates on the document are after the first email on this chain, and I don't see any attachment here.

I just want to be sure that -- yeah, the dates on that are March 7th but the start of this is March 3rd, so I just want to make sure we've got --

MR. SPROUL: That's how it was given to us.

MR. COSTA: They gave us electronic files and it was emailed with the attachment.

MS. FLANAGAN: So you've seen the electronic version of this yourself?

MR. COSTA: Yeah. We're looking at it right now.

MR. SPROUL: And it's identical.

MR. COSTA: Yes.

MS. FLANAGAN: If you could tell me to which email was this attached, that's what I'm trying to find out, because it wasn't Gary and Tom, so it was -- you see the dates I'm looking at, so there just isn't -- for the Gary to Tom, there is no date.

MR. COSTA: It says Tom, it was -- it was attached to the 3/3/2006.

MS. FLANAGAN: And that's my question, because that says it's March 3rd. If you look at the document,

it's March 7th.

MR. COSTA: I see. Then maybe -- the attached analysis is what was attached to this email. That's why the email is the 7th and the attachment is --

MS. FLANAGAN: The email is the 3rd.

MR. SPROUL: No, no, the top one.

MS. FLANAGAN: Yeah, but down here it says "Could you please look at the attached file."

MR. COSTA: But Tom refers to an attachment as well.

MS. FLANAGAN: I get it, but that's what I'm saying. I'm confused by what is --

MR. COSTA: It must have been what Tom attached, since it's the same date, and it's revised.

MS. FLANAGAN: So you don't have what Gary was asking Tom to look at.

MR. COSTA: No.

MS. FLANAGAN: Okay, and having seen it come off the electronic version, these are attachments to Tom's emails to Gary's.

MR. COSTA: Correct.

Thank you for clarifying that. Appreciate that. Now I understand what you're saying.

THE WITNESS: Go ahead.

MR. SPROUL: Q. So the first page here

purports to be an email message from you, March 7th, 2006, to Gary Stern and others.

Do you recall sending that email message?

A. Yes.

Q. And do you recall having discussions with Mr. Stern and -- I believe this is Dave Johnston, about Stanford revising its bypass flow calculations in this time frame?

A. Could you say that again.

Q. Yeah. Do you recall having conversations with Gary and Dave -- Gary Stern and Dave Johnston -- around this time frame, March 2006 or thereabouts, about Stanford revising its calculations of bypass flows?

A. Yeah, I recall meetings and phone calls with Gary and Dave about the diversion facility's operation.

Q. And is it that the resource agencies were proposing to Stanford that Stanford should increase the amount of water it lets bypass past the San Francisquito pump station and/or the Los Trancos Creek diversion point? They had proposed that to you, is that right?

A. Yes.

Q. And were you the primary person that they contacted to make that proposal to?

A. Yes.

Q. And I take it from this email communication you

weren't happy about this request; is that true?

A. We were in a negotiation about operations and bypass flows, and this is more information in the process of those negotiations.

Q. Well, it indicates that -- what you wrote here is you said "we," and I assume "we" means Stanford University in this context, yes?

A. Yes.

Q. And that "We," Stanford, "are reluctantly willing to revise our proposed operation."

Why reluctantly? Why not enthusiastically?

A. We had biologists who were looking at the creek flow with and without our diversions and the needs of various habitat passage and sustaining flow in the creek. That proposed one set of bypass numbers with a lot of substantiation of why that was appropriate, and the fisheries agencies were not accepting that information and wanted more.

Q. Who were those biologists?

A. That were working for us?

Q. Yes.

A. Bill Carmen, his company name is Carmen, C-a-r-m-e-n, Ecological, and Alan Launer.

Q. Anyone else besides Bill Carmen and Alan Launer working with Stanford in devising what the appropriate

bypass regime should be past these two Stanford diversions?

A. Bill Carmen had some assistance of another biologist -- I'm not recalling that person's name -- working for him.

Q. Between Mr. Carmen and Mr. Launer, was there an equal division of work on this, or was one person really primarily responsible?

A. It wasn't a matter of responsibility, but Alan was working with me on Stanford's behalf, and we retained Bill Carmen as a consultant to do the specific studies in the field.

Q. Do you know whether Mr. Carmen is a fisheries biologist?

A. Yes, he is.

Q. And does he have expertise in anadromous fisheries?

A. I'm not -- I don't know the definition of anadromous, but he does have fisheries expertise.

Q. Anadromous fish in the sense of fish that swim back and forth between the ocean and fresh water is what I meant in that context.

A. Oh, yes.

Q. Then there's a sentence where you say, "We have yielded yet again, in order to reach agreement," so I

take it this was not your first yielding to the agencies.

What was the prior yielding to the agencies you were referring to in that sentence?

A. Previous values of bypass flow.

Q. For these two water diversions in particular?

A. Right.

I'm trying to remember if we were talking about San Francisquito Creek pump station, and looks like we were.

Q. Primarily discussing the Los Trancos?

A. Both are part of the SHEP project. This email below looks like it's referring to San Francisquito Creek specifically.

Q. I see. Okay.

Then in this email at the bottom, when Gary Stern writes to you, "Tom," he indicates, "Looks like I'll be discussing this with Bill, Linda, Dave and Kristine by conference call on Tuesday next week."

Do you know who those individuals are?

A. Yes.

Q. And who are they?

A. Bill Hearn, H-e-a-r-n, works with Gary at National Marine Fisheries Service. Linda Hanson is with the California Department of Fish and Wildlife, and Dave

Johnston also with Fish and Wildlife -- or Fish and Game, not Fish and Wildlife, and Kristine Atkinson, A-t-k-i-n-s-o-n, is with Fish and Game.

Q. Okay.

Then, on to the next page -- the next one after that -- at the top of the page -- sorry, because these aren't Bates-stamped. We got these from the agencies.

Anyway, it's -- at the top it says Stanford's Steelhead Habitat Enhancement Project, Revised Proposed Operations Plan for Modified Facilities.

If you just take a moment to familiarize yourself with this page, and I'll direct you to some specific text.

My first question, and answer it when you're ready, is whether you wrote this.

I note that your initials are at the bottom, or at least what looks like your initials are at the bottom of the page.

A. Yes, looks like the document that I wrote.

Q. And then it says here at the top, "In the interest of getting approval from modifying its diversion facilities, Stanford is willing to revise its proposal for operations of the facilities as follows:" And then there's two paragraphs and it sets out the agreement.

And also, put in parenthesis, what you were backing off of or what you were agreeing to not do, at least that's how I read it.

My question to you is, if you could you just -- let's take paragraph 1, and if you could look through that and let me know, is that a -- is that an accurate description of what Stanford was willing to revise its proposal to at that point?

A. You mean the lettered sub points under Item 1?

Q. Yeah, 1a through e.

Is that all correct, to the best of your knowledge?

A. Yes.

Q. Okay. And in all these changes that are put in parenthesis, were these -- these all came from suggestions from National Marine Fisheries Service or CDFW -- like, for example, 1a, where the attraction flow will be defined as going through October 1st, rather than December 1?

A. Are you saying are the changes that I'm proposing, outside of the parenthetical statements, were from them or --

Q. Yeah, so that -- outside of the parenthetical, it's changed to reflect what NMFS wanted.

A. Yes. Correct.

Q. And the parenthetical is what Stanford had originally proposed.

A. Correct.

Q. And that's true for the rest of this.

A. Yes.

Q. And do you recall the specific rationales for each one of these individual changes?

MS. FLANAGAN: What's the rationale given by the agency?

MR. SPROUL: Q. Yeah, why did the agency want the change.

A. No, I don't recall what their rationale was.

Q. Do you recall Stanford's rationale for being reluctant to make the changes for each one of these changes?

MS. FLANAGAN: Except other than what he's already described?

MR. SPROUL: Q. Yeah.

I mean is there anything more you recall?

Like, for example, 1a, Attraction flow will be defined as forty-eight consecutive hours of 8 CSF flow or greater, and will be effective any time after October 1st."

And that's what NMFS wanted, but Stanford was thinking, "No, we don't have to go to that until

December 1st," two months later.

Do you recall why Stanford thought December 1 was okay?

A. Well, I don't recall that specific date's rationale, but, based on our discussions with Bill Carmen, our biologist, and Alan, we thought that what we had been proposing with a date of December 1, for example, for the attraction flow commencement, was appropriate for fish passage.

They wanted more time; back off the clock earlier.

Q. You just used the term "attraction flow". Does that have meaning to you?

A. Yes.

Q. What does that mean to you?

A. Sustained flow in the creek all the way down to the bay that stimulates fish to migrate upstream.

Q. And the fish that you're stimulating to migrate upstream are steelhead trout, yes?

A. Yes.

Q. And have you heard the term Central California Coast Steelhead?

A. Yes.

Q. Are you aware that that's a species that's been listed by the National Marine Fisheries service as a

specified species under the Endangered Species Act?

A. Yes.

Q. So the intention of these attraction flows that are being referred to in paragraph 1a are to attract Central California Coast Steelhead from San Francisco Bay up into San Francisquito Creek, correct?

A. Yes.

Q. Have you ever personally seen a steelhead in San Francisquito Creek?

A. Not to my knowledge.

Q. And is that because you can't tell whether a fish is a steelhead fish or not?

A. Yes.

Q. Have you heard the term O. Mykiss?

A. Yes.

Q. And that's the scientific name, shortened, for steelhead trout and/or rainbow trout; is that correct?

A. That's my understanding.

Q. And is it also your understanding that O. Mykiss -- excuse me, is it your understanding that rainbow trout and steelhead trout are the same species for scientific classification purposes?

A. You're getting beyond my knowledge of the biology of this.

Q. Okay. The same thing with paragraph 2, just is

there anything about paragraph -- we went through paragraph 1 generally, now onto paragraph 2 generally.

Is there anything in there about the description about what Stanford was willing to do that is not right as of this time frame?

A. Well, it's the state of the discussion and proposal at the time this was written.

Q. Do you know whether this proposal was subsequently modified before the SHEP biological opinion and Incidental Take Statement was finally issued?

A. Yes, I believe it was.

Q. Do you recall in what way it was issued?

A. Are we still in San Francisquito Creek, in Number 2, second paragraph?

Q. Yeah, sure.

A. The diversion restriction in the 34 to 46 CSF range -- the range was changed, and diversions are still restricted in that flow range.

Q. Do you know whether the range was -- which way the range was moved, to be lower or to be bigger?

A. Yeah, I believe it's 34 to 40 CSF, instead of 34 to 46.

Q. Okay. And same thing with paragraph 1, do you know if any of those restrictions or provisions on flow were modified in the final biological opinion/incidental

take statement that was issued for the SHEP?

A. Yes, the minimum bypass is 5 CSF instead of 4 CSF.

Q. And do you know why those two changes were made that you just identified?

A. The agencies wanted that number, 5.

Q. That wasn't a Stanford suggestion, for example?

A. Right.

Q. Was it over Stanford's opposition?

A. Well, we obviously didn't oppose it, we agreed to it eventually, but it wasn't our initial proposal.

Q. You recommended against that change, but, in the end, the change was made and you didn't then further oppose it; is that fair?

A. Correct.

Q. Okay. The second full paragraph is all the way out on the left margin, starts out "As indicated in the Analysis Update, diversion is reduced significantly (about 39 acre-feet) for water year 2004 by the above bypass regime."

Do you recall coming to that conclusion?

A. Yes.

Q. And why is a 39 acre-feet reduction in bypass regime significant?

A. It affects the amount of water we have obtained

from the creek to use for our lake water needs -- lake water system needs.

Q. When I saw that "significant", I was kind of thinking, you know, like, well, placed in context, or placed in scale. That's kind of where my mind went.

Is that where your mind goes with that, or does your mind go somewhere else?

MS. FLANAGAN: Could you clarify what your reference point is?

MR. SPROUL: Q. Well, it says -- yeah, it says, "The diversions that are required by the above discussion add up to about 39 acre-feet of loss of water diverted," yes?

A. Yes.

Q. "For water year 2004."

A. Correct.

Q. And it characterizes that as significant.

And I asked -- my question is, why? Why is that significant?

You said, well, it's less water for the system.

Well, yeah, two thimblefuls would be less water for the system, a million gallons would be less water for the system. I mean some sense of scale, why is that a significant number?

A. Well, relative to a couple hundred acre-feet,

that's a significant percentage. Relative to thousands of acre-feet, it would not be significant.

That's my intent in the use of the word "significant" there.

Q. Do you have any overall chart or table that shows the amount of acre-feet of water that Stanford acquires through its various diversion activities?

And to help you answer that question, I'm going to give you a map of your water diversion structure, at least the best map that I have, and let me know when you've had a chance to look it over.

(Exhibit No. 10 marked for identification.)

(Document reviewed by witness.)

A. I have.

Can you repeat the question?

Q. Yeah. Is this -- actually, there wasn't a question. There will be one now.

A. Okay.

Q. Is this a document that you wrote?

A. I initiated the document. I didn't draft it.

Q. I see. Because I see in the naming convention for the document your initials appear, TWZ.

A. Yes.

Q. Who did you direct prepare this document?

A. J. Marianowitz.

Q. And who is that?

A. Do you want me to spell it?

M-a-r-i-a-n-o-w-i-t-z.

He is a drafter in our maps and records department.

Q. Okay. And is this -- this is more of a schematic diagram than a map, correct?

A. Yes.

Q. And it's not drawn to scale.

A. Correct.

Q. But does it, otherwise, accurately depict all of Stanford University's lake water sources?

A. Yes.

Q. Is there any other source of water diverted from local sources that Stanford acquires other than what is shown on this map?

A. No.

Q. Does Stanford have any groundwater pumping wells that are not shown on this map?

A. Well, off to the right of the map is a line with a circle labeled "wells," and that's intended to diagrammatically represent our groundwater wells.

Q. All of them in collection?

A. Yes, uh-huh.

Q. In collection.

A. Yeah.

Q. And how many groundwater wells are there? How many groundwater wells does Stanford have?

A. Five.

Q. And where are those located?

A. Four of them are located generally near Sand Hill Road on the west part of campus, and the fifth well is located near Bonair Siding, B-o-n-a-i-r, and Pampus Lane.

Q. Do any of these monitoring wells have any potential -- have any potential to draw water -- or groundwater from the aquifers that either feed or recharge by flows in Los Trancos Creek, San Francisquito Creek, the tributaries up above Searsville Reservoir and Bear Creek?

A. Our groundwater wells tap an aquifer -- aquifers hundreds of feet below the ground surface in the campus vicinity. The creek system -- San Francisquito Creek primarily, being the biggest creek in the watershed -- along with rainfall, all of the land recharge that groundwater supply.

Q. So, as far as you're aware, there's no hydrologic interconnectivity between the groundwater extraction wells and flows in any of the creeks in the

San Francisquito Creek watershed?

A. Correct.

Q. So the -- the schematic map gives elevation for Felt Reservoir and Searsville Reservoir, and the Felt Reservoir is being shown as a higher elevation than Searsville Reservoir.

Is that accurate?

A. Yes.

Q. So water that's diverted from Searsville Reservoir is occasionally transferred to the Felt Reservoir by being pumped uphill from the Searsville Booster Pump Station; is that correct?

A. Yes.

Q. Is water ever pumped in the other direction from Felt Reservoir into Searsville Reservoir?

A. No.

Q. And the -- Lagunita structure, that's known as Lagunita Dam; is that correct?

A. Which? Can you show on the --

Q. There's a bubble -- there's a little blue bubble that says Lagunita.

MS. FLANAGAN: It's not colored on the document you gave him.

MR. SPROUL: Q. Oh, all right. Sorry.

A. It's on the right side of the figure?

MS. FLANAGAN: There are two Lagunita facilities, that's why he's asking.

MR. SPROUL: Q. The oval that's right near the word "campus", it says "Lagunita."

That's Lake Lagunita, yes?

A. Yes.

Q. And then there's a dam there that's generally referred to as the Lagunita Dam; is that right?

A. Yes.

Q. And water -- the source of water into Lagunita Dam is water that is diverted from Los Trancos Creek; is that correct?

A. No.

Q. Oh, is it -- now it's water that's diverted from -- at the San Francisquito Creek pump station and pumped to the Lagunita -- Lake Lagunita; is that right?

A. That's one source of its water, yes.

Q. And the other source would be water that's pumped from the Searsville Booster Pump Station into Lake Lagunita.

A. No. The main source of water to Lagunita is runoff from the foothills.

Q. Water can be pumped to Lake Lagunita from the Searsville Booster Pump Station, right, the schematic?

A. Yes.

Q. It's -- that just doesn't happen very often?

A. Correct.

Q. And the schematic says that the capacity for the Los Trancos Creek diversion facility is 40 CSF and -- is that right?

A. Yes.

Q. So that the Los Trancos Creek diversion facility can divert up to 40 CSF into Felt Reservoir; is that right?

A. Correct.

Q. And is that a gravity-fed system, or is there pumping involved?

A. Gravity.

Q. And the San Francisquito Creek pump station consists of two separate pumps, one the Felt pump, the second the Lagunita pump; is that correct?

A. Yes.

Q. And the Felt pumps pump water to the Felt Reservoir, yes?

A. Yes.

Q. And the Lagunita pumps pump water into Lake Lagunita?

A. Yes.

MS. FLANAGAN: You're talking about currently?

MR. SPROUL: Q. Currently, yeah.

I mean the diagram shows that. I mean all of this -- I'm assuming is information is still current, but let me back up.

Is this information that's shown on this map that we are discussing still current?

A. Yes.

MS. FLANAGAN: My reference was to -- there are two Lagunitas on this schematic, so there's a Lagunita diversion that's not in service.

So that's what I was asking.

MR. SPROUL: Q. Right, okay.

We'll get to the second Lagunita.

Right now all the questions I've asked you have been about Lake Lagunita and the dam that's associated with it.

We have a common understanding what that is, yes?

A. Yes.

Q. Okay. When I refer to the other Lagunita, I'll call it the Lagunita diversion facility.

A. Okay.

Q. Or the Lagunita diversion dam, if that's okay with you.

A. Yes, okay.

Q. Earlier you gave us some charts about what --

the volumes of water diverted from Searsville Reservoir into the Stanford water distribution system, and my memory is that the data showed about 450 acre-feet as the median roughly.

Is that your memory as well?

MS. FLANAGAN: You can get out the chart if he's going to ask you about it.

Do you recall which one it was? Is it the first one?

MR. SPROUL: Yeah, I think it's the first one.

MS. FLANAGAN: It was the overflow --

MR. SPROUL: No, there was one right after that. What number was that?

That one.

MS. FLANAGAN: When you talked about the median, it was Table 1.

MR. SPROUL: Yeah, Table 1, but was there a second page to this?

MS. FLANAGAN: No.

MR. SPROUL: Okay. No, you're right.

So Exhibit 1 was -- okay.

So in Exhibit 1, we're all in agreement that the median shown in the data on Exhibit 1 is about 450 acre-feet.

MS. FLANAGAN: Why do you keep saying 450? It

says over 400.

MR. SPROUL: Okay. I was thinking of something else. That's fine. It's not that significant.

BY MR. SPROUL:

Q. 400 acre-feet, so -- does that -- that's from all the -- your years of working on Searsville Reservoir, that sounds about right, the median is about 400 acre-feet of water diverted from Searsville Reservoir?

MS. FLANAGAN: Just a clarification: Are you asking him to update that to current, because this was 2009, Table 1.

MR. SPROUL: Right, there's a data set.

MS. FLANAGAN: I'm just asking, are you asking him to say currently, or as of 2009?

MR. SPROUL: Q. Well, would you agree that currently Stanford diverts -- if you look at -- over the years in the median range of 400 acre-feet from Searsville Reservoir?

A. Historically, that would be the median, yes.

Q. So do you have any sense about what the median in annual acre-feet diversion is from the Los Trancos Creek diversion facility?

A. No, I haven't compiled that data and done that analysis.

Q. Has anyone at Stanford done that analysis?

A. Not that I'm aware of.

Q. Do you know what the median acre-feet per year diversion is for the San Francisquito Creek pump station?

A. No.

Q. Or the amount of acre-feet per year, median acre-feet per year, diverted into Lake Lagunita?

A. No, I haven't compiled that data.

Q. Has anyone suggested to you that Stanford should compile that information?

A. Not 'til today.

Q. Do you have any knowledge about the total amount of acre-feet per year that Stanford diverts as a whole, all of its water in its lake water sources?

A. No.

Q. Do you have any data on how much groundwater Stanford extracts as a long-term yearly median?

A. No.

Q. And, again, no one has suggested to you that Stanford should compile information on its long-term extraction of groundwater from its groundwater wells?

A. Yes.

I'm working with my management and staff to put together a long-term plan for Stanford's water supply,

so we are in the process of compiling data like that and putting that kind of information together, but we haven't completed it yet, so I don't have the numbers.

Q. So that the work that you're doing, when did it commence?

A. Within the last couple years.

Q. And at whose urging did it commence?

A. Joe Stagner, my supervisor.

Q. And did he tell why he needed it?

A. Yes.

Q. And what was that reason?

A. To help formulate a single water management plan for Stanford long-term.

Q. And how long do you think it will take to complete this long-term Sustainable Water Management Plan?

A. Another year or two.

Q. And how long to complete the data input portion of it? When I say the data input portion, I mean the -- this is how much water we get from the lake water source in total and here's how much water we get from each one of the components of our lake water source.

A. That will happen during that same time period.

Q. So roughly a year or two?

A. Uh-huh.

Q. Did Mr. Stagner give you any kind of written memo outlining what the objectives were of the Sustainable Water Management Plan?

A. Not that I recall.

Q. Have you seen any other write-ups describing what the goals are of the Sustainable Water Management Plan?

A. Seen any -- would you repeat that?

Q. Any write-ups, any memos or anything else written saying -- describing here's what the goals are of the Sustainable Water Management Plan.

A. Yes.

Q. And when did you see writings like that?

A. Over the last two or three years, as we've had discussions about the Sustainable Water Management Plan planning, we've sent each other emails and notes and thoughts about what comprised that plan.

Q. And who's the "we" in that sentence? "We" have sent each other emails?

A. Primarily me, Joe Stagner -- I'm trying to think of who was involved.

I'm drawing a blank on who else may have written documents. I note back on this map, which is Exhibit 10, there's a structure known as -- or identified as the Lagunita Diversion Facility and Fish

Ladder, and it says it's not in service.

Are you familiar with that facility?

A. Yes.

Q. And is it, in fact, an abandoned former dam?

MS. FLANAGAN: As distinct from a diversion facility are you asking?

MR. SPROUL: Q. Well, is it an abandoned former dam? Would you describe it that way?

A. It is an existing dam.

Q. That's abandoned?

A. I don't know what you mean by "abandoned".

Q. Does Stanford currently use it for any purpose?

A. No.

Q. Does anyone else use it for any reason?

A. No.

Q. Do you know how long it's been in place?

A. No.

Q. And are you aware that Stanford has had discussions with California Department of Fish and Wildlife about moving or modifying this -- the Lagunita diversion dam over time?

A. Yes.

Q. You exchanged some written communications with the agencies about that, didn't you?

A. Yes.

Q. Can you tell me what the current status is of the Lagunita diversion facility?

Is it any different today than it was, say, a year ago?

A. No.

Q. Has it been changed at all over the time you have lived here -- that you have worked here?

A. Yes.

Q. And when was the last time it was changed?

A. I believe it was 2006.

Q. And, in 2006, there were modifications made to the diversion dam to add a -- to modify a fish ladder that was on the diversion dam; is that correct?

A. Yes.

Q. Were there any other modifications made to it?

A. No.

Q. Who made the modifications?

A. You mean the contractor or manager of the project?

Q. Was the -- were the modifications to the fish ladder made by a contractor hired by Stanford?

A. Yes.

Q. And that was the last time that the facility has been modified, yes?

A. Correct.

(Exhibit No. 11 marked for identification.)

Q. Please take a moment to read through that and familiarize yourself with the letter.

MS. FLANAGAN: Do you want him to actually read it, or just be able to identify if he wrote it?

MR. SPROUL: Just skim through it. Obviously, if you read it word-for-word, we'd be here for a while.

Just -- if you've had a chance to kind of thumb through the six pages and familiarize yourself a bit with the document, we'll direct you to particular lines.

(Document reviewed by witness.)

A. Okay.

Q. Is this a copy of a letter that you personally wrote on November 28th, 2005, to Gary Stern and Bill Hearn?

A. Yes.

Q. And do you recall what the occasion was for you writing this letter?

A. Well, generally it's in the progression of discussions we had with agencies about a SHEP, which stands for Steelhead Habitat Enhancement Project.

Q. I want to direct your attention to the second to the last sentence in the first paragraph.

"As we've discussed, Stanford's Los Trancos and

San Francisquito Creek water diversions are critical to the academic institution's facilities and operations, and serve as a potential emergency and long-term potential potable supply for Stanford and the surrounding community."

First of all, I want to say, do you have any -- do you have a calculation of what Stanford's median water usage is in total?

A. Yes.

Q. And do you have it memorized, what that figure is, roughly?

A. Yes. It's been -- our total water demand has been decreasing. It's currently about 2.1 million gallons per day, and our non-potable water use is approximately one million gallons per day, overall average.

Q. And in terms of non-potable water source, is there any other non-potable water source besides the lake system that we were looking at on Exhibit 10?

A. No.

Q. So you think that, in aggregate, Stanford gets about one million gallons a day as a long-term average, or long-term median, from the non-potable water sources listed on Exhibit 10?

A. Yes.

Q. Is all of the water on Exhibit 10 non-potable? I should say, more accurately, are all the sources of water listed on Exhibit 10 non-potable sources of water?

A. No.

Q. Which ones of them are potable?

A. The wells.

Q. You have no idea of the breakdown, how much of the non -- how much of the water that is on Exhibit 10 comes from wells versus the other sources on Exhibit 10, right?

A. I don't.

Q. But when you told me 2.1 million gallons of potable water and one million gallons a day of non-potable water, were you including the well water in the one million gallon a day figure or the 2.1 million gallon a day figure?

A. The one million gallon a day.

Q. And the non-potable water that you referred to, it doesn't include any purple pipe water and -- does the term "purple pipe" have any meaning to you?

A. Yes.

Q. What are purple pipes?

A. Purple pipe is used for what we call recycled water, that is waste water that has been treated and has

been subsequently re-used.

Q. Does Stanford -- is any of Stanford's water sourced from purple pipes?

A. Yes.

Q. How much of Stanford's daily water use comes from recycled or reclaimed purple pipe water?

A. Approximately 10,000 gallons per day.

Q. So, as an overall percentage, it's essentially miniscule, correct?

A. Correct.

Q. The 2.2 million gallons a day of potable water, where does that come from?

A. We buy that water from San Francisco Public Utilities Commission, part of the Regional Hetch Hetchy Water System.

Q. Any other source of potable water besides water purchased from SFPUC?

A. No. Well, our wells are an emergency backup potable water supply, but not normally used.

Q. Okay. So when you said that Stanford's Los Trancos and San Francisquito Creek water diversions are critical to the academic institution's facilities and operations, what did you mean by that?

A. We have athletic fields, recreational activities for our student population and teams that use

irrigated play fields for those sports and activities.

We have general campus landscaping that benefits from irrigation from our non-potable system. We also have non-potable water used for supplementing water in Lagunita for the benefit of California tiger salamander, so those are examples of the facilities and operations that benefit from that supply.

Q. How much water in terms of MGD does Stanford devote as a long-term average or median to Tiger Salamander habitat enhancement?

A. It's a very small proportion of that amount. I don't have a figure of what that would be.

Q. Do you know who would know?

A. No. We'd have to go to our meter data to gather that information.

Q. That isn't data that you or your department has been tracking and separately keeping log of.

A. Yes, we have that log in our department. I just don't have knowledge of what those numbers are.

Q. I see.

So if I were to ask you right now, let's leave the room and go to your office, you could show me the log, "Here it is, this is how much Tiger Salamander water there is"?

A. With the help of my staff, yes.

Q. Okay, we won't do that right now. Maybe later.

A. Okay.

Q. Is Stanford currently looking into making any portion of the lake water that we've discussed earlier potable, using it for drinking water?

A. We're not currently looking at that, no.

Q. Do you have any opinion about whether that's feasible?

A. Yes.

Q. What's your opinion?

A. It's feasible.

Q. And can you explain why you think it's feasible?

A. Yes, surface water supplies for municipal water potable water supply is a very common function.

Q. I've read in lots of places that the water that came out of Searsville Reservoir -- or comes out of Searsville Reservoir has never been used for potable water because very early on it was discovered it was high in sulfur content.

Have you read that as well?

A. Not that particular fact, but I've heard the general statement that Searsville water was not used for potable water supply.

Q. Okay. You don't have any information that would contradict that it's never been used for potable

water supply?

A. No, that's too many negatives. Try again.

MR. SPROUL: Q. You don't have any information that would suggest it's ever been used as a potable water supply source.

A. Correct.

Q. Of the one million gallons a day non-potable water that you identified, what percentage of that is used for landscape irrigation?

A. What do you mean by "landscape"?

Q. Well --

A. As opposed to irrigation in general?

Q. Well, okay.

How about just to irrigate plants on Stanford's property?

A. Probably 99 percent.

Q. And one of those facilities that Stanford uses this water diverted into its lake system is to irrigate a golf course; is that correct?

A. Portions of the golf course, yes.

Q. What percentage of the golf course?

A. I don't have a percentage of the golf course acreage, but it irrigates the fairways.

Q. And there's some other portion of the golf course that's irrigated from some other source?

A. No, it's not irrigated at all.

Q. I see. To the extent it gets irrigation, it all comes from the lake system?

A. Correct.

Q. The non-potable water is also used to irrigate a football field?

A. Yes.

Q. Has Stanford made any efforts to plant plants that are native and use less water on campus?

A. Yes.

Q. Are you personally involved in that?

A. No.

Q. Who is involved in that?

A. Our planning department that helps design landscape as part of the architectural development of the campus, and our grounds department.

Q. I see.

Earlier you made reference to a Sustainable Water Management Plan, and do you know whether, as part of that Sustainable Water Management Plan, there's going to be an attempt for Stanford to bring people with different expertise together and, for example, try to match water with water conservation and alterations in landscaping?

A. Yes.

Q. So at the end of your paragraph, first paragraph back on the letter, November 28th letter, you state that the flow regime proposed by Stanford fully protects and enhances habitat conditions for steelhead in San Francisquito and Los Trancos Creeks based on the best and most current available information concerning steelhead habitat in the creeks.

What -- do you recall what best available information concerning steelhead habitat you were referring to?

A. Yes.

Q. What was that?

A. Information provided by Bill Carmen, our fisheries biologist. That information included measurements of creek flow, width and depth, as well as photos, and even video of steelhead swimming -- moving in the creek.

Q. Did Mr. Carmen show you any of those photos or video?

A. Yes.

Q. Do you still have those in your file?

A. Possibly.

Q. So the next page, please, in the first statement, "The best available scientific information from several years of biological and hydrologic surveys

indicates that a healthy steelhead population currently exists in Los Trancos Creek, both above and below Stanford's diversion facilities."

Do you recall writing that statement?

A. Yes.

Q. Do you have any reason to doubt that that statement is still true today?

A. No.

Q. Do you recall what -- what was the best available scientific information you were referring to in that Item number 1?

A. Not specifically, but generally it's from information provided by Alan Launer, and his observations and surveys and -- over the time he's been at Stanford.

Q. Okay. And the next paragraph, "Professional biological conclusions," whose conclusions were you referring to in that next paragraph?

A. Alan Launer and Bill Carmen.

Q. Okay. Here, "that steelhead habitat conditions have improved since the installation of the Los Trancos fish ladder in 1995 and operational changes at Stanford has made since that time."

First off, what information did you have to support this statement that steelhead habitat conditions

have improved since the installation of the Los Trancos fish ladder?

A. This is a statement that I got in discussions with Alan Launer and Bill Carmen. I don't know what specific biological basis they had for that conclusion.

Q. Did they say anything about how fish -- steelhead used to be blocked by -- they couldn't get by this fish ladder, now it's fixed, and now that they can get by it, now there's more steelhead because there's more area for them to spawn and grow in? Nothing like that?

A. Sorry, what's your question?

Q. You said -- I was just saying -- looks like they had biological conclusions that habitat conditions for steelhead have improved since the installation of the ladder.

My question is, well, what conclusions, how or why? And you answered and said, well, it seemed a little vague.

Did they say something like, well, yeah, with the improvement in the fish ladder, now steelhead can swim by the fish ladder and that's opening up more area to them more of the time, and that's a good thing, something like that?

A. Something like that, yeah. General statements

like that. They were their conclusions.

Q. Okay, fair enough.

"And operational changes that Stanford has made since that time," do you know what is being referred to there, I mean what you meant when you wrote that?

A. Yes. In 1995, an Alaskan steep pass fish ladder was installed at the Los Trancos diversion facility.

The operational changes were that flow was directed down that ladder instead of just over the dam or into our flume, so there was a third route for water flow that facilitated fish passage.

Q. Okay, thank you.

So then the last paragraph, 4, "This project is extremely expensive for Stanford."

Why did you write that?

A. The context of these four bullets is a paragraph that starts on page one expressing Stanford and the agency's desire to do the water supply diverting differently and these four points get at the key reasons that's important, balancing water supply needs with fish passage and steelhead in the creek.

So the statement about the project and its expense has to do with recognizing that there is a cost not only in water supply, because we may be diverting

less than we did because of this operation, but also it costs a lot of money to build a project like this, so it's just recognition of all the aspects of the project for us and the agencies to recognize.

Q. When you say -- do you recall making any cost estimates? Did you have any specific numbers in mind when you wrote this paragraph?

A. Yes, we were engineering the modifications to the Los Trancos and San Francisquito Creek diversion facilities as we were discussing their operation with the agencies.

Q. And do you have a sense of what they were? Do you recall ballpark figures, like how much did it cost to modify the Los Trancos diversion, how much did it cost to modify the San Francisquito pump station?

A. Each project was about one and a half million dollars.

Q. And then you say, "including greatly increased pumping costs."

Has Stanford, in fact, experienced greatly increased pumping costs as a result of these modifications to Los Trancos and San Francisquito Creek pump station?

A. Yes.

Q. And do you have a sense of the magnitude of

those increased pumping costs?

A. I don't have a figure in mind of dollars per year. It's quite variable, so I'd have to go back and look at records about that.

The statement can be made because now, instead of the gravity diversion at Los Trancos, we are now pumping water into San Francisquito so that water is now requiring pumping that didn't need pumping before.

Q. And that's an added cost?

A. Yes.

Q. And then you conclude, "This can only be justified if all the components are approved together and operated so that the annual average diversions are not further decreased."

Are you saying there that, look, if you decrease our diversions any further, that's money out of our pocket and -- that, you know, in essence, revenue to us that's lost that we used to offset the cost of this project.

Is that what you meant by that?

A. Yes. We were looking at the significant construction and annual operating costs resulting from these changes in these facilities, and realizing that the water we would be getting from future diversions was getting more and more expensive because of the need to

capitalize that construction cost and increase operating budgets to include the pumping, so the point is, at some point we need to make sure we're not bypassing so much water and decreasing diversions so much that that cost is no longer justified and I can't do a project at all, and that's the point that I wanted recognized in making that statement.

Q. The 2.1 million gallons a day of potable water you buy from SFPUC, is that -- how is that purchased? Is it -- what sort of arrangement? Is it bought per gallon, is it by lot, is bought by subscription?

A. We are a wholesale customer of SFPUC and we pay for the water on a use basis. It's a unit rate of dollars per thousand gallons, along with charges for the meters that they have that measure the amount of water that we're using.

I don't recall, I think that bill is a monthly bill.

Q. So does that translate, in your mind, into a certain dollar amount per increment of water?

A. Yes.

Q. And like -- do you have, say, a cost break a foot, for example, in your mind?

A. Well, for the potable water that you're talking about, the SFPUC water?

Q. Uh-huh.

A. Yes. I don't know what the dollar figure is on a per gallon or per thousand gallon basis right now, but we do have that.

Q. That's something you do track?

A. Yes.

Q. Have you compared the cost to -- of SFPUC water to the cost of non-potable water?

A. Some time ago I did, yes.

Q. How did it compare?

A. SFPUC water is a lot more expensive.

Q. Like 10,000 times more expensive, 1.2 times more expensive?

A. Less and less all the time, as their rates go up. I don't know about the factor --

Q. Do you get any special pricing from SFPUC, given your status as a nonprofit university?

A. No.

Q. Will this be part of your Sustainable Water Management Plan analysis for your cost comparisons between potable and non-potable sources of water?

A. Yes.

Q. You haven't done that work yet?

A. Correct.

Q. Have you ever done any analysis of the

percentage of the flow in any of the creeks that Stanford diverts from that Stanford is diverting?

Does that question make sense?

A. No. Say that again.

Q. Okay. Flow and water, A; diversion, B; water left in -- water after -- water left in A, water after B diversion, A minus B equals C.

Does that help?

A. I'm still not --

MS. FLANAGAN: Yeah.

THE WITNESS: You lost me.

MR. SPROUL: I'll try again.

MS. FLANAGAN: Why don't you ask the bottom line question and then we can ask for clarification if we need it.

MR. SPROUL: Q. Do you know -- have you ever done any calculations of how much of the total flow in the creek -- in any of the creeks that we're talking about today does Stanford take, what percentage of the water?

A. Very roughly, yes.

Q. And when did you do that?

A. Saw some -- or discussed some, I don't even think I even saw some figures -- but discussed some rough numbers a few years ago, but the numbers are very

highly variable, obviously.

Q. You did this yourself a few years ago?

A. No, it was in discussions. I remember talking about it with Balance Hydrologics, who does a lot of our creek management.

Q. Do you remember who at Balance Hydrologics you were discussing it with?

A. Jonathan Owens. Actually, I think his name is Owen. I maybe said that plural before.

Q. And did Mr. Owens do a calculation of what percent of the creek flow is being taken by Stanford diversion?

A. No, I think he was describing -- I remember discussing roughly the flow going through the San Francisquito Creek system. He doesn't know how much we divert so he wouldn't be able to do a proportioned calculation, but I remember thinking about that on my own, based on, you know, some rough ideas of how much we divert compared to that, you might say, watershed volumes.

It's tens of thousands of acre-feet in San Francisquito Creek, and we might divert, overall average, 500 to 1,000 acre-feet. It's, in my mind, a small amount of the total systems flow, but, again, that's a highly variable number, and we haven't done

statistical analysis of medians or averages.

Q. Have you thought about doing that?

A. Yeah, but I don't think it's a very significant piece of information.

Q. And why is it not significant?

A. It would be more in the context of environmental aesthetic issues, which would be maybe interesting to those folks to know how much the creek system conveys from the standpoint of fisheries and other habitat concerns.

Q. They're not particularly relevant to you in your task?

A. Correct.

Well, sure, I would be interested in making sure that we're sensitive to those needs.

Q. Well, back to the November 28th, 2005, letter that we've been looking at, further down on the page --

A. Two?

Q. Page two, there's a discussion about how much Stanford can divert from Los Trancos Creek and coupled with how much flow will be left in Los Trancos Creek, and this seems to be key to the question that you are writing to the agencies about is how I read this.

Did you not see that as --

MS. FLANAGAN: Where exactly are you?

MR. SPROUL: Q. Further down the page --
A. Okay.
Q. Requested clarification. Requested clarification.
So there's the text that says, "For example," and there's lots of text and it kind of gets a little repetitive -- this text says, "These values indicate when there is up to 12 CSF in the creek above the pump station, Stanford could divert all creek flow above 5 CSF, leaving the creek flow up to 5 CSF as a bypass flow."
A. Yes.
Q. So it seems like when you were writing this, you're writing to an audience that very much has in mind, well, before we are going to authorize or approve diversion from Stanford, we want to know how much water is going to be left in the creek, so we're going to -- to do that, we need to do two things: We need to see how much flow is there in the creek total and then we track out Stanford's diversion, and what's left over is the bypass flow for the fish.
That's how I read your text is the discussion being about.
Yes?
A. Yes.

Q. And so my question is, is Stanford doing that now with its -- with Searsville, for example?

Is Searsville -- is Stanford looking at Searsville and saying "We divert X CSF. There is X plus Y CSF in the creek without our diversion. Once we take out our diversion, this is how much is left."

From what I heard you say earlier, Stanford doesn't know that about Corte Madera Creek, hasn't done that calculation, doesn't know it.

MS. FLANAGAN: Could I ask for clarification?

I thought you were talking about flow rates at a given point in time, but now you seem to be talking about total volume, so have you switched, because that paragraph is talking about flow rates.

MR. SPROUL: I said flow. I'm talking about flow.

MS. FLANAGAN: But I thought you were saying then to take the total amount out and what's left. That's different than flow.

That's the confusion. If you just clarify it.

MR. SPROUL: I think that's an attempt to obfuscate the question. But, sure, I --

MS. FLANAGAN: I think you obfuscated the question quite fine on your own. I'm trying to clarify it.

MR. SPROUL: And interrupt the answer, sure.

MS. FLANAGAN: He hadn't even started his question. I'm trying to get clarity on the question, your terms.

Flow rates are different than the total volume of water that flows to the creek, okay.

I just want clarity. Which are you talking about?

MR. SPROUL: Q. Were you at all confused in the question, Tom, about the example that's in the letter you wrote about we had 12 CSF, you subtract 5 CSF for water diversion, how much CSF are we going to have left over?

Any confusion about that?

A. No, I was describing what they had proposed in the table --

Q. Okay.

A. -- with respect to flow rates.

Q. So now I'm saying, Stanford hasn't done something similar with respect to the Searsville diversion. Stanford hasn't looked at the Searsville diversion and said the stream gauge shows that there's 12 CSF of flow in Corte Madera Creek. We are going to divert 5 CSF of flow from Corte Madera Creek. That will leave X CSF to continue to flow in Corte Madera Creek.

The question is, Stanford hasn't done that kind of analysis?

A. Correct.

Q. So on the next page -- so there's a reference to a -- "the Carmen report", do you see that?

A. Yes.

Q. Are you familiar with that report?

A. I was at the time I wrote this letter.

Q. Have you had any occasion to revisit the report since?

A. No, I haven't, myself, had a need to.

Q. Do you know whether this is a report that URS is relying on right now for its current work on the Searsville study?

A. No.

Q. Or that is being discussed within the Searsville committee, this report?

A. I don't remember it specifically mentioned.

Q. Okay.

A. It could well be in the set of documents that are part of that study.

(A break was taken.)

FURTHER EXAMINATION BY MR. SPROUL

(Exhibit No. 12 marked for identification.)

MR. SPROUL: Q. Can you please look through it. You don't have to read it word for word.
MS. FLANAGAN: Are you just going to ask him have you seen reports like this before?
MR. SPROUL: Yeah, generally, and we'll direct him to specific lines.
MS. FLANAGAN: He's just commenting on the -- he's probably seen a clearer one, not with all these dashes.
MR. SPROUL: That's how we got it from the law firm, so it's --
MS. FLANAGAN: I looked at the pages, is this the same one where you asked for the clean copy?
MR. SPROUL: No, this is a different one.
MS. FLANAGAN: That's a different one, okay.
MR. SPROUL: This one is like, yeah, we can still read it.
THE WITNESS: Yeah, we can read it.
MS. FLANAGAN: He's just not sure he's seen this exact copy is what he's saying.
MR. COSTA: And it's kind of small.
THE WITNESS: And it is Jonathan Owens, plural.
(Document reviewed by witness.)
MR. SPROUL: Q. Okay?
A. Okay.

Q. This document purports to be a report from Balance Hydrologics prepared for you.

Is this, in fact, that document?

A. Yes, it appears to be.

Q. And why was this report and study undertaken for you? What was the purpose?

A. We have Balance provide reports for us on the flow and creek flow measurements and data they collect at the monitoring stations that they operate for us, so the information is general in nature and not a specific purpose to impact my operations or something like that. They're just tabulating and compiling the data they've collected into a report to make it available to us.

Q. This wasn't, for example, to specifically follow up on the mandate of the Jasper Ridge Advisory Council, for example?

A. I'm not familiar with that.

Q. Okay, we'll come back to that.

And this report seems to be an annual installment of a series of reports, and are you aware of their being a series of reports just like this one that were given to you?

A. Yes.

Q. And so why was there an ongoing study and reporting effort being made year by year?

MS. FLANAGAN: Could you -- vague and ambiguous as to what -- you used the word "study".

I think he described why this was being done, but are you asking the way he used it, or are you intending something else by "study"?

Just to clarify.

MR. SPROUL: Q. If you go to Bates stamp page 404, the first sentence says that "This report presents and analyzes data collected from the Corte Madera Creek at Westridge Drive during water year as part of a long-term monitoring program initiated in December 1995."

So I'll stop right there. Was there a long-term monitoring program initiated in December 1995?

A. Apparently it's before my time, so -- it was ongoing when I came into this position.

Q. Okay. So this ongoing long-term monitoring program, what -- what was its purpose?

A. I don't know. I wasn't part of the origination of this monitoring effort.

Q. And for how long have you participated in this long-term monitoring effort that's referred to in this report?

A. Well, I've known about it since my start at Stanford in this position in '98.

Q. Is the long-term monitoring initiative that's referred to on the page we were just reading still ongoing, or is it over?

A. Still ongoing.

Q. And is it still being conducted by Balance Hydrologic?

A. Right.

Q. For what purpose today?

A. General interest in the flow in these creeks. It's going to help provide the data that we'll use for the water budget for Searsville, and sediment transport as well, as we look at the accumulation of sediment in Searsville Reservoir.

Q. Was it your responsibility to retain Balance Hydrologic to -- well, I guess not originally in 1995, right?

But since 1998, has it been your responsibility to continue to contract with Balance Hydrologic to keep this long-term initiative going?

A. My group's, yes.

Q. And is there anyone at Stanford, other than you, who has particularly interacted with Balance Hydrologic in either designing the monitoring program or analyzing the information that the monitoring program is generating?

A. Yes, there have been others involved.

Q. And who are those people?

A. Marty Laporte in my group. Philippe Cohen has had involvement, as well as Alan Launer.

Q. Anyone else?

A. No. Those are the primary people.

Q. Okay. There are three different Balance Hydrologic people listed as being the preparers of the report. Do you know each of those three people individually?

A. I know Barry Hecht, who is a principal in the firm, and, of course, Jonathan Owens, who I interact with most. I do not know Scott Brown.

Q. Do you know anything about the relative contributions of these three individuals to the report or any of the work that the report documents?

A. Do I know how much of the report each of them did?

Q. Yes.

A. No.

Q. Or how much of the work each one of them did that the report discusses?

A. No, I don't know that breakdown.

Q. Do you send email communications to either of the three individuals about these annual reports?

A. Rarely, if ever.

Q. And why is that?

A. I interact with Jonathan Owens frequently in meetings and field trips at Stanford, so I don't need to do a lot of emailing about these reports. They're pretty much a routine of compilation, and I don't read them every year.

Q. Is there anyone else at Stanford who reads them every year?

A. Possibly. I don't know.

Q. On Bates stamp page 404, the report indicates that the Westridge Drive location was selected as a monitoring point.

Do you know why --

MS. FLANAGAN: Which paragraph are you referring to?

MR. SPROUL: It's right under the word "Introduction."

THE WITNESS: Sorry, your question?

MR. SPROUL: Q. Why was the Westridge Drive selected as a monitoring location?

A. It was accessible. It was a location on the creek that was publicly accessible from Westridge Drive.

Q. How far is that from Searsville Reservoir?

A. I don't have that dimension.

Q. Do you know whether -- do you know whether Searsville Reservoir -- whether sediment from Searsville Reservoir backs up, or is tending to back up behind the dam into further reaches upstream?

Has that happened?

A. Yes.

Q. And there's a point at which the backflow of sediment and water from Searsville Reservoir stops, yes?

A. Sediment and water doesn't flow back from Searsville Reservoir into Corte Madera Creek. Corte Madera Creek sediment and water flow into Searsville Reservoir.

Q. There's an area where -- well, Searsville Reservoir creates backwater or backflow conditions, yes?

MS. FLANAGAN: What do you mean by "backwater conditions"?

MR. SPROUL: Q. Well, if the witness understands it -- do you understand? Does that question make sense to you?

A. You should define backflow or backwater effect.

Q. Would you agree with this point -- we'll come back to that -- Corte Madera Creek, high up in the watershed above Searsville, is -- has a well-defined bed and bank -- creek bed and bank of relatively unimpeded system.

Do you know whether that's true?

A. I don't know whether that's true. I know it's a pretty natural creek channel.

Q. And that there's an area where Corte Madera Creek tends to become flattened out in what might be called a more alluvial area, or alluvial fan area, where it approaches Searsville Reservoir, would that be also be true?

A. Yes.

Q. And in that area where Searsville -- where Corte Madera Creek channel becomes more alluvial, or part of an alluvial fan feature as I've been describing it, that is happening, in part, because of the influence of Searsville Dam.

Would you agree with that?

A. Yes. But your term "alluvial fan" is not quite right. That's typically more a function of a natural creek system near oceans or bays, not behind a dam. That's strictly a sediment deposit, so it's not alluvial in a geologic sense.

Q. Okay, so what would you use to describe that area?

A. The area where Corte Madera Creek intersects the reservoir?

Q. Yes.

A. Just that, where Corte Madera Creek flows into Searsville Reservoir. I wouldn't give it a geologic descriptor.

Q. If someone said to you please describe to me what the morphology is of the creek in that area, you'd say "I don't know. I can't tell you"?

A. Yes, I would tell them that.

Q. Do you know what -- anything about -- have you physically been to the creek gauge point in Westridge -- at the Westridge Drive location?

A. No.

Q. Have you seen pictures of it?

A. I may have. I don't recall them at the moment.

Q. Do you know anything about what the Corte Madera Creek characteristics are in that area?

A. No.

Q. So in the next paragraph down, the report indicates that "We measured stream flow."

Why is stream flow being monitored as part of this effort?

A. To understand the flow in the creek and its change over time.

Q. And, again, you're doing that just for general background knowledge purposes, not directed to any specific need to know or planning effort to decide based

upon?

A. Correct.

Q. Okay.

A. Well, not pertaining to any operation.

As far as future planning, it will be used for that purpose.

Q. And then the next thing is, "We measured suspended and bed load sediment transport."

Why did they measure suspended bed load sediment transport?

A. To quantify the sources of the sediment that are accumulating in Searsville Reservoir and the nature of those sediments.

Q. And why does Stanford care about that?

A. Helps us understand the source of the sediment, and possibly a time frame of the continued accumulation of that sediment in Searsville Reservoir.

Q. And why is that of any use or significance?

A. We are watching Searsville Reservoir's capacity diminish, and we'd like to have an understanding of how much longer that will take.

Q. So would it be fair to say the primary purpose of the Balance Hydrologics suspended and bed load measurements and tracking effort is to help develop information to assess how long before Searsville fills

in with sediment?

A. Yes.

Q. And would it be further to provide information on what will the consequences be of Searsville Reservoir filling in with sediment, and other sediment depositional -- other sediment depositions that will occur in the Corte Madera Creek watershed?

A. What will the consequences of Searsville filling up be?

Q. Yes.

MS. FLANAGAN: I'm sorry, are you asking him what he thinks the consequences will be or what the report is saying?

MR. SPROUL: Q. Is that why the report is doing this? You're looking into this because you want to know what's going to happen when Searsville fills up with sediment, and this other sediment deposition around this area?

A. No.

Q. Not looking into -- that's not one of the reasons why this being looked into?

A. Correct.

Q. Does Stanford have any concerns about what's going to happen when Searsville Reservoir fills in with sediment?

A. Yes.

Q. And -- but this study, the study that Balance Hydrologic is doing isn't meant in any way to help inform discussion of that question?

A. It informs the process of sediment deposition rate type of sediment, it doesn't get at the issue of what happens when it does fill in.

Q. Are there other reports that do that?

A. We're embarked in a Searsville alternative study right now that is doing that, among other things.

Q. Okay. The next thing in this report says -- the report says that basic field water quality parameters were monitored.

Why? Why was that of interest to Stanford?

A. Just a general understanding of the nature of the creek flowing water.

Q. No particular environmental management purpose for doing that?

A. No particular purpose, no.

Q. Okay. Then under Previous Studies, 1.1 down below, there's a reference to some prior monitoring work, Brown and Owens, 2011.

Are you familiar with that report?

A. Just generally that it's another report in the series.

Q. Is it, in your view, similar in use to you as this one?

A. Yes.

Q. And then the last sentence, "Balance also prepared a more detailed study of sediment supply, dynamics and deposition in the Searsville Lake watershed," and there's a citation.

Have you looked at that report?

A. No, I don't recall that report.

Q. Do you know whether that report is being looked at right now by anyone else at Stanford, or any of Stanford's consultants as a more detailed study that would shed further light on these issues?

A. It's part of the information that the Searsville alternative study effort by URS, with Balance as a sub consultant, is doing.

Q. Okay. I note that on page -- page 6.

A. 406?

Q. Yeah, it's 6 -- or it's 409, Stanford 409, page 6 of the report.

There's a discussion here about bed load and suspended sediment data being gathered, and then there's -- this is in the top paragraph -- and then there's a reference to sediment discharge rates being calculated, and my question is whether Stanford has made

any particular use of those -- of those calculations/data presentations in these annual reports.

A. Well, it's part of the Searsville Study understanding the nature of sediments filling into Searsville as part of that effort.

Q. Okay.

(Exhibit No. 13 marked for identification.)

And have you ever seen this document before?

A. I don't remember seeing this before.

Q. Do you recall ever writing a table similar to this one?

A. I don't.

Q. Do you -- have you ever written a table describing when Searsville starts spilling over the spillway and when it stops spilling over the spillway in a water year?

A. I don't recall putting information like that together. It doesn't look like a product of mine.

Q. Do you have any -- ever hear of anyone working with you who was asked to do something like that?

A. I don't recall. It could have happened, but I don't remember a request for this information.

Q. So you don't -- you've never made personal observations of when Searsville Dam starts spilling

water over the spillway and when the water level in the reservoir drops below the spillway?

MS. FLANAGAN: Again, I'm going to object to the characterization of the question, because your prior questions didn't ask him what he observed; you asked had he prepared this.

Q. I'm asking a different question.

MS. FLANAGAN: But your question was "so you didn't."

THE WITNESS: So your question is?

MR. SPROUL: Q. Have you ever personally made observations of when Searsville Reservoir starts spilling over the spillway and when it stops?

A. No.

(Exhibit No. 14 marked for identification.)

Q. Will you please look over that document, and when you've had a chance to familiarize yourself with it, let me know.

(Document reviewed by witness.)

Okay. So have you seen this email message from Catherine Palter before?

A. No.

Q. Are you aware of Ms. Palter having discussions with Gary Palter about -- I mean Gary --

A. Stern.

Q. -- Stern about this Searsville Booster Pump?

A. I was aware that she was having discussions with Gary about Searsville in a general sense, not in this issue specifically.

Q. I see. And her first -- she numbers her -- her paragraphs, and the first one she says is, "First," she says, "First, the independence of a system did not take place just those few years when the Searsville diversion was cut back to address the seismic issues - it happens ever summer, when we're not diverting water from Searsville but using local water throughout campus."

Do you know what she's talking about?

A. No.

Q. You have no knowledge of a few years back -- that would have been a few years prior to 2012, diversions from Searsville being cut back to address seismic issues?

A. No.

Q. First you've ever heard of that?

A. Uh-huh.

Q. Do you know what she means by "the independence of a system"? Is that something that you would say?

Would you use that phrase, "the independence of a system".

A. I remember a discussion about Searsville diversions being independent and not dependent or directly related with the other diversion facilities, so the context of her discussions with Gary that I recall hearing about, she was trying to clarify that Searsville is an independent diversion. Water comes from Searsville with no correlation to water coming from other diversion facilities.

That's what I understood by "independence".

Q. I see, but would it be fair to say independent in the sense that Stanford does commingle water from Searsville Reservoir with water obtained from other sources, within the Felt Reservoir, for example, at least on occasion; is that true?

MS. FLANAGAN: Are you asking him just that factual question, or relative to the word "independent"?

MR. SPROUL: Just the factual question?

MS. FLANAGAN: Do they intermingle at Felt Lake?

THE WITNESS: Searsville Reservoir is intermingled at Felt Lake, yes, and in the lake water system.

MR. SPROUL: Q. Yes.

A. It's a separate issue from an independent diversion.

Q. Then, "Second, the water conveyance pipeline continues beyond the booster pump before it forks into two pipelines - one to Felt Reservoir and one to campus."

Is that an accurate description of the system?

A. Yes.

Q. And "There are Stanford water users along that pipeline stretch" -- I think that should be stretched -- "between the booster pump and the fork (including hydrants and some lessees)."

Who are the lessees in that context?

A. Who specifically are the lessees?

Q. Yes. Do you know?

A. Webb Ranch, a couple other agricultural lessees of Stanford land.

Q. And you provide those lessees non-potable water?

A. Correct.

Q. Do you know anything about the volume of water supplied to the lessees?

A. Well, we measure the water that's delivered to them. I don't know what those annual uses are, but we do track that information.

Q. Does Stanford sell the water to the lessees?

A. We charge them for the water that they use.

Q. And is it metered so you pay per unit?

A. Yes.

Q. In the next paragraph, "Therefore, consistent with the understanding that you conveyed yesterday, Searsville-related activity should be confined as the 16-inch pipeline that extends 50 feet from the dam, the 16-inch pipeline that extends two miles to the booster pump and the booster pump itself."

In your mind, is that an accurate description of Searsville-related activities?

MS. FLANAGAN: That's in the context of the HCP that they're talking about here?

MR. SPROUL: Q. Well, I'll just ask this more broadly.

If I said to you Searsville-related activities, please describe it, would you describe it that way, or would you describe it something different?

MS. FLANAGAN: Just as you would use the term.

THE WITNESS: I would not include the booster pump station as a Searsville-related activity. It's too far away. But different people look at the system differently.

MR. SPROUL: Q. Okay. And what would Searsville-related activities include then? I get it, it would exclude the booster pump, but what would it

include?

A. The intake and pipes and valving below the dam.

Q. And the dam itself?

A. No, I don't consider that an activity. That's something that we operate.

Q. Okay.

(Exhibit No. 15 marked for identification.)

Can you please take a moment to familiarize yourself with the document, and let me know when you're ready to discuss it.

MS. FLANAGAN: Just to say whether he's seen it before, or the content?

MR. SPROUL: Q. Just to look it over, whether it's something you're familiar with.

We'll direct you to particular sections.

MS. FLANAGAN: Just as to whether you've seen it before.

(Document reviewed by witness.)

THE WITNESS: Okay.

MR. SPROUL: Q. Have you seen this document before?

A. I may have. I don't recall this specific one, but I may have.

Q. There are other documents like this in

Stanford's files, isn't that true?

A. Yes.

MS. FLANAGAN: Again, these are two documents stapled together.

THE WITNESS: Yes.

MS. FLANAGAN: Two documents stapled together.

MR. SPROUL: Right.

THE WITNESS: Three.

MR. SPROUL: I think they came all in one PDF file, that's why we printed them that way.

MS. FLANAGAN: Well, yeah, you should be careful about that. Just because they're sequentially numbered doesn't mean they're one document.

MR. SPROUL: Okay. So we'll -- this exhibit will be two documents, duly noted.

MS. FLANAGAN: It technically is three, but --

MR. SPROUL: Q. All right, this document is three documents.

The first document is Bates 6572. Have you been involved in inspections at Searsville Dam in any capacity?

A. Not directly the inspection itself. I know it's occurring, but I'm not there.

Q. Okay. Let's look -- please go to Bates stamp page 6574, and View 1, that photo, View 1 -- it's in

black and white in your version. Is it legible enough that you can make out what it is?

A. Yes.

Q. And is that the view of the upstream riser that's within Searsville Reservoir?

A. Yes.

Q. You've seen that yourself personally?

A. Yes.

Q. And the way that that is physically set up is there are three intake points where water from the reservoir can be taken into that central pipe there; is that correct?

A. Yes.

Q. But the very bottom of them is buried in sediment, is no longer usable; is that correct?

A. Correct.

Q. The middle one and the top one are still usable?

A. Yes.

Q. And Stanford does use both of them?

A. Yes.

Q. Do you recall how deep the middle one is from the top of the spillway, let's say, if the reservoir were 100 percent full?

A. Approximately 12 feet.

Q. That very top reservoir -- I mean top riser, the one that's the most shallow, is about how far below the spillway elevation?

A. About three feet.

Q. And the next page, 6575, that's a picture of the plunge pool at the base of Searsville Dam; is that correct?

A. Appears to be, yes.

Q. Do you recognize it?

A. Yes.

MS. FLANAGAN: Apart that it's black and white.

MR. COSTA: Do you want to see the picture?

THE WITNESS: No, I accept that it is.

MR. SPROUL: Q. Please, I'd like to draw your attention to page 6576, and did you -- perhaps you've already answered this, and maybe your answer is no, but I got a little lost, so please forgive me.

Did you have any role in the inspection of the toe of Searsville Dam that recently took place in -- earlier this year?

A. Yes.

Q. So this Bates stamp page 6576, there's a -- under Important Observations and Recommendations Or Actions Taken, there's the notation that "The owner is waiting for a final approval of their draft HCP from

various regulatory agencies. The HCP includes dam inspections as covered activities. Once the HCP is approved, the owner will proceed with the plunge pool inspection. The plunge pool inspection is not considered an immediate dam safety concern and is a periodic maintenance activity. Therefore, it can be deferred until the HCP is approved."

My understanding is basically it's still not been approved. That's your understanding as well, correct?

A. No.

Q. For Searsville?

A. No, there's an HCP that's been approved, but it does not include Searsville.

Q. So is there an HCP that's been approved that includes dam inspections at Searsville?

A. No.

Q. No?

A. No.

Q. And -- but Stanford went ahead and inspected the plunge pool without an HCP that included dam inspections having been approved; is that true?

A. Yes.

Q. And were you aware that that was happening?

A. Yes.

Q. Did you personally approve the plunge pool inspection without the HCP authorizing the dam inspection in place?

A. Yes.

Q. And why did you do that?

A. The HCP process went on without the Searsville component, but the SOD, the Division of Safety of Dams, wanted to conduct this inspection, so we facilitated their request this year.

Q. You thought that outweighed the need to wait for an HCP approved by the National Marine Fisheries Service or U.S. Fish & Wildlife Service?

A. Yes.

Q. Have you discussed that matter with Gary Stern? Did you discuss the plunge pool inspection going forward without the approved HCP in place with Gary Stern?

A. Not that specific issue, no.

Q. Did you discuss the plunge pool inspection with Gary Stern at all?

A. Yes.

Q. And do you recall the substance of your conversation?

A. The plunge pool inspection triggered an agreement with California Department of Fish and Wildlife, and I think we had discussions about the

dewatering of the plunge pool and the agreement that included Gary as well, so, yes, he would have been a participant in those discussions regarding the plunge pool.

I don't remember if specifically he was on the call or in the meeting where we talked about it, but he well may have, because we'd been meeting with Gary and Fish and Wildlife together in various meetings on various issues.

Q. Did Stanford have a California Stream Bed Alteration Agreement issued by CDFW signed and in hand before dewatering the plunge pool?

A. No.

Q. And has anyone at CDFW complained to Stanford, anyone at Stanford about that, objected to it?

A. We raised the issue to them and we discussed it.

Q. And who did you send emails to at CDFW about that?

A. Well, we had several exchanges of emails about the agreement as it was being prepared and worked out.

Are you asking specifically about getting the agreement finalized, or what part of the process are you referring to?

Q. Yeah. Yeah, did you send any emails to anyone

at CDFW about getting the agreement finalized?

A. Yes.

Q. And that person at CDFW was?

A. Dave Johnston. There may have been others that I emailed as well. Craig Whiteman was another individual involved in the agreement.

Q. Other than emails, did you have phone conversations with those two individuals?

A. Not that I recall.

Q. And then did you send emails to anyone at NMFS about this?

A. No, I don't believe so.

Q. Do you know when the next plunge pool dewatering and dam inspection will take place?

A. No.

Q. Whose decision is that?

A. The Division of Safety of Dams.

Q. When Alan Launer and his crew drained the plunge pool --

Actually, let me back up. It's my understanding that Alan Launer and a crew of people working with Stanford drained the plunge pool as part of this dam inspection; is that right?

A. Not quite.

Q. What is quite right?

A. Alan was involved in the -- observing the plunge pool dewatering, but he did not activate the crew that did the dewatering.

Q. So it was a different crew that activated the dewatering?

A. Yes, we had a crew in setting up the pumps and hoses and various equipment. I had an engineer out there at the time it was going on.

Q. And who was that engineer?

A. Terry Leong, L-e-o-n-g.

Q. And Mr. Launer and his crew had the task of observing the plunge pool and capturing aquatic life that was uncovered as the pool drained; is that correct?

A. Yes.

Q. And, among other things, he uncovered two steelhead; is that correct?

A. He recovered O. Mykiss. I don't remember if the term "steelhead" was used, and I don't remember the exact number, but I know he did recover O. Mykiss.

Q. And in a net?

A. I don't know how he --

Q. Did you personally witness it?

A. No, I was not there.

Q. But he told you about it?

A. Yes.

Q. Did anyone else tell you about it?

A. Terry told me that Alan was out there. He didn't tell me specifics about how the fish capture or relocation was accomplished.

Q. Was anyone from CDFW observing the dewatering operation?

A. Not that I've been told.

Q. I've been told that Mr. Launer moved the two O. Mykiss downstream and put them back in the water. Was that what you heard also?

A. Yes.

Q. Are you familiar with the term "take" or "taking" of species in the Endangered Species Act context?

A. Yes.

Q. That's a term that you've used?

A. I've heard.

Q. When it comes to taking steelhead, do you have a personal understanding of what you would think would constitute taking a steelhead?

A. Do I have an understanding of that?

Q. Yeah.

A. Yes, generally.

Q. Okay. What's your general understanding?

A. Number of activities, injuring, impacting,

disturbing, obviously killing, injuring.

Q. Anything else?

A. No, that's generally it.

Q. Do you think scaring a steelhead constitutes taking of the steelhead within the -- under the Endangered Species Act?

A. Sounds like a legal opinion that I don't think I'm qualified to make.

Q. Do you think that Stanford engaged in taking O. Mykiss when it's moved them from the plunge pool and relocated them and put them in the stream downstream?

MS. FLANAGAN: I'm going to object. You're asking for him to give you a legal conclusion.

THE WITNESS: I won't answer that. I'm not an attorney.

MR. SPROUL: Q. Does Stanford give you any instructions in your work here that you should avoid taking endangered species on campus in the activities you direct?

A. I haven't heard those words from my supervisor, no. It's understood.

Q. What's understood?

A. That I need to comply with the Endangered Species Act.

Q. And how is it that that's understood?

A. Obvious compliance with legal requirements for operating our water facilities and systems is a generally understood obligation. It doesn't have to be stated.

Q. Have you or your department ever done work within San Francisquito Creek?

A. Yes.

Q. Construction work?

A. We've had construction work done that we managed, not work that we've done ourself [sic].

Q. Okay. The work that you've overseen?

A. Yes.

Q. In the course of construction work that you've overseen, if you saw a steelhead swimming around in a pool in an area where you were going to work, has Stanford told you what you should do?

A. The term "Stanford" is a little nebulous. Stanford the university? You mean personnel at Stanford that I work with maybe or --

Q. Okay.

A. Yes, I'm clear on what needs to be done.

Q. And what needs to be done?

A. I would cease or not begin those activities where steelhead are present in a creek or water body.

Q. And you would avoid the steelhead?

A. Yes.

Q. So further down under "Outlet" -- under Observations and Comments, Outlet, will you please read that description of the outlet, and I want to ask you if it's accurate.

A. Starting with "Two 16-inch cast iron pipes"?

Q. Yes.

A. Two 16-inch cast iron pipes, penetrating the concrete gravity structure, are used as low level outlets. The right 16-inch cast iron pipe is a blow-off and has an upstream and downstream gate valves. The upstream gate valve is silted in and has been inoperable for years. The left 16-inch cast iron pipe, used as a supply line, has three upstream gate valves in the upstream tower and one downstream gate valve. The upstream valves are operated from a platform on the upstream side of the dam. The top two gates are operable and the bottom gate is silted in. The outlet valves were not exercised during this inspection, but all valves were exercised by the owner on July 12, 2012, and operated satisfactorily. The valves were last cycled in the DSOD's presence during 8/26/2009 inspection. I requested the owner to be prepared to exercise the outlet valves during next inspection and he agreed to do so."

Q. Is that accurate? Is there anything wrong about it?

A. Not that I know of, no.

Q. This next document, I'm going to ask you to --

(Exhibit No. 16 marked for identification.)

I'd like to draw your attention to the bottom of this email from Gary Stern to you where it says Version 2, and he's -- Gary Stern is asking you to edit his description of Searsville Dam and Reservoir, and you made one minor edit. You crossed out "the top of" is what it looks like to me.

So my question to you is, is that Version 2 description as written there accurate, or is there anything about it you would change today?

MS. FLANAGAN: So, irrespective of Gary Stern's context, it's just does Tom think that -- is there any correction that Tom would make to Version 2 to make it accurate.

MR. SPROUL: Yeah, and it goes over onto the next page.

THE WITNESS: No, it's okay.

(Exhibit No. 17 was marked for identification.)

MR. SPROUL: Q. Okay, great.

Let me know when you've had a chance to glance through it and become sufficiently familiar with it.

(Document reviewed by witness.)

A. Okay.

Q. Have you seen this document before?

A. I don't recall seeing this document before.

Q. Do you know a Mandy Morrison?

A. Yes.

Q. Looking at this document as briefly as you've looked at it, does this seem like this is something responding to communications from Mandy Morrison in this 2010 time frame?

A. I have no way of knowing, other than the title.

Q. Okay. Do you recall whether Stanford was having any discussions with National Marine Fisheries service about flushing of the pipes that are near Searsville Dam in 2010?

A. I don't recall that those discussions were going on, but that would make sense in the HCP preparation process that they would have been.

Q. Do you recall that there was some discussion in the HCP of flushing of the pipes that are next to Searsville Dam?

A. Yes.

Q. Have you ever personally witnessed flushing of

the pipes that are near Searsville Dam?

A. No.

Q. Have you ever directed flushing of the pipes that are near Searsville Dam?

A. No.

Q. And do you have any information about how often that happens -- how often those pipes are flushed?

A. Just general information, not specific dates.

Q. What's your general information?

A. There are two pipes. The one connected to our lake water system is flushed at the beginning of the diversion season. The second, which we earlier described as the blow-off pipe, is exercised in association with the SOD inspections.

Q. And the first pipe that's flushed at the beginning of the diversion season, that's to clear the pipe of built up debris so it can convey water; is that correct?

A. Say that again.

Q. It's to flush the pipe of built up debris so it can convey water.

A. Well, the term "debris" is a little ambiguous.

Q. What term would you use?

A. To flush the pipe of the water and sediment from the reservoir that's accumulated in it.

Q. And when the sediment is flushed from the first pipe, why does it go?

A. Into the downstream creek area.

Q. And does Stanford have a Clean Water Act NPDS permit to do that discharge?

A. No.

Q. Have you ever talked to anyone about Stanford possibly get a Clean Water Act permit to do that?

A. Our attorneys have advised me that that discharge --

MS. FLANAGAN: If you're just relying on advice of counsel, that's as far as you need to go.

MR. SPROUL: Q. Okay.

The second paragraph there says -- there's a question, "Does anyone survey for listed species before flushing?"

Answer: "Currently, before flushing at the base of the dam and if a pool of water exists there, the campus biologist is called to inspect the pool."

Who's the campus biologist in this setting, do you know?

A. Alan Launer.

Q. Do you know who wrote this document?

A. No.

Q. From looking at the writing style or the

content, do you have any educated guesses as to who it might have been, like Catherine Palter, for example?

A. I don't know who. I could speculate that she was involved.

Q. Well, not speculating, I'm just asking if you've got some reason to know.

A. No, I don't.

Q. Then "No surveys are conducted prior to the downstream flushing activity."

Do you have any personal information about whether that's a true statement or not a true statement?

A. Say that again.

Q. Do you have any personal knowledge of whether that's a true statement or not a true statement?

A. I don't believe it's a true statement.

Q. And why do you think that?

A. Well, I believe that our technicians do talk to Ken's biologist when that downstream flushing activity occurs, so it's kind of contradictory with the previous sentence.

Q. Well, this is how I read it. You tell me if you have a different understanding. We're both not the author, so --

A. Yeah.

Q. So what I'm asking you is what is Stanford's

actual practice. I read this, it seems to me that it says, well, we talked to our campus biologist, but he's not actually there when we do the flushing, so nobody is actually surveying for endangered species before we flush, and -- so I guess I'm asking you whether you have any knowledge about what Stanford's actual practice is these days.

Do they send a campus biologist out to make determinations about whether there are listed species present or not before the flushing activity occurs?

A. No, I leave this to Richard Souza. I leave this operation to our water system technicians.

Q. So Richard Souza would be the person to ask whether that's happened or not?

A. Yes.

Q. Also, do you think Alan Launer would be qualified to tell the difference between a steelhead and a rainbow trout?

A. Yes.

Q. He's never expressed to you any doubt about being able to tell the difference between the two?

A. I'm not sure what his capabilities or expertise are. I know he's the most familiar with that species.

Q. Has he affirmatively said to you, "Yes, I can identify a steelhead versus a rainbow trout"?

A. No.

Q. Has he said to you, "Yes, I can affirmatively identify a steelhead"?

A. Say your question again.

Q. Has Alan Launer told you "I can identify a steelhead"?

A. No.

Q. Would you agree with me that if someone is going out for Stanford to identify whether there's listed species present, they should be able to identify the listed species?

MS. FLANAGAN: I'm going to object to your question to the extent that it assumes that to be protected you have to be able to tell between the two, as opposed to protecting them all.

MR. SPROUL: Q. That was my question.

A. Sounds like you're asking me to speculate what the requirements are for this survey or inspection activity, and I don't have information about that.

Q. Well, no, I just was saying -- it just seems to me it's common sense if you're going to send somebody out to survey for list species, they should be able to identify the list species, that's all.

Would you agree with that?

A. I don't have any opinion about that.

Q. Okay. Next, paragraph 4, so here it says "it appears that the pipe outlet may be submerged during some of the flushing events. Is this correct?"

And then the answer appears to be "Flushing at the base of the dam is not conducted when the outlet is submerged. Flushing of the pipes downstream occurs at the pipeline along the top of the bank."

Having been there and seen the configuration, does this language make sense to you? And, if so, can you further explain it?

A. No. It's pretty confusing to me, too.

Q. Well, I took it -- I'll tell you how I took it. Let me know if this is any further help.

So the second pipe that -- not the pipe that goes all the way down to the booster pump but the other pipe, all right, that's used as an outlet pipe, okay? It -- when it's used, when it's opened and used to let out sediment, it's not under water in the creek, it's actually out of water, but it's dumping its slurry of whatever is in it on to the top of the bank -- the top of the creek bank. That's how I read.

MS. FLANAGAN: Are you saying in your reading you think the last sentence is referring to the same flushing activity as the prior sentence is? Because that's not how I read it.

MR. SPROUL: Well, that's how I read it. That's why how I read it.

MS. FLANAGAN: It's talking about flushing at the base of the dam and then it's talking about flushing of the pipes downstream occurs at the pipeline along the top of the bank.

MR. SPROUL: I thought downstream is like the -- just past the dam.

MS. FLANAGAN: The base of the dam?

MR. SPROUL: The base of the dam is downstream.

MS. FLANAGAN: Well, I'm just going to caution the witness to go with his own reading, because counsel disagree as to the reading of the exhibit, so be guided by your own judgment.

THE WITNESS: Okay.

MR. SPROUL: Q. Anyway, did either of my -- of -- my explanation or your counsel's explanation jog any further thought about what was being described here?

A. No. I'm lost as to what your question currently is for me about this.

Q. You're a member of the Searsville Committee?

A. I'm on the Searsville Alternative Study Working Group.

Q. So the Searsville Committee effort consists of three different groups, correct?

A. Yes.
Q. And there's the advisory group, there's the steering committee, and there's the working group; is that right?
A. Yes.
Q. And you are on the working group?
A. Yes.
Q. Only?
A. Yes.
Q. You're not part of the advisory group?
A. Correct.
Q. Who are the members of the steering committee?
A. Faculty and staff of the university.
Q. And how many members are there.
A. Approximately 12.
Q. Do you know each of the 12?
A. Yes.
Q. Are any of them attorneys?
A. Yes.
Q. Are any of them fishery biologists?
A. Are you asking about the steering committee?
Q. The steering committee.
MS. FLANAGAN: You said a fisheries biologist?
MR. SPROUL: Fisheries biologist, yes.
THE WITNESS: I don't know if a couple of them

have that qualification or not.

MR. SPROUL: Q. Of the 12, do any of them have any particular scientific expertise that you definitely know about?

A. Do any of them have scientific expertise?

Q. Yeah, that you know about.

A. Yes.

Q. How many?

A. The six faculty members all have various expertise.

Q. Do any them have expertise in the fluvial geomorphology?

A. Possibly.

Q. Who is that person?

A. David Freyberg.

Q. Anyone else?

A. Not that I know of.

Q. None of them are fisheries biologists?

A. A couple of them may have --

Q. A couple of them may have?

A. Yes.

Q. Who are the two that may have?

A. Pam Sterner -- not Pam Sterner -- Pamela Matson, M-a-t-s-o-n, and Chris Field.

Q. Do any of them have expertise in herpetology?

A. I don't know what that is, and I don't know if they have that knowledge.

Q. Who else -- it's the study of reptiles. It would include snakes, and red-legged frogs, for example, most pertinent to our case.

A. I don't know.

Q. Are any of them expert in hydrology?

A. Yes.

Q. Who?

A. David Freyberg.

Q. How about hydraulics, as opposed to hydrology?

A. I don't know about that.

Q. How about analysis of water quality?

A. Say that again?

Q. Analysis of water quality as it applies to aquatic life.

A. I don't know if they have that expertise.

Q. Do you know who's running the steering committee?

A. Yes.

Q. And who's that?

A. Gene McCowen, M-c-C-o-w-e-n, and Chris Field.

Q. Do you know how those two individuals were chosen?

A. By the steering committee.

Q. By vote of the steering committee itself?
A. Yes.
Q. I believe you indicated Mr. Field, you thought, might have expertise in fisheries biology.
A. Yes.
Q. And what about Jean McCown, does she have expertise in any scientific field?
A. Not that I'm aware of.
Q. Do you know whether Watson and Chris Field have expertise in anadromous fishes?
A. I do not.
Q. Do you know how often the steering committee meets?
A. Yes.
Q. How often is that?
A. Frequency varies. Right now it's monthly.
Q. And is it the steering committee that will be responsible for coming up with the ultimate recommendations that will go to the Provost or President of Stanford?
A. Yes.
Q. Do you know if they've worked out how they will come up with their recommendations? Will it be by majority vote, consensus, some other format?
A. They're working out that process.

Q. Do any of them talk to you about their work on the steering committee?

MS. FLANAGAN: Again, I'm going to stop you and say if you're getting into things that are privileged, you have to not talk about content. If you're have gone conversations with them outside of the privileged context, then go ahead and respond.

THE WITNESS: Can you repeat the question?

MR. SPROUL: Q. Do any of them talk to you about their work on the steering committee?

A. Just in a general way.

Q. And the working group -- and you told us the members earlier.

How often does the working group meet?

A. Usually twice a week.

Q. And you're still meeting twice a week?

A. Yes.

Q. And are those meetings, in your view, productive?

A. Yes.

Q. When was your last meeting?

A. Yesterday.

Q. Do any attorneys participate in your working group meeting?

A. Yes.

Q. Always?

A. Yes.

Q. Do they instruct you not to reveal the communications of the working group outside of the working group?

MS. FLANAGAN: I'm going to instruct you not to answer that, since you directly asked him to reveal an attorney communication.

MR. SPROUL: Therefore, before closing, is the possibility of inquiring whether attorney-client or attorney work product has been waived.

MS. FLANAGAN: That has nothing to do with whether there's been a waiver.

MR. SPROUL: We can come back to it.

BY MR. SPROUL:

Q. So do you attend meetings of the advisory group?

A. I have attended occasionally.

Q. Have you reviewed materials provided to you by members of the advisory group?

A. Some.

Q. Have you looked over materials sent to you by Beyond the Searsville Dam Coalition?

A. Some.

I would it's like to ask for a break.

(A break was taken.)

MS. FLANAGAN: So Mr. Zigterman had asked to talk to me for a moment, just because he was concerned that he might have made a misstatement earlier and wanted to know if he should correct it, and the statement was with respect -- I think, Chris, your question was did you start the dewatering without a signed permit in hand, and he wanted to be clear, he had signed it. He didn't have the government signature yet, but he ultimately got it.

So I don't know what -- how the record stands, but he was concerned that he might have left it incomplete.

MR. SPROUL: Okay.

MS. FLANAGAN: So you can ask him about that if you want, but that was bothering him, which is why he wanted to raise it.

(Exhibit No. 18 marked for identification.)

FURTHER EXAMINATION BY MR. SPROUL

MR. SPROUL: Q. So I'd like to direct your attention to the exhibit that's Bates-stamped 4796, and in the middle of the page there's a reference to the Jasper Ridge Advisory Committee, and it says that "The judgment of the Jasper Ridge Advisory Committee is that

the continued existence of a reservoir provides important values for the Preserve," and in context, that's the Jasper Ridge Biological Preserve.

So my first question to you, have you ever heard of the Jasper Ridge Advisory Committee, now seeing this reference in print?

A. Yes.

Q. Are you a member of that committee?

A. No.

Q. Do you know who the members are?

A. No.

Q. Is that committee still in existence?

A. I don't know.

Q. Do you know who would know?

A. Yes.

Q. Who would know?

A. Philippe Cohen.

Q. Okay, anyone else?

A. The members of that committee.

Q. But you don't know who those are?

A. I don't know who they are.

Q. Okay.

"Available evidence indicates that careful dredging to maintain open water can sustain nearly all of these values."

MS. FLANAGAN: Where are you reading? Fourth paragraph?

MR. SPROUL: Q. "And that the impacts of the dredging can be managed in a way that does not create unacceptable damage or risk to the Preserve's goals."

Do you ever recall reading a statement like that in this document, or any other document?

Have you seen that before?

A. Not that I recall.

Q. Do you recall anybody at Stanford saying something like that to you?

A. No.

Q. Do you personally believe that statement?

MS. FLANAGAN: That this is available evidence as of October 2007, or are you asking does he believe it today?

MR. SPROUL: Q. Do you believe it today, that the available evidence today suggests that careful dredging to maintain open water can sustain nearly all of these values?

A. I don't know what the Preserve goals are.

Q. What the goals are of the Jasper Ridge Preserve?

A. Yes.

Q. You don't know?

A. No.

Q. So you wouldn't then know what -- you wouldn't have an opinion --

Well, let me ask you this: Apart from what the goals of the Preserve are, do you think that dredging to maintain open water at Searsville Reservoir is a good management option, good -- something -- that's what Stanford should do?

A. The Searsville Study is looking at all options and kinds of activities we could do, so that is one activity action that we're looking at, dredging, among many, so I don't have a judgment now about that being a possible answer or the answer.

Q. Well, okay.

On the next page, 4797, there's a list of options that are being identified in this document, things that could be done, and not to go through each one of them in -- just in bullet form, capture each one, I'd like to ask you whether these are things that Stanford is still considering.

One: Allow the reservoir to fill.

Is Stanford considering that, to the best of your knowledge?

A. Can you define "considering"?

Q. Is that one of the options that Stanford is

looking at as to -- what's -- what are we going to do about Searsville? Let's list all the things we might seriously do.

A. One possibility among all of the actions or -- is a no action. Let it fill in. Yes, that's still --

Q. That's still on the table?

A. Yes.

Q. Next, remove the dam, is that on the table?

A. Yes.

Q. Lower the reservoir water surface via modifications to the dam --

A. Yes.

Q. -- at San Mateo.

Alter the dam and change its operation to prevents downstream flood mitigation benefits, is that on the table?

A. Yes.

Q. And dredge the reservoir to maintain open water and wetlands habitat, is that on the table?

A. Yes.

Q. Okay. That's it.

(Exhibit No. 19 marked for identification.)

Q. This is a report apparently done by Balance Hydrologics for you.

Do you recall having Balance Hydrologic do this report for you?

A. Yes.

Q. Why?

A. I'm trying to recall. It's been a few years.

Q. Well, it purports to be an analysis of flood risk caused by Searsville Reservoir focusing on upstream of Searsville Reservoir.

Does that ring any bells?

A. Yes, the opening paragraph talking about the lake system -- oh, okay, that makes sense. I was reading it as lake water.

Yes, we wanted to understand water level during the one hundred year storm above Searsville.

Q. Okay. So then if you go to page 6790, Bates 6790, page 21, the conclusions of the report are set forth there.

A. Yes.

Q. Okay. The -- they note that some of the conclusions were expected, others were new to us.

Do you recall any discussion with the authors of the report about, wow, some conclusions are new and unexpected, versus something expected?

A. I don't recall a specific discussion about that.

Q. Under 8.1, Expected Results, seems to me the penultimate summation sentence, "Flooding depths will continue to get worse unless significant effort is made."

So it seemed to me, reading this report, that the overall conclusion was that if Stanford continues to do nothing and nature continues to take its course, that the flooding risk to properties upstream of Searsville Reservoir are going to increase over time, and I was wondering if you had read that -- this report to come to the same conclusion.

A. Yes.

Q. Do you know whether other individuals have also come to that conclusion at Stanford?

A. You mean reading this report, or conducting studies of their own?

Q. Yeah, reading -- no, studies of their own, all information provided to them, "Yes, there's other people at Stanford who I've talked to who are like-minded. If we continue to do nothing, we are going to increase flooding risks to properties upstream of Searsville Dam"?

A. Well, your use of the term "flooding risk to properties" is a little more than what I think this report covered, which is just water level, how much

higher will the water surface get.

Q. Okay, fine.

So you explain to me what you think the report shows and what the situation is with respect to water levels rising upstream of Searsville Dam.

A. That the water levels will rise with further sediment deposition, tends to back up the water coming into Searsville, and that water level will rise higher than it is today.

Q. Have you looked into what the consequences of that might be?

A. Not specifically. This was a start of that process, but we haven't looked at a more refined way to specifics.

Q. Has there been anything done since this report was written to do what you just said, refine and further answer questions?

A. Again, as part of the Searsville study, that modeling and refinement of this is being carried on, and we don't have those total results yet. That's in the works now.

Q. And that's being conducted by URS?

A. And Balance Hydrologics, the sub consultant.

Q. Do you have a sense of when that work will be done?

A. Yes, it's being completed over the next several months.

Q. Are they also looking at flooding risk downstream of Searsville, not just upstream of Searsville?

MS. FLANAGAN: That's in the Searsville Study you're talking about.

MR. SPROUL: Yeah, in the Searsville Study.

THE WITNESS: Again, they'll be looking at downstream channel capacity at water levels. They won't be getting at what you're calling flood risk, which seems to have a property damage/liability connotation to it.

MR. SPROUL: Q. Have you spent any time thinking about or analyzing whether Searsville Dam currently provides any flood risk attenuation as it currently is formulated or configured?

A. No. We had Balance use their data about dam spill rate compared to flow in the creek at different points, and they're analyzing that kind of information now to see what kind of, as you say, attenuation Searsville Dam has on the overall water shed flow in San Francisquito Creek.

(Exhibit No. 20 marked for identification.)

Q. I'm just going to ask like three questions.

Have you seen this document before?

A. I may have. I don't know if this specific form of it is one that I've seen.

Q. Is -- is it your understanding that there's a written statement of protocols about how the Searsville Advisory Group is to conduct itself?

A. Yes.

Q. And -- but you have some doubt about whether this is actually it?

A. No, I just said I don't know if I've seen this particular version of the protocols -- advisory group's protocols write-up. There have been various versions.

Q. I see. Well, this will truly be my last question. It might take longer than three minutes, so I'll leave it to counsel whether she's going to let you answer or not.

Is there anything in this substantively that says this is different from the protocol that I actually think governs the advisory group meetings that I attend from time to time?

A. I've had very little to do with the advisory group protocols, so I wouldn't be able to evaluate that.

Q. Okay. Fair enough. Okay. That's it.

MS. FLANAGAN: I wasn't called upon to be

gracious or not.

THE REPORTER: Counsel, since this is a US District Court case, are you reserving signature?

MS. FLANAGAN: Yeah, it will be through counsel. You can send the witness letter to me and I'll arrange for him to see a copy and make any corrections to it.

(The deposition concluded at 4:15 p.m.)

--oOo--

STATE OF CALIFORNIA) ss.
COUNTY OF MONTEREY)

I hereby certified that TOM WENDELL ZIGTERMAN, the witness in the foregoing deposition, was duly sworn to testify to the truth, the whole truth and nothing but the truth, in the within-entitled cause; that said deposition was taken at the time and place herein named; that the deposition is a true record of the witness's testimony as reported by me, a duly certified shorthand reporter and disinterested person, and was thereafter transcribed into typewriting by computer, which I then personally proofread.

I further certify that I am not interested in the outcome of the said action, nor connected with, nor related to any of the parties in said action, nor to their respective counsel.

IN WITNESS WHEREOF, I have hereunto set my hand this 3rd day of January, 2014.

(SIGNED ELECTRONICALLY)

_____

JUDIE A. NICHOLAS, CSR 12229

A C K N O W L E D G M E N T

STATE OF _____:
COUNTY OF _____:

I, TOM ZIGTERMAN, having appeared for my deposition herein, hereby certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

_____
TOM ZIGTERMAN

Signed and subscribed to before me this _____day of_____20____.

NOTARY PUBLIC

ERRATA SHEET FOR THE TRANSCRIPT OF:

Case Name: Our ChildrenÆs Earth v Leland Stanford Junior University

Case Number: C-13-0402

Dep. Date: December 20, 2013

Deponent: TOM ZIGTERMAN

CORRECTIONS:

Pg.	Ln.	Should Read:	Reasons Therefore:
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Signature of TOM ZIGTERMAN

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Date Signed