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July 2, 2001

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Emile L. Julian
 Assistant for Rulemakings and Adjudications
 Rulemakings and Adjudications Staff
 Office of the Secretary of the Commission
 U. S. Nuclear Regulatory Commission
 11555 Rockville Pike, One White Flint North
 Rockville, MD 20852-2738
 Attn: Docketing & Services Branch

OFFICE OF SECRETARY
 RULEMAKINGS AND
 ADJUDICATIONS STAFF

Re: Private Fuel Storage – Docket No. 72-22 – ASLBP No. 97-732-02

Dear Mr. Julian:

I am writing in regard to Applicant's Motion for Summary Disposition of Contention Utah O, filed on June 29, 2001. In that filing, the hard copies of the deposition transcripts of Mr. Don Ostler and Mr. John Mann were missing half of the pages. The electronic files attached to the electronic filing were, however, complete. We are today serving complete hard copies of the deposition transcripts to you, to the Board, and to the parties.

Please call me if you have any further questions.

Sincerely,



Paul A. Gaukler

Enclosures

cc: G. Paul Bollwerk III, Esq.
 Dr. Jerry R. Kline
 Dr. Peter S. Lam
 Office of Commission Appellate Adjudication
 Office of the Secretary, U.S. Nuclear Regulatory Commission
 Adjudicatory File, Atomic Safety and Licensing Board Panel
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SECY-02

CONDENSED TRANSCRIPT

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	) Docket No. 72-22
	) ASLPB No. 97-732-02-ISFSI
PRIVATE FUEL STORAGE)
L.L.C.	) DEPOSITION OF:
)
(Private Fuel Storage	) <u>JOHN RICHARD MANN</u>
Facility))
	) (Utah Contention O)

Tuesday, April 17, 2001 - 1:25 p.m.

Location: Heber Wells Building
160 East 300 South
Salt Lake City, Utah

Reporter: Vicky McDaniel

Notary Public in and for the State of Utah



50 South Main, Suite 920
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UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION Before the Atomic Safety and Licensing Board In the Matter of) Docket No. 72-22 PRIVATE FUEL STORAGE) ASLPB No. 97-732-02-ISFSI L.L.C.) (Private Fuel Storage) DEPOSITION OF: Facility) JOHN RICHARD MANN (Utah Contention O) Tuesday, April 17, 2001 - 1:25 p.m. Location: Heber Wells Building 160 East 300 South Salt Lake City, Utah Reporter: Vicky McDaniel Notary Public in and for the State of Utah		E X H I B I T S	
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A P P E A R A N C E S		P R O C E E D I N G S	
1		JOHN RICHARD MANN,	
2		having first been duly sworn to tell the truth,	
3		was examined and testified as follows:	
4		EXAMINATION	
5		BY MR. BLAKE:	
6		Q. My name is Ernie Blake and I represent PFS,	
7		and you've been sworn as a witness here. Have you been	
8		deposed before?	
9		A. I have.	
10		Q. And also appeared as a witness in other	
11		proceedings?	
12		A. Once, yes.	
13		Q. Could I have your name?	
14		A. It's John -- do you want my full name?	
15		Q. Whatever you're comfortable with.	
16		A. John Richard Mann, M-a-n-n.	
17		Q. And you understand that if it's not clear to	
18		you, anything I'm asking, that you have an opportunity	
19		to say, I don't understand, can you restate that, or try	
20		again?	
21		A. Sure.	
22		Q. Do you know the gentleman who has previously	
23		addressed this proceeding, Mr. Olds? Do you know Jerry	
24		Olds?	
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<p style="text-align: right;">5</p> <p>PAGE 5</p> <p>1 A. I'm acquainted with Jerry, yes, a co-worker.</p> <p>2 Q. Is he a peer of yours? Do you work for him</p> <p>3 or he works for you, or --</p> <p>4 A. Technically he is a supervisor of mine. He</p> <p>5 is an assistant state engineer.</p> <p>6 Q. And you realize that he had testified</p> <p>7 previously in this proceeding, or not testified, but at</p> <p>8 least answered questions?</p> <p>9 A. I don't know specifically about that, no.</p> <p>10 Q. So you haven't discussed this with him?</p> <p>11 A. No.</p> <p>12 Q. And do you know whether he's still involved</p> <p>13 in the review of the PFS project or has any relation,</p> <p>14 any involvement with it now?</p> <p>15 A. I have no specific knowledge of that. It</p> <p>16 wouldn't surprise me if he was, but I don't know.</p> <p>17 Q. What is your current position?</p> <p>18 A. My title is regional engineer.</p> <p>19 Q. In the Utah Division of Water Rights?</p> <p>20 A. That's correct.</p> <p>21 Q. Is there any other subsection in there that</p> <p>22 I need to be aware of, or is that it?</p> <p>23 A. The Utah Division of Water Rights has -- the</p> <p>24 hierarchy as such is that the head of the agency is</p> <p>25 termed the state engineer. He's a political appointee.</p>	<p style="text-align: right;">7</p> <p>PAGE 7</p> <p>1 or we can use the same exhibits in subsequent</p> <p>2 depositions, if that's all right with you. It's a</p> <p>3 format we've used with respect to other contentions, and</p> <p>4 as long as we're -- we get along, everything will --</p> <p>5 MR. SEEL: Mark in numerical sequence?</p> <p>6 MR. BLAKE: Yeah, that's all. So I won't</p> <p>7 put it in as applicant's exhibit or you as Utah or you</p> <p>8 as staff. We'll just use them as the contention</p> <p>9 exhibit, and then we'll only have to use one set.</p> <p>10 MR. GAUKLER: I would say to the court</p> <p>11 reporter, to make the best use of the exhibits in this</p> <p>12 instance, just bind all the exhibits in one volume</p> <p>13 separately from the depositions.</p> <p>14 (Exhibit O-1 marked.)</p> <p>15 Q. Dr. Mann, I'm going to give you a copy of</p> <p>16 what's been marked as our Exhibit 1. It's a one-page</p> <p>17 map, as you can see from the upper left-hand corner,</p> <p>18 from Mapquest, a source of all maps in this day and age.</p> <p>19 Would you take a look at this map and carefully mark</p> <p>20 with an X where the PFS site is?</p> <p>21 What is it that you're looking at?</p> <p>22 A. These are a couple of other maps.</p> <p>23 Q. What you're looking at is a couple of other</p> <p>24 maps that were supplied to you or that you brought with</p> <p>25 you today?</p>
<p style="text-align: right;">6</p> <p>PAGE 6</p> <p>1 Below that there are four assistant state engineers.</p> <p>2 Each of one of them has general responsibility over the</p> <p>3 responsibilities of the state engineer, I guess, if you</p> <p>4 will, or the division, state wide. And then</p> <p>5 geographically there are seven regional offices within</p> <p>6 the state, and I'm in charge of one of those seven</p> <p>7 offices. And that office, the office that I'm in charge</p> <p>8 of includes Skull Valley.</p> <p>9 Q. Lucky you.</p> <p>10 A. Yeah.</p> <p>11 Q. So what is your familiarity and background</p> <p>12 with this project?</p> <p>13 A. Just what I've seen that's been presented by</p> <p>14 Mr. Seel.</p> <p>15 Q. So you haven't had any involvement with this</p> <p>16 project or knowledge of it prior to the last year?</p> <p>17 A. No.</p> <p>18 Q. So it's only over the last year that you've</p> <p>19 become acquainted with this and read whatever you've</p> <p>20 read?</p> <p>21 A. That would be correct, yes.</p> <p>22 MR. BLAKE: I'm going to mark for</p> <p>23 identification -- I think we'll call these like</p> <p>24 Contention O Exhibit 1. And then each of us in any of</p> <p>25 the Contention O depositions can use that same sequence,</p>	<p style="text-align: right;">8</p> <p>PAGE 8</p> <p>1 A. These are from the infamous Hood and Waddell</p> <p>2 report. So they have the Skull Valley Indian</p> <p>3 Reservation on it. I don't know exactly where PFS is</p> <p>4 at, but let's see. There's no scale on this map from</p> <p>5 Mapquest. There's one right here. So I'm going to say</p> <p>6 it's right in here.</p> <p>7 Q. Okay, thank you.</p> <p>8 A. Is that sufficient?</p> <p>9 Q. Sure. What has been your role or</p> <p>10 involvement with the case since you started your</p> <p>11 involvement over the last year?</p> <p>12 A. Simply to assist the attorney general's</p> <p>13 staff as requested in reviewing the water right issues</p> <p>14 and other water quantity related issues.</p> <p>15 Q. And who have you interfaced with while</p> <p>16 performing these duties? I understand you're dealing</p> <p>17 with your counsel.</p> <p>18 A. Other than members of the attorney general's</p> <p>19 office, I don't know that there has been anyone</p> <p>20 specific. I've informed Bob Morton, state engineer,</p> <p>21 obviously, that the inquiries were being made by the</p> <p>22 attorney general's office requesting information from us</p> <p>23 and assistance, and was directed to provide whatever was</p> <p>24 asked for. So just pretty much been on my own here.</p> <p>25 Q. Well, let me throw up some names and you can</p>

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<p style="text-align: right;">9</p> <p>SHEET 2 PAGE 9</p> <p>1 confirm. David Cole?</p> <p>2 A. No, I haven't spoken with Dave.</p> <p>3 Q. The governor?</p> <p>4 A. No, I haven't.</p> <p>5 Q. Any legislators?</p> <p>6 A. No, I have not.</p> <p>7 Q. Mr. Ostler?</p> <p>8 A. No.</p> <p>9 Q. Mr. Gabert? It's G-a-b-e-r-t. And I</p> <p>10 pronounced it "Ga-BARE," but maybe it's "GA-bert" or</p> <p>11 something. How do you pronounce it? Do you know?</p> <p>12 A. I don't know. You did a good job there. I</p> <p>13 trust you.</p> <p>14 MR. SEEL: Gabert.</p> <p>15 A. I haven't spoken with him, no.</p> <p>16 Q. Do you know Mr. Ostler or Mr. Gabert?</p> <p>17 A. I don't know Mr. Gabert, but I am acquainted</p> <p>18 with Don Ostler, yes.</p> <p>19 Q. Do you know what your relative</p> <p>20 responsibilities are in the case with respect to</p> <p>21 Mr. Ostler's and/or Mr. Gabert's?</p> <p>22 A. As I would understand them, they would be</p> <p>23 somewhat separate. They would not overlap an awful lot,</p> <p>24 because he's focusing more on what are quality related</p> <p>25 issues and I'm trying to relate mostly water quantity</p>	<p style="text-align: right;">11</p> <p>PAGE 11</p> <p>1 Q. Sure. Yeah, that's a fine answer.</p> <p>2 A. Well, anyway --</p> <p>3 Q. Do you remember when it was?</p> <p>4 A. -- it was a very limited role, just in</p> <p>5 relation to those water quantity issues as they might</p> <p>6 relate to the application.</p> <p>7 Q. Are you familiar with the contention that</p> <p>8 we're talking about, Contention 0?</p> <p>9 A. A copy's been provided to me, so --</p> <p>10 Q. That's great if you have a copy in front of</p> <p>11 you. Just for your counsel's information, I was going</p> <p>12 to look at the copy which was attached to LBP 9939.</p> <p>13 This has had several iterations, Contention 0. I</p> <p>14 believe it to be the ultimate version.</p> <p>15 Do you have a copy in front of you?</p> <p>16 A. I believe so, yes.</p> <p>17 Q. Let's see what you're looking at. What</p> <p>18 you're looking at is the interrogatory that relates to</p> <p>19 0. But let me -- there's one official version, and I'll</p> <p>20 share it with you. And I'm going to look over your</p> <p>21 shoulder if I can and just ask you a couple of</p> <p>22 questions. This is actually the issue which has been</p> <p>23 admitted by the judges in the proceeding, and this is</p> <p>24 the format of it as it comes in. Have you seen this</p> <p>25 before?</p>
<p style="text-align: right;">10</p> <p>PAGE 10</p> <p>1 kinds of things.</p> <p>2 Q. What did you do to prepare for today's</p> <p>3 deposition?</p> <p>4 A. Not a heck of a lot. I've read Tech Pub 18</p> <p>5 and just reviewed the other information which I believe</p> <p>6 is part of the application which is being presented by</p> <p>7 PFS.</p> <p>8 Q. Do you have with you today the information</p> <p>9 that you've reviewed for today's deposition?</p> <p>10 A. All here, yeah.</p> <p>11 Q. Maybe I can take a minute at the next break</p> <p>12 and take a look through it and just see what you have.</p> <p>13 A. Sure. I also did one other thing, too. I</p> <p>14 did go through and take off of our data base kind of a</p> <p>15 printout of some of the water rights in the area.</p> <p>16 Q. Okay. Presumably that's information from</p> <p>17 your data base that already would have been provided to</p> <p>18 us in the course of discovery?</p> <p>19 A. I would assume so. It's public information,</p> <p>20 so it's there and available.</p> <p>21 Q. Have you played a role in helping the state</p> <p>22 respond to our discovery request?</p> <p>23 A. A limited role, I believe, yes.</p> <p>24 Q. And what was that role?</p> <p>25 A. Is it okay if I say I can't remember?</p>	<p style="text-align: right;">12</p> <p>PAGE 12</p> <p>1 A. I'm not sure that I've seen this edition of</p> <p>2 it, but I've seen something similar. Is that okay?</p> <p>3 Q. Sure. All I'm going to use it for is to try</p> <p>4 to determine which of the areas you mean to testify on</p> <p>5 and which ones you --</p> <p>6 A. Okay.</p> <p>7 Q. This is just a lead-in, which you're welcome</p> <p>8 to read. Basically it's the state's allegation that</p> <p>9 we've failed to adequately assess effects of</p> <p>10 construction operation, decommissioning with respect to</p> <p>11 the following. And then it goes 1, 2, 3, 4, 5. So I</p> <p>12 want to ask you about 1, 2, 3, 4, and 5.</p> <p>13 With respect to the first one, "contaminant</p> <p>14 pathways from the applicants, sewer/waste water system,</p> <p>15 routine facility operations, and construction</p> <p>16 activities."</p> <p>17 A. I don't believe that I have any input on</p> <p>18 that.</p> <p>19 Q. Okay. The second is "contaminant pathways</p> <p>20 from the applicant's retention pond in that," and then</p> <p>21 there are two A's and B's, ways in which the state</p> <p>22 alleges that the environmental report is deficient or</p> <p>23 failed.</p> <p>24 A. No, that's not me.</p> <p>25 Q. Okay. No. 3 is the potential for</p>

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1 groundwater and surface water contamination.
2 A. No, not me.
3 Q. No. 4 is the effects of applicant's water
4 usage on other well users and on the applicant.
5 A. Yes.
6 Q. Okay. And No. 5 is the impact of potential
7 groundwater contamination on downgradient hydrological
8 resources.
9 A. I do not believe that's -- I'm not going to
10 be responding to that.
11 Q. So 4 is the one we can focus on?
12 A. Right.
13 Q. That will shorten it up.
14 Let me just take a second and scratch out a
15 lot of questions.
16 A. All right.
17 Q. Mr. Mann, at the next break we'll take a
18 look at the documents that you've reviewed to date that
19 you brought with you here today.
20 A. Okay.
21 Q. Are there any other documents that are based
22 on today's proceedings or that you're aware of from any
23 source that you plan now to read in addition to what
24 you've looked at to prepare? I think that you
25 anticipate being a witness at the hearing, or you don't

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1 know?
2 A. Unfortunately, I don't know. I guess that's
3 up to the attorney general's staff. I can't think of
4 anything right now that I'm planning to review.
5 Q. I'm going to go through quickly some
6 documents and determine whether or not you're aware of
7 these or have any familiarity with them.
8 (Exhibit 0-2 marked.)
9 This is Exhibit 2. These are discovery
10 responses which, you can tell from the date on the first
11 page, were submitted in June of 1999, some of which deal
12 with this particular contention. Have you ever seen
13 this document?
14 A. I can't recall having seen it, no.
15 Q. Okay. And therefore, based on the date,
16 your testimony is that you would have played no role in
17 it?
18 A. That's correct, yes.
19 Q. Okay, No. 3.
20 (Exhibit 0-3 marked.)
21 Let me just say for the record that Exhibit
22 No. 2 was the State of Utah's Objections and Response to
23 Applicant's Second Set of Discovery Requests with
24 Respect to Groups II and III Contentions dated June
25 28th, 1999.

PAGE 15 15

1 Now, what I've had marked as Exhibit 3 of
2 Contention 0 is the State of Utah's Supplemental
3 Response to Applicant's Second Set of Discovery Requests
4 for Utah Contention 0 dated November 22, 1999. Same
5 answers, Mr. Mann? That is, you don't think you've ever
6 seen this and you weren't involved in its preparation?
7 A. November of '99 would have been in excess of
8 a year ago, so no, I would not have been.
9 Q. And you don't think you've seen it since?
10 A. No.
11 Q. Okay. No. 4 which I'm about to give you --
12 we may hit pay dirt on this -- is State of Utah's
13 Objections and Response to Applicant's Sixth Set of
14 Discovery Requests to Intervenor State of Utah, and it's
15 dated February 28, 2001.
16 (Exhibit 0-4 marked.)
17 Did you get a copy of this? It's No. 4.
18 A. Okay.
19 Q. Now, this one, dated February 28th, 2001,
20 you may well have had a role in. And I'd ask you to
21 look particularly at subsection D of the answer to
22 Interrogatory 8.
23 A. Looking on page 13.
24 Q. Yes, begins on page 13.
25 A. Did you have specific questions about this

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1 particular one for me?
2 Q. Let me just start, do you recognize this?
3 A. I do, yes.
4 Q. Is there any other portion of the document
5 that you recognize other than this one section?
6 A. I believe that I've seen the whole document,
7 so...
8 Q. What was your role in this particular
9 section?
10 A. Just providing some support for Kurt in
11 answering the interrogatories. I believe that would be
12 accurate, yeah.
13 Q. So you provided some materials to your
14 counsel, and then what happened? He drafted a response,
15 and you looked at it and said it looked all right to you
16 or made some additions or edits?
17 A. I would say that would be accurate, yes.
18 Q. Okay. And today do you believe this to be
19 accurate information?
20 A. I would say so, yes.
21 Q. And what about the rest of the document at
22 all? How familiar are you with the rest?
23 A. I read it, but I don't -- again, you know,
24 I'm not -- I don't think I'm a witness relative to it.
25 So anyway.

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17

SHEET 3 PAGE 17

1 Q. Can you go to Exhibit -- what I'd ask be
2 marked as Exhibit 5.
3 (Exhibit 0-5 marked.)
4 This is a two-page document entitled
5 Potential Threats to Groundwater from Storage of High
6 Level Nuclear Waste at the Skull Valley Goshute Indian
7 Reservation. It's an undated document, but it's
8 identified in the bottom right-hand corner on the two
9 pages as UT-19236 and 19237, Bates stamps. Have you
10 seen this document before?
11 A. No, I haven't.
12 Q. Take a second and read through it, if you
13 would, please.
14 A. Okay.
15 Q. I'll represent to you that this was provided
16 to us by the State of Utah in the course of discovery.
17 It was one of the early documents that we got. I've
18 been unable to find its author, although I've tried.
19 A. Keep trying.
20 Q. Yup. I may.
21 A. Sorry.
22 Q. Mr. Ostler thought that he recognized it,
23 and it may have been developed somewhere in his group.
24 But I haven't found its author yet.
25 But since you're quantity and not quality,

18

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1 let me focus on just that portion of the second
2 paragraph where recharge is discussed. Basically this
3 paper describes a fairly simplistic recharge model in
4 the Skull Valley --
5 A. Right.
6 Q. -- where the water comes down from the
7 slopes of the mountains on either side and recharges the
8 Skull Valley aquifer.
9 A. Uh-huh.
10 Q. Is that about your understanding of it?
11 A. Yes.
12 Q. This one you ought to recognize as well.
13 I'm going to ask your resume be identified as No. 6.
14 It's a one-page resume, John R. Mann.
15 (Exhibit 0-6 marked.)
16 This was provided to us as your resume. Do
17 you recognize it?
18 A. Yes.
19 Q. Accurate, as far as you know?
20 A. Yes.
21 Q. Anything that needs to be added to it?
22 A. I can't think of anything.
23 Q. It fairly represents what your current
24 duties are and what the scope of your responsibilities
25 are?

19

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1 A. Well, it's pretty limited. I mean, it's not
2 an exhaustive representation of what we do in the
3 division or what I do in my current position, but it's
4 an overview.
5 Q. Why don't you take a second and just expand
6 on it, if you would, just so we really do understand.
7 A. Okay. The state engineer in Utah is charged
8 with administrative functions relative to water rights,
9 water right law. And as such I manage this particular
10 office as necessary for those administrative functions
11 with individuals who file water rights, processing of
12 water rights, actions by the state engineer on the water
13 rights. We from time to time undertake studies to
14 determine water budget kinds of issues like supply,
15 demand, those kinds of things. We also do sort of quasi
16 I guess legal functions. I don't know if that would be
17 the right term or not. But anyway, adjudication efforts
18 to identify water rights and to quantify them. And then
19 we're responsible also for areas such as stream
20 alterations and dam safety. That's about it.
21 Q. Okay. Do you have any education, training,
22 or experience related to radioactivity or radioactive
23 contamination?
24 A. The only training that I did have was in a
25 previous job. We dealt with some radioactive materials.

20

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1 So I did receive some limited training there. But none
2 of it has been made applicable to the PFS project.
3 Q. Okay. And you don't expect --
4 A. No, I don't.
5 Q. Okay. So I can eliminate the need to
6 question you or find out what your expertise is in this
7 area?
8 A. I think you probably can.
9 Q. Thanks. I want to mark for identification a
10 document which is entitled Figure 2.5-2, Water Wells
11 within 5 Miles (8 KM) of PFSF Site. It's Revision 13.
12 (Exhibit 0-7 marked.)
13 Mr. Mann, have you seen this document
14 before?
15 A. Yes, I have.
16 Q. And have you spent enough time with it to be
17 generally familiar with it and what it purports to
18 represent?
19 A. I believe so.
20 Q. And are there any inaccuracies in it that
21 you're aware of or anything you take issue with?
22 A. I haven't double checked the data to make
23 sure that it's accurate. Our data base does not reflect
24 any of the wells that are located on the Skull Valley
25 Indian Reservation. Filings have not been made with the

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<p>PAGE 21</p> <p>21</p> <p>1 State of Utah for those. So I'm unfamiliar with the</p> <p>2 existence of those particular wells, but --</p> <p>3 Q. That would be 7, 8, and 9 represented on</p> <p>4 this?</p> <p>5 A. Right.</p> <p>6 Q. Okay. And those that are not on the</p> <p>7 reservation, do you think these accurately represent</p> <p>8 their placement?</p> <p>9 A. As far as I know.</p> <p>10 Q. One through six. And looking at the table</p> <p>11 that appears on this exhibit, do you know whether or not</p> <p>12 any -- do you know whether or not there are any</p> <p>13 inaccuracies in any of the information that is there</p> <p>14 concerning the wells?</p> <p>15 A. I don't know exactly. I do have a listing</p> <p>16 here. We can review that in a moment.</p> <p>17 Q. Maybe at the next break when I look at your</p> <p>18 documents.</p> <p>19 A. We can confirm that, I think, if you would</p> <p>20 like.</p> <p>21 Q. Fair enough.</p> <p>22 A. I don't know right off the top of my head</p> <p>23 whether there would be any inaccuracies or not.</p> <p>24 Q. Okay. I'm going to ask another document be</p> <p>25 identified as Contention 0 Exhibit 8.</p>	<p>PAGE 23</p> <p>23</p> <p>1 look at and compare a couple of documents.</p> <p>2 Q. (BY MR. BLAKE) Before I ask you questions</p> <p>3 about it, Mr. Mann, let me get one more document</p> <p>4 identified and marked, which I also asked you to look</p> <p>5 at.</p> <p>6 (Exhibit 0-9 marked.)</p> <p>7 Marked as Contention 0 Exhibit 9 is a letter</p> <p>8 from Private Fuel Storage to the NRC dated November</p> <p>9 15th, 2000, and it provides the responses to</p> <p>10 additional -- to requests for additional information</p> <p>11 from the NRC.</p> <p>12 During the break, Mr. Mann, you've had a</p> <p>13 chance to look at Exhibits 7, 8, and 9 and to compare</p> <p>14 the information that's provided in those exhibits about</p> <p>15 the wells that are in and around the PFS proposed</p> <p>16 facility. Are you able to now tell me what, if any,</p> <p>17 differences there may exist between PFS's information</p> <p>18 and the state's? I must say that I was hopeful that the</p> <p>19 November 15th letter would reconcile them, but if it</p> <p>20 doesn't --</p> <p>21 A. I don't think there's really an awful lot of</p> <p>22 difference. I noticed there's one well on here that we</p> <p>23 have identified under water right number 16-100 down on</p> <p>24 your map is off just a little bit. That would be point</p> <p>25 No. 4 for the Anschutz Land Company. But it's within</p>
<p>PAGE 22</p> <p>22</p> <p>1 (Exhibit 0-8 marked.)</p> <p>2 This is a one-page memorandum from you,</p> <p>3 presumably, to Ms. Nakahara. And maybe this is what you</p> <p>4 were going to refer to during the next break. Do you</p> <p>5 recognize this document?</p> <p>6 A. Yes.</p> <p>7 Q. And you believe the information that's</p> <p>8 included in it is accurate information?</p> <p>9 A. Yes.</p> <p>10 Q. Based on the state's records of wells?</p> <p>11 A. Well, I composed this e-mail, so yeah, I</p> <p>12 believe it's accurate.</p> <p>13 Q. And what did you compile this information</p> <p>14 from?</p> <p>15 A. Just the Division's computer data base.</p> <p>16 Q. Okay. And do you know whether that computer</p> <p>17 data base has been made available to PFS in the course</p> <p>18 of discovery?</p> <p>19 A. I have no knowledge of that, whether it's</p> <p>20 specifically been made available. It's all public</p> <p>21 record, and all of our records actually are available on</p> <p>22 the Internet if you want to review them.</p> <p>23 (Recess from 2:01 to 2:19 p.m.)</p> <p>24 MR. BLAKE: Okay, we're back on the record.</p> <p>25 We've had a break and Mr. Mann's had an opportunity to</p>	<p>PAGE 24</p> <p>24</p> <p>1 the right section, and it's probably for the purposes of</p> <p>2 what you're doing here is okay.</p> <p>3 And then I have one filing which was made</p> <p>4 December 15th of 1998 which is in Section 33, Township 4</p> <p>5 South, Range 8 West, which would be within your circle</p> <p>6 and is not noted on here. But it happens to be from the</p> <p>7 same well as is noted on here, No. 4, anyway. But there</p> <p>8 are two water rights on that one. But anyway, it looks</p> <p>9 accurate.</p> <p>10 Q. Okay. Just so that I understand these</p> <p>11 couple of differences, the first one turns out in your</p> <p>12 view not to be that significant. The second one you</p> <p>13 pointed out was that that well map No. 4, there are</p> <p>14 actually two rights conferred, and our data shows --</p> <p>15 refers to just one of those two rights?</p> <p>16 A. Well, you don't have any water right filings</p> <p>17 that are referenced in your table, so -- but the two</p> <p>18 water right filings seem to be for the same well, which</p> <p>19 would be point No. 4 on your table.</p> <p>20 Q. And you're getting your information from</p> <p>21 data that you ran out from your computer?</p> <p>22 A. Right.</p> <p>23 Q. And you're going to make that, or your</p> <p>24 counsel's going to make that information available to us</p> <p>25 here sometime later today or tomorrow or sometime</p>

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1 shortly?

2 MR. SEEL: That material right over there,
3 is that --

4 THE WITNESS: Yes.

5 Q. Now I'm going to ask that another document
6 here be marked as Contention 0 Exhibit 10.

7 (Exhibit 0-10 marked.)

8 This document is six double-sided pages and
9 is an excerpt from the Private Fuel Storage Facility
10 Environmental Report. It's revision zero. And the
11 pages that are of interest here, Mr. Mann, are pages
12 2.5-8, 2.5-9, 10, 11, and 12. Notice on those pages
13 that they may have different revision numbers ranging
14 from 2 up to 10, I believe, and that's the groundwater
15 section. Have you seen this document before?

16 A. I don't recall. I haven't seen it, no.

17 Q. I'll ask to take another break, but before I
18 do, I'm going to introduce the next document as well and
19 then ask you to take a look at these and see if you have
20 any differences of opinion or find inaccuracies in them.

21 The next document that I want to put in --
22 the next document that I'd like to get marked as Exhibit
23 11 --

24 (Exhibit 0-11 marked.)

25 -- is an excerpt from the NRC's Draft

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1 Environmental Impact Statement, NUREG 1714. And this
2 excerpt is after 4, but what I want you to focus on,
3 Mr. Mann, is Section 4.2.1.3, which is groundwater.
4 Appears on -- starts on page 4-7.

5 If we could just take a short break and you
6 would look at one -- PFS's description of groundwater
7 from the environmental report and the excerpt I
8 provided, and then the NRC's staff's description of
9 groundwater, ground water impacts. And then we'll talk
10 about what, if any, problems or difficulties or
11 inadequacies you believe might exist in those
12 descriptions.

13 A. Okay.

14 (Recess from 2:28 to 2:41 p.m.)

15 Q. (BY MR. BLAKE) Let me start by just
16 marking -- we've finished the break and Mr. Mann's had
17 an opportunity to review both Exhibits 10 and 11, as
18 well as a third document that I'm now going to ask be
19 identified marked as Contention 0 Exhibit 12.

20 (Exhibit 0-12 marked.)

21 Exhibit 12 is pages 3-11 and 3-12 out of
22 NUREG 1714, the staff's draft EIS, this section on
23 groundwater hydrology and quality.

24 What I'm going to do, Mr. Mann, is go
25 through each of these and ask you to just tell me what,

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1 if any, differences you have with them or if they're
2 inadequate or inaccurate in your mind.

3 First of all, as a general matter, is there
4 a major difference or are we fairly close overall in
5 what it is they talk about in terms of groundwater
6 descriptions?

7 A. I think they would be pretty close, yeah.

8 Q. We can take them in any order you want to,
9 then. If you want to go through and talk about any
10 specifics or if you think that's a sufficient
11 explanation, that's fine with me, too. If there's some
12 inaccuracies or inadequacies that you think exist that
13 you want to point out, we'll go through them in whatever
14 order you want.

15 A. I don't have anything specific.

16 MR. BLAKE: Okay. I goofed on making
17 copies, and so I haven't provided you all with a copy of
18 these two pages. Are you all right with that, Kurt? Do
19 you have a copy of this?

20 MR. SEEL: That's fine.

21 MR. BLAKE: I apologize. And you have one
22 as well, Bob?

23 MR. WEISMAN: Yeah.

24 Q. (BY MR. BLAKE) From the various documents
25 that I've shown you and that you have general agreement

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1 with, I take it we have agreement that recharge occurs
2 in the Skull Valley from the runoffs basically at the
3 east and west sides of the valley from the mountains.
4 Is that correct?

5 A. Yes.

6 Q. And that the aquifer under the PFS site is
7 subject to that same recharge by transmissibility, or
8 you may have a different term, but use whatever term you
9 want. Is that a fair statement as well?

10 A. Sure.

11 Q. At what depth do you understand the
12 groundwater to be found under the PFS site?

13 A. I don't have personal knowledge of that, but
14 again, I could, you know, examine our well logs and
15 things that we have there in our office and come up with
16 some information for you on that. I think it would
17 vary, too, according to where you're at within the Skull
18 Valley. But at the PFS site I would guess it would be
19 somewhere around a couple hundred feet, maybe.

20 Q. Do you have any reason to quarrel with the
21 depths at which PFS has located an aquifer?

22 A. I don't suppose I do, no.

23 Q. Would you expect that groundwater depth to
24 change throughout the year or over any other
25 periodicity?

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<p>PAGE 29</p> <p style="text-align: right;">29</p> <p>1 A. It would be typical for it to fluctuate</p> <p>2 seasonally and also from year to year, depending on</p> <p>3 whether it's a dry year or wet year.</p> <p>4 Q. Would you expect the fluctuation to be</p> <p>5 extreme or measured within feet as opposed to tens of</p> <p>6 feet or hundreds of feet or thousands of feet?</p> <p>7 A. We don't monitor a whole lot of wells there</p> <p>8 in Skull Valley, so I don't know about it specifically.</p> <p>9 But in the neighboring drainage in Tooele Valley, for</p> <p>10 example, during the 1983-84 period we had to have some</p> <p>11 wells there that rose on the order of about 30 feet,</p> <p>12 maybe.</p> <p>13 Q. That's a pretty large rise, I take it, by</p> <p>14 the way you're expressing it.</p> <p>15 A. Right, a fairly significant increase. So I</p> <p>16 would assume that in Skull Valley the same would have</p> <p>17 occurred, but again, I don't have records to</p> <p>18 substantiate that.</p> <p>19 Q. Do you know what the water use designation</p> <p>20 is for the water under the PFS site?</p> <p>21 A. Water use designation?</p> <p>22 Q. Yes.</p> <p>23 A. Is that an NRC term?</p> <p>24 Q. No, I believe it was a Utah term for uses to</p> <p>25 which water might be put.</p> <p>PAGE 30</p> <p style="text-align: right;">30</p> <p>1 A. I would assume that it would simply be some</p> <p>2 sort of an industrial purpose.</p> <p>3 Q. Is it not a term of art that you all use in</p> <p>4 qualifying or characterizing groundwater? That is, what</p> <p>5 its potential uses might be? It's not a term you're</p> <p>6 familiar with?</p> <p>7 A. Well, we do characterize the uses that</p> <p>8 groundwater can be put to, but that's not necessarily</p> <p>9 one that we have commonly used, let's put it that way.</p> <p>10 Q. Okay. And how would you -- do you not have</p> <p>11 specific terms and terminology that you use for</p> <p>12 groundwater? That is, that it would be capable of being</p> <p>13 used for industrial uses, capable of being used for</p> <p>14 domestic uses, capable of being used for that kind of</p> <p>15 thing?</p> <p>16 A. Domestic, irrigation, stock watering,</p> <p>17 municipal uses, industrial, commercial. Pretty much,</p> <p>18 you name it, we try to come up with a word for it.</p> <p>19 Q. And do you know whether or not the water</p> <p>20 underneath where the PFS site is located has been</p> <p>21 designated or characterized?</p> <p>22 A. Well, we don't characterize the source</p> <p>23 itself as such. It's just that an individual when they</p> <p>24 file a water right application would request certain</p> <p>25 uses to be made with the water. The water use</p>	<p>PAGE 31</p> <p style="text-align: right;">31</p> <p>1 terminology that we would use would be specific to water</p> <p>2 right applications and uses of water that are engaged in</p> <p>3 by individual water users.</p> <p>4 Q. As it's used?</p> <p>5 A. Right.</p> <p>6 MR. BLAKE: I'm going to ask that another</p> <p>7 document be marked, this one as No. 13.</p> <p>8 (Exhibit O-13 marked.)</p> <p>9 Q. This is another response to an NRC request</p> <p>10 for additional information. It's dated February 18th,</p> <p>11 1999. Mr. Mann, you're probably getting used to this</p> <p>12 format now, but I don't know whether you've ever seen</p> <p>13 this document or not. It addresses influence of -- on</p> <p>14 surrounding water of the use of water by PFS. Take a</p> <p>15 second and take a look at it, if you would.</p> <p>16 A. I may have seen it, but I can't recall</p> <p>17 specifically seeing it.</p> <p>18 MR. BLAKE: Ask that another document be</p> <p>19 marked then as No. 14.</p> <p>20 (Exhibit O-14 marked.)</p> <p>21 Q. This is -- 14 which I'm providing to you is</p> <p>22 a number of pages, a Stone & Webster calculation sheet,</p> <p>23 and, as I understand it, is a revision or an update of</p> <p>24 the calculations done which are described in Exhibit 13,</p> <p>25 similar calculation update. Have you ever seen this</p> <p>PAGE 32</p> <p style="text-align: right;">32</p> <p>1 document? By the way, I understand this was just</p> <p>2 provided yesterday to the state, so if you haven't seen</p> <p>3 it, I'm not shocked. On the other hand, you may have</p> <p>4 seen it yesterday or today.</p> <p>5 A. I've seen something similar. Some of the</p> <p>6 pages look familiar, but not all of them. I think I do</p> <p>7 have this document, actually, somewhere in here.</p> <p>8 Q. Did you look at it enough to know whether or</p> <p>9 not you're in basic agreement with the approach that's</p> <p>10 been taken here?</p> <p>11 A. You know, I think I would probably best</p> <p>12 leave this question to be answered by either Dave Cole</p> <p>13 or John Ostler. So I think they would be better to</p> <p>14 answer that particular question.</p> <p>15 Q. All right.</p> <p>16 A. I do note on this, just as a side note, that</p> <p>17 on page 5 of this it says that --</p> <p>18 Q. Now, which is "this" that you're referring</p> <p>19 to?</p> <p>20 A. Stone & Webster.</p> <p>21 Q. Exhibit 14?</p> <p>22 A. Calculation sheet. I've lost track, but I</p> <p>23 think it's 14.</p> <p>24 Q. Yes, okay. The page number?</p> <p>25 A. Page No. 5. It says that the maximum</p>
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1 anticipated withdrawal rate for the proposed PFS water
2 well will be approximately 10,000 gallons per day, then
3 in parentheses it has 11.2 acre feet per year, during
4 first nine months and will decrease thereafter. So...
5 Q. I see where you're reading, but what is the
6 point?
7 A. Well, it was indicated earlier that the
8 withdrawal rate would be 2.9 acre feet per year, so I
9 see that that's an average over a 42-year period.
10 Q. Right.
11 A. Right?
12 Q. Uh-huh. So we're okay?
13 A. I suppose.
14 Q. I mean, one's an average and one's the
15 initial maximum?
16 A. Just wanted to make sure and point that out.
17 Q. Fair enough. Okay, as the final exhibit --
18 it's a good term, by the way. Did you hear that? "As
19 the final exhibit."
20 (Exhibit O-15 marked.)
21 No. 15, I want to put in front of you a
22 document that you're already familiar with, which is the
23 Hood and Waddell 1968 study.
24 A. I've got one.
25 Q. And I want to ask with respect to this

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1 document which you have seen and spent some time with,
2 at least, are there problems with this document that
3 you're aware of now based on information that you've
4 become aware of since 1968 or otherwise? Any specific
5 problems that you have with this USGS document or the
6 techniques they've used?
7 A. I don't believe so.
8 Q. Mr. Mann, are you aware of any future
9 potential changes on use of water in Skull Valley that
10 would alter the current scheme of water, that is,
11 recharge, usage, draw down, any of those characteristics
12 in a significant way?
13 A. Well, I would suppose that in order for
14 recharge, or I can't remember exactly how you phrased
15 the question, but for recharge to be affected it would
16 have to be something that a private individual would
17 have to propose as a project or a governmental entity.
18 Like I've tried to indicate, the Division of Water
19 Rights is an administrative agency, so we don't have any
20 of those kinds of projects that we do.
21 Q. Well, I'm asking because we're not aware of
22 any, that is, PFS, and I thought potentially, you know,
23 with your knowledge of that geographic area and the need
24 for people to come to you to use water or get permission
25 to use water that you might be aware of something we

1 weren't and ought to be taking into account.
2 A. I'm not aware of anything at this point in
3 time. There have been some recent applications for
4 agricultural purposes, but that's not unusual for the
5 area. Pretty typical for what past land use practices
6 would be in water use. But I might point out that five
7 or ten years ago I'm not sure that the Goshute Indians
8 were anticipating PFS coming along. So you never can
9 tell what the next five or ten years will bring about.
10 But at this point in time I'm not aware of any
11 particular projects, no.
12 MR. BLAKE: Okay, I don't have any more
13 questions. I do appreciate your taking the time to take
14 a look at the documents which you've never seen before
15 and responding to questions. Thank you.
16 THE WITNESS: You're welcome.
17 MR. WEISMAN: I don't have any questions.
18 MR. SEEL: Just a minute. Can we just take
19 a break?
20 (Recess from 2:59 to 3:05 p.m.)
21 EXAMINATION
22 BY MR. SEEL:
23 Q. I have a follow-up question. We're back on
24 the record.
25 Do you believe that the data and conclusions

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1 in the 1968 Hood and Waddell report, Exhibit No. 15, are
2 still accurate today?
3 A. I have no reason to discount the conclusions
4 that they arrived at. Obviously since 1968 there have
5 been other uses of water that have been established and
6 so forth. So some of the numbers would be different.
7 But the basic conclusions of the report, I don't have
8 any reason to come up with something different.
9 Q. Are you saying you don't have any data that
10 would cause you to change -- to come to a different
11 conclusion?
12 A. Well, the report is what it is. I mean,
13 it's just trying to represent the water resources of the
14 Skull Valley area and what falls in the area in the way
15 of precipitation, how much recharge there would be, the
16 water uses that were occurring as of 1968. This is
17 2001, so there may be more, may be a little bit less as
18 far as water uses. But the basic information that's in
19 the report, I don't have any reason to disbelieve them
20 or to discount those conclusions, I guess.
21 MR. SEEL: Okay. I don't have any further
22 questions.
23 MR. BLAKE: None.
24 (Deposition was concluded at 3:07 p.m.)
25

* * *

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C E R T I F I C A T E

State of Utah)
 ss.

I, Vicky McDaniel, a Registered Merit Reporter and Notary Public in and for the State of Utah, do hereby certify:

That the deposition of John Richard Mann, the witness in the foregoing deposition named, was taken on April 17, 2001, and that said witness was by me, before examination, duly sworn to testify the truth, the whole truth, and nothing but the truth in said cause;

That the testimony of said witness was reported by me in stenotype and thereafter transcribed into typewriting and that a full, true, and correct transcription of said testimony so taken and transcribed is set forth in the preceding pages.

I further certify that I am not of kin or otherwise associated with any of the parties of said cause of action and that I am not interested in the event thereof.

WITNESS MY HAND and OFFICIAL seal at Saratoga Springs, Utah, this 23rd day of April, 2001.

Vicky McDaniel, RMR
Utah License No. 87-108580

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Case: In the Matter of Private Fuel Storage
Case No.: ASLPB No. 97-732-02-ISFSI
Reporter: Vicky McDaniel
Date taken: April 17, 2001

WITNESS CERTIFICATE

I, John Richard Mann, HEREBY DECLARE:

That I am the witness referred to in the foregoing testimony; that I have read the transcript and know the contents thereof; that with these corrections I have noted, this transcript truly and accurately reflects my testimony.

PAGE-LINE	CHANGE/CORRECTION	REASON
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No corrections were made.

SUBSCRIBED and SWORN to at John Richard Mann
 , this day of
2001.

Notary Public

CONDENSED TRANSCRIPT

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	) Docket No. 72-22
	) ASLPB No. 97-732-02-ISFSI
PRIVATE FUEL STORAGE)
L.L.C.	) DEPOSITION OF:
)
(Private Fuel Storage	) <u>DON A. OSTLER</u>
Facility))
	) (Utah Contention O)

Thursday, April 19, 2001 - 9:08 a.m.

Location: Parsons, Behle & Latimer

201 S. Main, #1800

Salt Lake City, Utah

Reporter: Vicky McDaniel

Notary Public in and for the State of Utah



50 South Main, Suite 920
Salt Lake City, Utah 84144

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Don A. Ostler * April 19, 2001

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
Before the Atomic Safety and Licensing Board
In the Matter of) Docket No. 72-22
) ASLPB No. 97-732-02-ISFSI
PRIVATE FUEL STORAGE)
L.L.C.) DEPOSITION OF:
)
(Private Fuel Storage) DON A. OSTLER
Facility))
) (Utah Contention 0)
Thursday, April 19, 2001 - 9:08 a.m.
Location: Parsons, Behle & Latimer
201 S. Main, #1800
Salt Lake City, Utah
Reporter: Vicky McDaniel
Notary Public in and for the State of Utah

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P R O C E E D I N G S

DON A. OSTLER,

having first been duly sworn to tell the truth,
was examined and testified as follows:

EXAMINATION

BY MR. BLAKE:

Q. Mr. Ostler, my name is Ernie Blake and I represent PFS in this proceeding before the Nuclear Regulatory Commission. You've been offered today as a witness on Contention 0, and I'll be asking you some questions. If you don't understand them -- you've been through this routine before, so you understand that if there's anything that's confusing to you or that you don't understand, simply ask.

A. Okay.

Q. And ask me to try to clarify it. If I can, I will. And if you don't understand and we can't get an answer, that's fine, too.

A. Agreed.

Q. Please state your name.

A. Don A. Ostler.

Q. And your current position and employer?

A. My position is the director of the Utah Division of Water Quality, employed by the State of Utah Department of Environmental Quality.

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A P P E A R A N C E S

For the Intervenor: KURT E. SEEL, ESQ.
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Washington, D.C. 20555

Also Present: Wayne Lewis

I N D E X

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PAGE 4

Q. Are you familiar generally with the PFS project?

A. Yes.

Q. You understand where it's located?

A. Yes.

Q. Can you just describe for us on this Exhibit 1 from Utah Contention 0 what your understanding is of its location?

A. Well, the location was -- this is a little bit more general map than I've seen before, but it's south of Rowley Junction, which I do not see located on here. It's east of Salt Lake City -- excuse me, west of Salt Lake City, south of the Great Salt Lake south arm, some miles west of Rowley Junction. I guess I don't see the level of detail on here to be sure from looking at this specific map. The location is identified in all of your other documents.

Q. Have you visited the site?

A. I have not visited the site.

Q. Do you know where it is with regard to Dugway or Dugway Proving Grounds?

A. With regards to Dugway, my understanding is that it is north of Dugway.

Q. And the Proving Grounds? North?

A. And the Proving Grounds, it would be north

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<p>PAGE 5</p> <p>5</p> <p>1 of the Proving Grounds, probably a little bit east of</p> <p>2 there. The Proving Grounds are outlined here. It's</p> <p>3 very large.</p> <p>4 Q. What's been your role or involvement with</p> <p>5 this project?</p> <p>6 A. My role has been to review portions of what</p> <p>7 I understand to be Contention 0 from the standpoint of</p> <p>8 surface water and groundwater impacts and potential</p> <p>9 impacts.</p> <p>10 Q. When did you become involved initially?</p> <p>11 A. Without having the file information here,</p> <p>12 I'm going by memory, but it's been a couple of years</p> <p>13 ago. I guess I would have to go back to the file to</p> <p>14 look at that date. It's not a date that I carry around</p> <p>15 with me.</p> <p>16 Q. What was your initial involvement?</p> <p>17 A. Initial involvement was in response to</p> <p>18 review of the first, I think you would call it the SAR</p> <p>19 report that was submitted by PFS.</p> <p>20 Q. Did you play a role in the development of</p> <p>21 any of the contentions that the state has advanced in</p> <p>22 this proceeding?</p> <p>23 A. Yes, I did. I participated in some of the</p> <p>24 contentions associated with what I understand to be</p> <p>25 Contention 0.</p>	<p>PAGE 7</p> <p>7</p> <p>1 Q. Who are the individuals otherwise in the</p> <p>2 various departments that you've named with whom you've</p> <p>3 had discussions?</p> <p>4 A. In the AG's office, Denise Chancellor. I</p> <p>5 mentioned Connie Nakahara, who was with the DEQ offices.</p> <p>6 Other individuals within the Division of Water Quality</p> <p>7 would have included I think a staff person, Dave Wham,</p> <p>8 who was a hydrologist. And I guess none others come to</p> <p>9 mind right now that I can recall specifically.</p> <p>10 Q. What about Mr. Gabert? Do you know a</p> <p>11 Mr. Gabert?</p> <p>12 A. No.</p> <p>13 Q. How about David Cole?</p> <p>14 A. No.</p> <p>15 Q. John Mann?</p> <p>16 A. No.</p> <p>17 Q. Marvin Resnicoff?</p> <p>18 A. No.</p> <p>19 Q. Steven Bartlett?</p> <p>20 A. No.</p> <p>21 Q. Do you remember the sum or substance of any</p> <p>22 of your conversations with anybody else on topics</p> <p>23 involving PFS?</p> <p>24 A. I've just indicated the ones that I think</p> <p>25 I've worked with. I indicated all the ones that I think</p>
<p>PAGE 6</p> <p>6</p> <p>1 Q. Who did you work with in the development of</p> <p>2 the contentions?</p> <p>3 A. This is again over a period of two to three</p> <p>4 years. I worked with people within the Department of</p> <p>5 Environmental Quality, Connie Nakahara. I worked with</p> <p>6 people associated with the attorney general's office and</p> <p>7 worked to some degree with people within the Division of</p> <p>8 Water Quality on certain aspects of that review.</p> <p>9 Q. I don't mean to inquire into any of your</p> <p>10 discussions with your counsel, and so you're free to</p> <p>11 exclude those kinds of discussions in your answers. I'm</p> <p>12 more interested in other individuals. What about Diane</p> <p>13 Nielson?</p> <p>14 A. Obviously I worked for Diane Nielson. There</p> <p>15 have been perhaps a few meetings over this period of</p> <p>16 time that have involved Diane Nielson, none of which</p> <p>17 that I remember specifically at this point in time.</p> <p>18 Q. You don't remember the subject matters of</p> <p>19 those meetings?</p> <p>20 A. Not specifically. I think there's probably</p> <p>21 been meetings relative to PFS where Diane may have been</p> <p>22 present, I may have been present. Not many.</p> <p>23 Q. What about the governor?</p> <p>24 A. I haven't been involved in meetings with the</p> <p>25 governor on this project.</p>	<p>PAGE 8</p> <p>8</p> <p>1 I've been involved with.</p> <p>2 Q. That's Diane Nielson and Dave Lamb?</p> <p>3 A. And Dave Wham and Connie Nakahara, Denise</p> <p>4 Chancellor.</p> <p>5 Q. The attorneys I'm less interested in,</p> <p>6 because I don't want to inquire about that.</p> <p>7 A. I've given you all the ones I recall having</p> <p>8 specific discussions with.</p> <p>9 Q. Do you recall at all the discussions with --</p> <p>10 is it Mr. Lamb?</p> <p>11 A. Wham.</p> <p>12 Q. Oh, Wham?</p> <p>13 A. W-h-a-m.</p> <p>14 Q. Thanks.</p> <p>15 A. Those discussions were in terms of</p> <p>16 identifying surface water sources within a certain radii</p> <p>17 of the site.</p> <p>18 Q. What did he have to say about that topic?</p> <p>19 A. That's included in our written material we</p> <p>20 provided to you. I think it's -- I'm not sure I can</p> <p>21 remember correctly, but Exhibit 14. We provided that</p> <p>22 information to PFS in our responses. That's where they</p> <p>23 came from.</p> <p>24 Q. What Mr. Wham said to you is included in --</p> <p>25 A. Yes.</p>

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1 Q. -- the responses? And what did you say to
2 him?
3 A. Thank you.
4 Q. Short conversation?
5 A. I asked him to do an assignment, he did it,
6 and we reported that in our response to PFS. So there's
7 not much else to say about it.
8 Q. Whatever he reported to you was done in
9 written form, and that's what you've provided to us?
10 A. Yes.
11 Q. So you didn't have any conversations with
12 him?
13 A. Conversations to make sure that it was done
14 thoroughly, conversations to give him instructions on
15 what to do. All of those are reflected in the product.
16 But that's the nature of our discussions.
17 Q. What did you do to prepare for today's
18 depositions?
19 A. I've skimmed through the file again, because
20 most of this has been a long time since I've personally
21 looked at it. And I've got a lot of other things to do
22 and I couldn't spend all my time on this one. But I did
23 want to be somewhat prepared, so I tried to skim through
24 a very large file.
25 Q. How large a file are you talking about?

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1 A. About --
2 Q. You're indicating six inches?
3 A. -- three or four inches.
4 Q. Okay. And you did that here just in the
5 last day or so?
6 A. Yes.
7 Q. And how long had it been prior to that since
8 you'd had any involvement with PFS?
9 A. We can go back and look in the records, but
10 it would have been essentially since the last written
11 document that the state submitted with my declaration
12 attached to it. I don't know the date of that, but it's
13 been many months.
14 Q. To the best of your knowledge, the documents
15 that you just reviewed in preparation for today have all
16 been provided to PFS in the course of discovery?
17 A. Yes.
18 Q. If it turns out that there's something
19 different, would you talk to counsel about that being
20 provided?
21 A. Yes, definitely.
22 Q. Okay. You're aware that you've been named
23 as an expert who may testify in the hearing on at least
24 this Contention 0 in this proceeding?
25 A. Yes.

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1 Q. Have you looked at Contention 0 recently --
2 A. Yes.
3 Q. -- in the course of these last day or so?
4 A. Yes.
5 Q. I'm going to show you, and kind of look over
6 your shoulder, if I can. This is the form of the
7 contention as it now exists. It's been the subject of
8 several iterations as the lawyers bickered about what
9 was in and what was out.
10 I'm showing you a copy of a contention which
11 was an exhibit to the judge's in this case Memorandum
12 and Order LBP 9939 in September of '99. And I believe
13 this to be the current version of the contention. What
14 I want to do is go through and identify, if I can with
15 you, which of these areas you believe you've been
16 provided information on or you're expected to testify
17 on.
18 A. Okay.
19 Q. The opening paragraph is simply an
20 introduction, really, to the five elements of the
21 contention. And it in an introductory way says the
22 state believes that we've failed to adequately take into
23 account from a construction, operation, or
24 decommissioning standpoint a number of potential
25 problems.

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1 The first one is contaminant pathways from
2 our sewer wastewater system and routine facility
3 operations and construction activities. Is that
4 something that I need to explore with you? Is that
5 something you might testify on?
6 A. Yes.
7 Q. The second one is contaminant pathways from
8 our retention pond in that we don't discuss the
9 potential for overflow. Is that one for you?
10 A. I did not do the review on the flood
11 calculations or specific sizing of the pond. However, I
12 did do the review on the potential relative to releases
13 and if there were an overflow, since it's not designed
14 to contain all storm water flows, as to the potential
15 questions associated with that. So my involvement would
16 be limited to those areas.
17 Q. So your involvement on that one would be
18 what happens if it does overflow, but you're not
19 prepared to discuss whether or not it might or it might
20 not; that was somebody else's work. Is that fair?
21 A. I did not do a calculation on the sizing of
22 the pond. Someone else did.
23 Q. Okay. The next portion of the retention
24 pond aspect is the information concerning
25 characteristics or environmental impacts associated with

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1 seepage from it, which I understand to be directly under
2 the pond and into the soils. That one would be yours?
3 A. That's the part I was referring to
4 primarily, yes.
5 Q. What about the potential for groundwater and
6 surface water contamination?
7 A. Yes.
8 Q. And the effects on applicant's water usage
9 on other well users and on the aquifer --
10 A. No.
11 Q. -- quantity? I recall before when we
12 chatted, you said you were a quality man, not a quantity
13 man or something.
14 A. I didn't do the quantity review.
15 Q. Okay. So we'll excise that one. And the
16 final one was the impact of potential groundwater
17 contamination on downgradient hydrological resources.
18 A. Yes.
19 Q. That's you?
20 A. To a degree, yes.
21 Q. What degree do you mean? I'm happy to
22 eliminate questions that I don't have to ask, but I'm
23 not sure --
24 A. Well, that question, in my opinion, is
25 directly related to the others above. The impact of

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1 seepage is in one pathway on downgradient water
2 resources, and they're related.
3 Q. Okay.
4 A. But they're limited as to the discussions,
5 the description that I gave you before on the others,
6 so...
7 Q. I could safely eliminate No. 4, the water
8 usage and other well users of aquifer. Let me just take
9 a second and eliminate those.
10 Do you have in mind the need to review any
11 additional documents or do any additional work before
12 you testify in the proceeding on this topic?
13 A. I don't know of any additional documents at
14 this stage. That certainly doesn't mean that all of the
15 questions are answered. I guess what I'm saying is, I
16 don't know if I can be completely sure that I have seen
17 every new document that may have been produced.
18 Q. I want to show you what's been marked as
19 Exhibit 5 on Contention 0.
20 A. Do you have a question with regards to this
21 before I read it?
22 Q. I'm going to have several questions.
23 A. (Witness reviews document.) Okay.
24 Q. Do you recognize this document?
25 A. I recognize the content. I can't say that I

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1 can recognize the specific document. I recognize that
2 things I'm reading I've read before.
3 Q. And do you recall whether or not it was
4 developed by someone maybe in your department? Is
5 department the right term I use for you, or division?
6 What's the right way to phrase it?
7 A. I guess both of them are correct.
8 Q. Okay.
9 A. My work in it is a division in water
10 quality. My department is the Department of
11 Environmental Quality, so some of the people that I've
12 mentioned are in the Department of Environmental
13 Quality. This appears to be consistent with some of the
14 writings that I've seen generated from our department.
15 Q. And in fact within your division as well?
16 A. I think that would be the case.
17 Q. You don't know who the author of this
18 document is, do you?
19 A. The way these documents and issues were
20 prepared, without me going back to the file and looking
21 at that, which I could determine that by going back to
22 my own files and looking at our own documents, that
23 could be determined, I suppose.
24 MR. BLAKE: Kurt, could you provide me
25 copies of that, please?

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1 MR. SEEL: Copies of --
2 MR. BLAKE: Whatever the documents are in
3 his file. If he could tell us who the author is of this
4 document.
5 MR. SEEL: To the extent that it's
6 privileged, I will check into it.
7 MR. BLAKE: Thanks.
8 THE WITNESS: But the way a lot of these
9 documents were prepared is that written comments would
10 be prepared either from staff or, more likely, from
11 myself. They then in terms of the response to PFS
12 oftentimes would be written in a legal document signed
13 and prepared by the individual who signed it, who is not
14 me. And then there is a declaration that I provide
15 relative to content.
16 And so that's why I'm not being quite as
17 specific. This is two years old, and for me to
18 specifically identify exactly the author, I'll have to
19 go back and search my files and see if there's enough
20 information in our file that would show that.
21 Q. Fair enough. Is the information in here
22 basically accurate, to the best of your knowledge?
23 A. To the best of my knowledge.
24 Q. Do you have any particular quarrels or find
25 any inaccuracies in it?

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1 A. This is a document prepared early in the
2 process. If I'm to go through and compare that to any
3 differences later, I would take more time than I've got
4 here today. The comments in general that I see here are
5 what I remember to be accurate.

6 Q. Which of the areas are you concerned about
7 that you'd need to have additional time to review?

8 A. Well, you just asked a very specific
9 question about something that is two years old with
10 regards to additional work that's been going on for two
11 years, and if I am to be 100 percent correct on that,
12 I'd almost have to go back and make a double check and
13 make sure. I don't -- nothing jumps out at me as
14 specifically being a particular problem. If there were,
15 I would say so.

16 Q. So when you described kind of the process or
17 your involvement in the process, would that have been
18 true as well of the contention, that is, that you or
19 someone in your department would generate a more general
20 subject or topical paper like the one that we just
21 looked at, and then you'd provide it to counsel and then
22 they would develop and put it in the right format using
23 the input that you provided? Is that fair? So you
24 wouldn't be called upon to generate the exact language
25 that you saw in the contention, you'd be providing the

1 the stapled copy I have includes John Mann's resume as
2 well, which may be of considerably less interest to you.

3 MR. SEEL: Is Mr. Mann's resume going to be
4 part of this exhibit?

5 MR. BLAKE: No, it does not need to be part
6 of this exhibit.

7 MR. SEEL: Why don't we take Mr. Mann's
8 resume off.

9 MR. BLAKE: Yeah, take it off your copies
10 and we'll let the court reporter -- Exhibit 16 should be
11 just a two-page document which is Don A. Ostler, P.E.

12 Q. (BY MR. BLAKE) Do you recognize this
13 document?

14 A. Yes.

15 Q. And is it an accurate, current rendition of
16 your qualifications?

17 A. It was current at the time that it was
18 submitted. It's been a while since it was submitted.

19 Q. Do you want to take a look at it quickly and
20 see if there's anything you need to add to it?

21 A. The only thing that really would change is
22 the times. When I state years and so forth, there's
23 been more of them.

24 Q. It's true for all of us.

25 A. Unfortunately. That's the only thing I can

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1 substantive input for it? If that's not a correct
2 characterization, then tell me what it is.

3 A. I think that's basically correct.

4 Q. Okay. And you recall your involvement was
5 in fact to this Contention 0?

6 A. Yes.

7 Q. And was that the way it was done, that is,
8 this isn't your particular language but you provided
9 input like that two-page document to assist the lawyers?

10 A. Yes. I think that it's fair to say that the
11 language would be a composite of work that I've done and
12 work that others did. And of course you can see the
13 responses from the state includes work from multiple
14 individuals that had to be melded into those responses
15 that are sent to you by the attorney general's office.

16 Q. You're talking about discovery responses
17 now, the response to interrogatories?

18 A. Yeah.

19 MR. BLAKE: Let me have marked as our next
20 exhibit, which I think would be 16, a copy of your
21 resume.

22 (Exhibit O-16 marked.)

23 I've had marked as Contention 0 Exhibit 16 a
24 document which includes -- maybe includes too many
25 pages. Should be just a two-page document. At least

1 think of.

2 Q. But otherwise, there's nothing significant?

3 A. That's correct.

4 Q. How would you describe your current
5 responsibilities?

6 A. Current responsibilities as director of the
7 Division of Water Quality include administration of the
8 state laws and rules pertaining to all aspects of
9 surface water quality and groundwater quality. It
10 includes being the signature authority for issuance of
11 permits. It includes sections that focus on specialty
12 areas and specialists, focus on specialty areas. And
13 ultimately where there is controversy, I would be called
14 upon to make final judgments, set direction, monitor
15 progress, be responsible for the operations of the
16 entire division.

17 Q. How many individuals in the division, about?

18 A. Right now, about 63.

19 Q. What did you testify on before Congress in
20 '88 through '91, topic?

21 A. I testified on several things, but one in
22 particular included the proposals for a mine waste
23 regulatory program. Currently mining waste, which is
24 high volume, low hazard waste, has an exemption under
25 the federal RCRA laws and appeared to be unmanaged at

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<p>PAGE 21</p> <p>21</p> <p>1 that point in time. And EPA and Congress were 2 considering proposing some stringent new federal rules, 3 and I led a group of states in the western part of the 4 United States to develop a proposed regulatory program 5 that would be more state based and rely more on existing 6 state programs, educating them about state programs that 7 were functioning, particularly groundwater protection 8 control aspects of mining activities. And testimonies 9 that I gave were in regards to those issues.</p> <p>10 I've also testified on the federal Clean 11 Water Act reauthorization during that period of time.</p> <p>12 Q. What was your testimony on clean water?</p> <p>13 A. The Clean Water Act pertained to states in 14 the capacity of the president of the Association of 15 State and Interstate Water Pollution Control 16 Administrators. It was conveying the state position 17 relative to reauthorization issues, things that were 18 important, things that needed to be addressed.</p> <p>19 Q. What committee was that before?</p> <p>20 A. Well, I'm trying to remember, but --</p> <p>21 Q. Were these interior committees?</p> <p>22 A. The Baucus committee, Senator Baucus. 23 Worked with the representative from New Mexico who was 24 responsible for the RCRA mine waste. His name is 25 slipping from me right now.</p>	<p>PAGE 23</p> <p>23</p> <p>1 A. Yes, I think so. 2 Q. And then it was -- 3 A. It was a number of years ago. 4 Q. Merchant Marine and Fisheries? 5 A. Merchant Marine and Fisheries, another one. 6 Q. And that was different from the New Mexico? 7 That's the third one? 8 A. Yes. 9 Q. Okay. 10 A. The New Mexico one was on the RCRA mine 11 waste regulatory program. The others were relative to 12 Clean Water Act reauthorization issues. 13 Q. Have you had occasion to testify in other 14 settings, judicial or administrative proceedings, been 15 subject to cross-examination in other proceedings? 16 A. In the legislative bodies? 17 Q. No, not so much in legislative, but either 18 in an administrative proceeding like this one or a 19 judicial proceeding. 20 A. Yes, from time to time I've had depositions 21 before. Had formal appeal hearings on orders and 22 actions taken by my division before a water quality 23 board, which is conducted formally according to Utah's 24 statute for appeal hearings. Those types of things come 25 to mind.</p>
<p>PAGE 22</p> <p>22</p> <p>1 Q. This was before the House, a House committee 2 in each case, or a Senate?</p> <p>3 A. I've been involved in testimony with the 4 Merchant Marines and Fisheries Committee. Those three 5 where I've been involved in preparing and giving 6 testimony. I could easily go back and get the records 7 of those to be specific. I'm sure I'll think of the 8 representative from New Mexico before we leave here.</p> <p>9 Q. If you do, that would be helpful. It's not 10 as easy as you might expect to be able to find these 11 things, but we have a lot of people to testify, 12 particularly if you don't know what the sub -- do you 13 recall the names of the subcommittees that appeared? I 14 take it they weren't full committee hearings but on a 15 subcommittee?</p> <p>16 A. I think I just gave you them. I don't 17 recall the official name of the Baucus committee. 18 That's what we all called it was the Baucus committee. 19 Senator Baucus was the chair.</p> <p>20 Q. Okay. And there was an individual from New 21 Mexico?</p> <p>22 A. New Mexico. I'm still trying to get his 23 name.</p> <p>24 Q. And he would have been the chair of this 25 committee or subcommittee?</p>	<p>PAGE 24</p> <p>24</p> <p>1 Q. Any recent, in the last ten years? That 2 being recent, recent in my vintage. 3 A. I don't mark down my depositions. I 4 think -- I definitely have had depositions taken in the 5 last ten years. I definitely have had appeal hearings 6 before the Water Quality Board in the last ten years. 7 Q. Do you try to repress those experiences? 8 A. Well, I just don't remember the dates. 9 There's a lot of things that we're doing. That's just 10 folded in amongst trying to drink out of a fire hose. 11 Q. What's your education, training, and 12 experience with regard to radioactivity and radioactive 13 contamination? 14 A. I don't have any specific formal training 15 with regards to radioactivity with the exception of 16 radiologics in groundwater, surface water as it pertains 17 to our groundwater standards. We do work with 18 establishment of standards for radiologics in 19 groundwater, primarily utilizing standards developed 20 nationally where they exist. We have adopted standards 21 for certain radiologics in groundwater and have been 22 involved in several issues over time that relate to 23 radiologics in groundwater in several commercial 24 facilities. 25 Q. Let me go back to your training and</p>

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<p>SHEET 4 PAGE 25</p> <p>25</p> <p>1 education. Do you have any specific training or 2 education with regard to the radiologics in groundwater 3 as you referred to? 4 A. The radiologics in groundwater are one of 5 many pollutants that we regulate. And in regards to the 6 training that I had relative to groundwater and 7 establishment of standards, I have that training. Do 8 not have training in radioactive emissions via air 9 quality. But in terms of the evaluation of those 10 contaminants in groundwater, that training is consistent 11 with some of the other contaminants that my training 12 would relate to. 13 Q. So you have training in a general matter in 14 contaminants in groundwater, and you believe that's 15 applicable to whether or not there are radiological 16 contaminants or other types of contaminants? 17 A. There is application to radiologic 18 contaminants. 19 Q. But you have no particular training in 20 radioactivity or radioactive contaminants -- 21 A. Correct. 22 Q. -- or in fact radiologic -- 23 A. Correct. 24 Q. -- contaminants in groundwater? 25 A. Well, I don't -- you've gone just a little</p>	<p>PAGE 27</p> <p>27</p> <p>1 knowledge about this topic, then you wind up proving it? 2 Is that your basic role? 3 A. That's correct. 4 Q. Do you consider yourself an expert in 5 radiologics in groundwater? I ask you that before I go 6 through a whole host of other questions to try to define 7 that. But -- 8 A. Well, I would consider myself to have 9 expertise regarding groundwater pollution. To the 10 extent that includes radiologics, there's a number of 11 things that are transferrable and applicable with 12 regards to that, some are not. Each contaminant is 13 somewhat different. But there is a process that is 14 similar in terms of evaluating those impacts. 15 Q. Let me ask you this. What level of 16 radioactive contamination do you consider hazardous? 17 A. In what regard? To drink or for bodily 18 exposure? 19 Q. All of the above. 20 A. Well, I'm not -- 21 Q. Let's go with -- we'll go with limbs, then 22 we'll go with body, then we'll go with flesh, then we'll 23 go with water, and we'll go with absorption. 24 A. My expertise would be to direct you to our 25 rule and our radiologic standards that we've</p>
<p>PAGE 26</p> <p>26</p> <p>1 bit too far in your last statement. But the standard 2 training of people who deal with radioactive waste is 3 different than mine. That includes lots of different 4 health aspects in addition to its transport and movement 5 in groundwater. My training overlaps into the transport 6 and movement in groundwater portion relative to 7 experience in the work that we have done and work in 8 setting standards for radiologics in groundwater. So I 9 think you have to limit it like that. 10 Q. When you talk about establishing standards 11 for radiologics in groundwater, how does that come to be 12 accomplished in your division? Do you do it yourself? 13 A. No. We have a section whose responsibility 14 is to evaluate and work on those issues. We have a rule 15 that governs the process for doing that. We look in 16 Utah primarily to drinking water MCL's. Where they do 17 not exist, we look for national health advisories. 18 Where they do not exist, we look for other secondary 19 work that has been done that may not yet have risen to 20 the level of the standard. 21 So there's a process that pertains to all 22 contaminants, many of which are not -- where there's no 23 national standard. 24 Q. And you then, after people in your division 25 comb through and determine what's out there in terms of</p>	<p>PAGE 28</p> <p>28</p> <p>1 established. Those are the numbers. I don't pack them 2 around. We have a long list, there's a lot of numbers, 3 and it would be useless to remember the specific number 4 on each one. If you want me to get the rule and refer 5 that to you, that's what I would use. That would be a 6 number that is based upon drinking water. Normally 7 they're based upon a certain level of exposure over time 8 and with safety factors, which is the standard process 9 for developing rules. 10 That is the extent of my involvement 11 relative to radiation and radioactive materials, would 12 be in that area. 13 Q. What would be the units that you would use 14 to describe these limits? 15 A. And again, I don't work with radiation on a 16 daily basis. Can easily get those units. They're not 17 coming to mind immediately as what our standard units 18 are. We have a number of different units in our 19 standards. 20 Q. Do you know what levels of radioactive 21 contamination that the NRC considers to be of concern or 22 dangerous? 23 A. Again, the question is so broad that it 24 would be inappropriate for me to answer. Dangerous in 25 groundwater for drinking?</p>

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<p>PAGE 29</p> <p>29</p> <p>1 Q. Sure.</p> <p>2 A. Dangerous in contact?</p> <p>3 Q. Let's take that one, groundwater for</p> <p>4 drinking.</p> <p>5 A. I don't know specifically their standards.</p> <p>6 I think we have had many cases where NRC has a different</p> <p>7 number than we do. Our numbers are basically, where</p> <p>8 there's a drinking water MCL, that's the number that we</p> <p>9 use with regards to general radiologic.</p> <p>10 Q. Is there any other specific one that you</p> <p>11 wanted to address? I didn't mean to over generalize.</p> <p>12 A. No. I indicated before I'm not an expert in</p> <p>13 the other aspects of radiologic health.</p> <p>14 Q. How do you describe the mechanism by which</p> <p>15 radioactive material is transported through soil?</p> <p>16 A. Well, we know that -- you said in general</p> <p>17 radiologic material transport in soil. We have seen the</p> <p>18 ability of that to be transported with water. We also</p> <p>19 see the ability of these contaminants to be transported</p> <p>20 with other mechanisms that might give them a front that</p> <p>21 actually precedes the rate that water moves through soil</p> <p>22 because of other transport mechanisms.</p> <p>23 But in general, it would be that. Those are</p> <p>24 the two methods of transport for many of the</p> <p>25 contaminants. One relates to just water flow, the other</p>	<p>PAGE 31</p> <p>31</p> <p>1 reference books. I don't walk around carrying that.</p> <p>2 I'm not a technician doing that on a daily basis.</p> <p>3 Q. Let's talk a little about the PFS facility</p> <p>4 itself and what your understanding is of that facility.</p> <p>5 Do you know what this facility is intended to</p> <p>6 accomplish, what its purpose is?</p> <p>7 A. I think so.</p> <p>8 Q. Okay. Can you tell me what your</p> <p>9 understanding is?</p> <p>10 A. I think it's been represented as temporary</p> <p>11 storage of nuclear fuel rods.</p> <p>12 Q. Do you know anything about the size of the</p> <p>13 structures that are to be built there and the number of</p> <p>14 employees that are in general the --</p> <p>15 A. I've read what you have submitted.</p> <p>16 Q. And what's your understanding from that</p> <p>17 reading?</p> <p>18 A. Well, I don't purport to try to remember all</p> <p>19 of those issues. If we need to get those answers, I'll</p> <p>20 be happy to dig back through the file and tell you what</p> <p>21 you've submitted. We know what you've submitted in</p> <p>22 terms of the buildings and the employees and the numbers</p> <p>23 and the size of the area. I don't specifically see the</p> <p>24 value of walking around with a memory of that. I would</p> <p>25 expect you to have that if that's the only thing you</p>
<p>PAGE 30</p> <p>30</p> <p>1 relates to transport relative to random motion and that</p> <p>2 movement and its impence due to what happens</p> <p>3 associated with the soil particles, and what comes out,</p> <p>4 what stays in, and how those transport that way.</p> <p>5 Q. Is this latter mechanism something that's</p> <p>6 applicable to radioactive substances?</p> <p>7 A. I think that it -- in my opinion that it</p> <p>8 likely would be; but we've got staff people that look at</p> <p>9 and review modeling work, and since we've seen no</p> <p>10 specific pollutant modeling work on this project, it</p> <p>11 hasn't been an area that we've focused a whole lot of</p> <p>12 time on yet. I've not had a model submitted of</p> <p>13 pollutant transport. Had we done that, there would be a</p> <p>14 lot more detail involved in this discussion at this</p> <p>15 stage, but that hasn't been done at this stage.</p> <p>16 Q. What are the variables that determine the</p> <p>17 speed by which radioactive materials might be</p> <p>18 transported by this mechanism, if at all?</p> <p>19 A. Well, if you want me to refer to the</p> <p>20 reference books and go back and get that, we can do</p> <p>21 that. We've got a number of facilities where we've done</p> <p>22 such modeling and done pollutant transport evaluations.</p> <p>23 Not this facility, but other facilities. And that's</p> <p>24 readily available. I don't work only on that, and so</p> <p>25 when I get involved in this I go back and look at my</p>	<p>PAGE 32</p> <p>32</p> <p>1 work on. I work on hundreds of projects.</p> <p>2 Q. I'm trying just to establish what your base</p> <p>3 of knowledge is as you answer the questions about the</p> <p>4 facility that we're going to get to. So that's the</p> <p>5 reason for my asking.</p> <p>6 A. Well, would you want me to guess?</p> <p>7 Q. No, I don't want you to guess. I want you</p> <p>8 to, based on your review just over the last day as</p> <p>9 you've indicated you've done in preparation for the</p> <p>10 deposition, I just wanted to get your sense of the size</p> <p>11 or complexity or number of people who might be involved</p> <p>12 in this facility.</p> <p>13 A. I have my guesses on that, too. But if</p> <p>14 you -- I mean, this is a deposition where you're</p> <p>15 expected to be accurate. I'd hate to throw out a number</p> <p>16 from memory what I know. But you can turn the pages in</p> <p>17 that book if you want, I guess, and I'm sure you'll find</p> <p>18 it.</p> <p>19 Q. Do you know what the scope of construction</p> <p>20 that's involved in constructing this facility might be?</p> <p>21 A. I know basically what's been described in</p> <p>22 the documents that were submitted. Our information</p> <p>23 about that is somewhat limited based upon what was</p> <p>24 submitted in the answers to questions that PFS has</p> <p>25 provided.</p>

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<p>SHEET 5 PAGE 33</p> <p>33</p> <p>1 Q. Do you have any feel for how the facility 2 will be constructed or what kinds of materials will be 3 used or what it will look like once it is constructed? 4 A. Yeah, I have some feel for that, yes. 5 Q. Can you give me that understanding? 6 A. Well, I'll give you a general paraphrasing 7 just from memory, that the facility will occupy a goodly 8 number of acres. I think it's near a hundred acres. 9 That it will include several buildings, including 10 administration, operations and maintenance, laboratory 11 types of buildings. There is canister transportation 12 issues and receiving and unloading and testing areas. 13 There is canister storage areas on slabs scattered 14 throughout the area. And with basically a septic system 15 serving the buildings, there's a wastewater drainage 16 system with basically a gravel cover over natural 17 materials around the pads, and a storm water retention 18 pond constructed with native materials. 19 That will be a general description. 20 Q. And do you understand what the day-by-day 21 operations will be that will be performed there? 22 A. I'm sure I don't know the day-to-day 23 activities. I have some understanding of the 24 information described in the reports from my memory. 25 Q. And can you give me that, please?</p>	<p>PAGE 35</p> <p>35</p> <p>1 Do you know what processes involving any 2 chemicals or solvents will be conducted at the site? 3 A. Well, I know that PFS has told us that there 4 will be solvents and other chemicals stored and used at 5 the site. 6 Q. Do you know at all anything further than 7 that, how they will be used, or do you have a view on 8 that? 9 A. Well, some of them are cleaning materials, 10 some of them relate to maintenance activities, my 11 understanding. Some of them are fuels. I guess you're 12 talking about during the operation of the site. 13 Q. Yes, or construction as well, because that's 14 of concern for the state in this contention. 15 A. Construction is a little different. You 16 have more equipment along with the associated fuels and 17 lubricants, maintenance activities that go along with 18 that kind of equipment. You have temporary waste 19 disposal along with any chemicals associated with that. 20 You have concrete and asphalt production facilities and 21 the associated chemicals and constituents that would 22 accompany that process. 23 That's pretty much it. 24 Q. Do you know what the process is for the 25 handling of any radioactive material at the site?</p>
<p>PAGE 34</p> <p>34</p> <p>1 A. Well, that -- you know, when you say day by 2 day, I've somewhat given you that to some extent. There 3 is the periodic receipt of these materials, 4 transportation and potential transport to different 5 modes of transportation. There is the receiving process 6 of identifying whether there is any contamination on the 7 containers that they receive. There is a process of 8 testing liquids that may accumulate from the buildings 9 to decide if there is contamination. There is supposed 10 to be a process for getting rid of contaminated 11 materials, whether they be solid or liquid. There is a 12 process, I presume, for getting rid of materials that 13 are defined by PFS as noncontaminated. There is a 14 laboratory procedure process where materials may be 15 tested, both solid and liquid materials. There is 16 periodic testing of radiation emissions proposed at the 17 boundaries. There have been periodic testing of 18 accumulated storm water for contaminants proposed as 19 activities. 20 Does that help? 21 Q. Sure. I appreciate it. All I really want 22 is your input. I, like you, have been involved in this 23 off and on for a long period of time, so I have my own 24 knowledge; but my knowledge is worthless, doesn't count 25 in this process. Yours does.</p>	<p>PAGE 36</p> <p>36</p> <p>1 A. Well, I have a general understanding of 2 what's been described in the reports that have been 3 submitted by PFS. 4 Q. Okay. 5 A. And my understanding is that the material 6 will arrive in canisters that are supposed to have been 7 tested and decontaminated if necessary. They're tested 8 for contamination. That when it arrives at the facility 9 there will be additional tests made to detect any 10 contamination on the surfaces. There's a process for 11 cleaning up contamination that might be discovered on 12 the surfaces. There's a process for unloading and 13 draining of potential accumulated snow and rainwater 14 that may come off the transportation vehicles and 15 testing the accumulation of any of those fluids for 16 contaminants. There's a process, if they are 17 contaminated, for disposing of them as essentially 18 hazardous materials. 19 There is a process for decommissioning the 20 site and disposing of contaminated materials that have 21 been identified in the event that contamination has 22 occurred during operation. 23 I don't know the specific mechanics of 24 moving the cask materials around. I don't know how -- 25 whether that was all described in detail.</p>

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1 Q. And do you know anything more about the
2 decommissioning plans?
3 A. The decommissioning plans? Well, I know
4 that there was a decommissioning plan submitted that
5 were assumptions that potential contamination could
6 occur, and if it did occur, how would the material be
7 disposed of or the computations as to the volume of
8 material that needed to be disposed of. I know there
9 was a specific plan of what to do with it.
10 There was also plans for potential
11 decommissioning -- I take it back. I'm not sure on the
12 decommissioning plan for the storm water pond.
13 Q. Is that it?
14 A. Yeah.
15 Q. Are you familiar with this document? This
16 is -- what I'm showing you is the Uniform Plumbing Code.
17 Rather than make copies of all of them, I'm going to ask
18 that at least the first page be introduced as an
19 exhibit.
20 (Exhibit O-17 marked.)
21 A. I'm aware of the document's existence and
22 have used or referred to it from time to time over the
23 years. I don't know its pages by page and verse.
24 Q. I'm glad to hear that.
25 A. But generally aware of it.

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1 Q. Did you consider those codes to be adequate
2 for use in developing a sewer system?
3 A. In --
4 Q. Now, be careful, because if you say no, I'm
5 going to ask you why and in what specific respects you
6 would consider them to be inaccurate.
7 A. In general they're a document that contains
8 good information for the management of wastewater
9 through subsurface disposal systems. There are parts of
10 it where we would have some disagreements.
11 Q. Are any of those parts going to be
12 applicable at the PFS facility? If they are, we need to
13 get into them and understand them in some detail.
14 A. Again, not having gone through a detailed
15 review, I'm going through my memory, and the periodic
16 times when we've had need to compare our state standards
17 for subsurface disposal systems with something else and
18 periodically spot check that, we won't be 100 percent
19 consistent with that, but largely consistent with it.
20 Areas that I know that we have disagreements about, I'm
21 not aware right now that it would be applicable to PFS's
22 system.
23 Q. Okay. If that turns out to be something
24 different or you do in fact have, again, I'd like to
25 have you consult with your counsel and if there's some

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1 specific, if you could alert us to that and --
2 A. I certainly --
3 Q. That would be helpful.
4 A. -- will leave the door open for the
5 possibility that there is something in there that you're
6 using that comes to my attention that appears to be in
7 conflict with our position.
8 Q. Okay.
9 A. I can't give you an absolute, but what I can
10 tell you is that there are -- I do know that there are
11 things in there that we don't agree with.
12 Q. You're just not --
13 A. For example, the reuse provisions for gray
14 water that they advocate are not considered acceptable.
15 Q. You're just not sure that any of those, at
16 least as far as you can recall, would be applicable to
17 the PFS facility?
18 A. No, I don't recall any that would appear to
19 be applicable.
20 I guess I should also say that my
21 understanding of your proposal was to design a system in
22 accordance with Utah standards for a septic system. I
23 do remember reading that. So that hasn't been a focus
24 of my attention, nor have we seen any design for the
25 system. So there hasn't been an opportunity for

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1 potential conflicts to surface if they exist.
2 Q. I'm going to show you a copy of what's been
3 marked in a prior deposition as Exhibit 10. It's an
4 excerpt from the PFS environmental report, and I want
5 you to take a look at Section 2.5.5, which is a
6 description of groundwater hydrology.
7 A. (Witness reviews document.) Okay.
8 Q. Have you seen this document before?
9 A. I believe so.
10 Q. And you're generally familiar with it from
11 the past?
12 A. Generally.
13 Q. Do you find any inadequacies in it or
14 characterizations which you believe are inaccurate?
15 A. In general, no, as a general description of
16 an area.
17 Q. Are there any specifics that you feel like I
18 should be aware of in terms of differences?
19 A. Only that its utility is of general
20 broad-based aquifer observations of the entire valley.
21 Like any generalized map, it is not necessarily suitable
22 to a specific point in the valley without that
23 information. These are broad-based assumptions that are
24 made to make these. You'd have to do that if you want
25 to characterize large land masses and large aquifers.

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<p>SHEET 6 PAGE 41</p> <p>41</p> <p>1 Q. Okay.</p> <p>2 A. But if you want to characterize an isolated</p> <p>3 point, then this may or may not hold true on an isolated</p> <p>4 point.</p> <p>5 Q. I'm going to show you a copy of Exhibit 12</p> <p>6 on the same contention that's been previously -- this is</p> <p>7 the NRC's description of groundwater hydrology and</p> <p>8 quality, and it's out of their Draft Environmental</p> <p>9 Impact Statement. If you'd take a look at Section</p> <p>10 3.2.2.</p> <p>11 A. (Witness reviews document.) Okay.</p> <p>12 Q. I have the same question about this NRC</p> <p>13 description as I did about the applicant's description.</p> <p>14 A. I'm less certain on this one, but I think I</p> <p>15 probably have seen and read that one, too. There are a</p> <p>16 lot of documents submitted by a lot of people, but</p> <p>17 appears familiar to me.</p> <p>18 Q. And with respect to whether or not you think</p> <p>19 there are inadequacies in it or there's general</p> <p>20 agreement or specific problems?</p> <p>21 A. I'm not specifically aware of inadequacies</p> <p>22 with regards to the general statements that are</p> <p>23 attempting to be made there. It's a characterization of</p> <p>24 the existing aquifer and conditions.</p> <p>25 Q. Let me shift to surface water. I'm going to</p>	<p>PAGE 43</p> <p>43</p> <p>1 A. I don't think there's sufficient information</p> <p>2 on the map to do that. We have provided maps to you</p> <p>3 that show the specific site and radii from the site as</p> <p>4 to the potential water sources that were identified</p> <p>5 based upon our work. I don't intend to duplicate that</p> <p>6 here from memory and with a map that is this general.</p> <p>7 Q. Is it your view that PFS has failed to</p> <p>8 identify any surface waters, intermittent streams or</p> <p>9 springs of any kind in the materials that it has</p> <p>10 provided?</p> <p>11 A. I think that -- I guess I would have to</p> <p>12 answer that from the standpoint of who's provided what.</p> <p>13 I think in the process of the questions that have been</p> <p>14 asked, primarily of the state, the potential surface</p> <p>15 waters have been identified. I don't know that PFS has</p> <p>16 identified them, but I think the state has identified</p> <p>17 all of the potential surface waters in our formal</p> <p>18 submissions to you. Those are specific questions that</p> <p>19 have been asked and responded to in writing.</p> <p>20 Q. And are you the state's witness on this</p> <p>21 topic, as far as you know?</p> <p>22 A. I guess that's a question for the attorneys.</p> <p>23 I don't know. They'll have to answer that question.</p> <p>24 Q. And are you able --</p> <p>25 A. I indicated that I have had staff do</p>
<p>PAGE 42</p> <p>42</p> <p>1 ask that this one-page documenting identified and marked</p> <p>2 as -- that would be No. 18.</p> <p>3 (Exhibit O-18 marked.)</p> <p>4 This, as the one-page document indicates, is</p> <p>5 a fancy Mapquest document that is a map of the general</p> <p>6 area of interest here. You see Skull Valley Road which</p> <p>7 goes down close to where the site would be located. The</p> <p>8 odd-shaped colored portion in the lower left quadrant of</p> <p>9 this map is in fact the Indian reservation. And in that</p> <p>10 Indian reservation is of course where the PFS facility</p> <p>11 is expected to be sited.</p> <p>12 Can you indicate on the map, the copy that</p> <p>13 you have, where you believe there are surface waters?</p> <p>14 A. No. That map has not got -- does not have</p> <p>15 sufficient detail. We have attempted to provide that</p> <p>16 list to you. I have to stand on the list that we've</p> <p>17 provided. It's a question that's been asked before, and</p> <p>18 we've provided a specific listing.</p> <p>19 Q. Are you able to indicate the areas on the</p> <p>20 map where these specific surface waters currently exist?</p> <p>21 A. I think this map isn't in enough detail to</p> <p>22 indicate anything of that nature.</p> <p>23 Q. Can you tell me whether or not there are any</p> <p>24 that would appear on this map at all, in the area</p> <p>25 covered by this map?</p>	<p>PAGE 44</p> <p>44</p> <p>1 research on potential surface water sources in the area.</p> <p>2 The information which we provided to you was done</p> <p>3 through a staff research project. And I've supervised</p> <p>4 the development of that, received it and submitted it to</p> <p>5 PFS. That's what I would stand by.</p> <p>6 Q. And are you today able to identify by name</p> <p>7 or general location any of those surface waters?</p> <p>8 A. I'll be happy to get the specific names and</p> <p>9 specific locations that we've provided to you in writing</p> <p>10 of those surface waters.</p> <p>11 Q. But you're not able to right now?</p> <p>12 A. No.</p> <p>13 MR. BLAKE: Why don't we break.</p> <p>14 (Recess from 10:24 to 10:38 a.m.)</p> <p>15 Q. (BY MR. BLAKE) Back on the record. Maybe</p> <p>16 during the next break, rather than taking the time now,</p> <p>17 you can take a look in the same exhibit that I</p> <p>18 previously provided you from the environmental report,</p> <p>19 Exhibit 10, which had a description of groundwater. The</p> <p>20 initial part of that chapter describes surface water</p> <p>21 with PFS's description, and I don't think we have any</p> <p>22 differences on what we've described in there. If you</p> <p>23 would look at that during the next break, not take the</p> <p>24 time now.</p> <p>25 A. Okay.</p>

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1 Q. I'm going to talk now about contaminants,
2 specific contaminants of concern to the state. What are
3 the contaminant sources that the state believes will
4 exist at the PFS facility?

5 A. Whenever you deal with contaminant sources
6 you're dealing with potential sources of contamination,
7 and for a large scale active commercial/industrial site,
8 those potentials are realized very often, in our
9 experience, the sources that we have identified in our
10 written documents to you. And trying to recall by
11 memory, but this also was covered very specifically in
12 our written responses, and that is the complete answer.

13 But in general, those sources would include
14 potential radiologic contamination, potential
15 contamination from diesel fuel or gasoline stored on
16 site, potential contamination from other types of
17 chemicals used in the operation for maintenance of
18 equipment, such as solvents, cleaners, and materials
19 such as that, and then the potential for disposal of any
20 other kind of material that an employee might carry onto
21 the property for his own use would all be a potential.
22 Some hazardous chemicals are included in that, I believe
23 has been admitted to.

24 And your question was, again, clarify for me
25 about what are the contaminants?

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1 Q. Right, what were the potential sources of --

2 A. That's what I've been responded to.

3 Q. And what were the contaminant sources?
4 You're talking about types. Now let's talk about what
5 would be the sources for those kinds of things.
6 Radiologic.

7 A. Okay, that's my question. I want to make
8 sure that you're asking about what are the potential
9 pollutants that would be on site. That's what I
10 answered.

11 Q. Yes, that's fine.

12 A. And then when you now say sources, I'm
13 assuming that you mean how might they get into
14 groundwater?

15 Q. Fair enough.

16 A. Is that what you mean?

17 Q. That's fine.

18 A. Or pathways?

19 Q. Yes, go ahead.

20 A. Again, this is a specific question that has
21 been asked before and responded to in writing, and I
22 will have to refer to our written response as the most
23 accurate and complete. I'm responding only from memory
24 based upon that, but I will attempt to do that from a
25 memory standpoint.

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1 One of the pathways or ways that the
2 pollutants can enter groundwater would be through a
3 septic tank drain field system or subsurface disposal
4 system for wastewater. These systems are designed to
5 percolate water into the subsurface with the intention
6 of doing that in a manner such that it goes down, not
7 up, and be large enough that all the water can go down
8 into the soil and ultimately travel through -- normally
9 through a groundwater source. The pollutants would
10 include -- I guess I should add to my previous answer
11 that there will be domestic wastewater, conventional
12 domestic wastewater pollutants and laundry pollutants in
13 addition to that, as well as laboratory pollutants or
14 potential.

15 But all of the things that are potentially
16 connected with plumbing to the drain field are a source
17 of one or more of the pollutants that I have mentioned.
18 Ideally a drain field should only receive domestic
19 wastewater, which would include normal sink water and
20 restroom water. But it has the potential to receive
21 materials that might be inappropriately dumped into
22 floor drains or sinks.

23 If the laboratory is connected to the drain
24 field, any of the potential chemicals that are used in
25 the laboratory in my opinion could likely find their way

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1 into the groundwater via the sewer line and the septic
2 tank and the drain field and its infiltration into the
3 ground and ultimately into groundwater.

4 We have had commercial facilities involved
5 with radioactive materials that have had this problem
6 and are involved in cleaning up materials that most
7 likely entered the groundwater via inappropriate use of
8 the drain field septic system for disposal. We're
9 working on one now.

10 There is opportunities for employees to
11 ignore company policy and put things where they don't
12 belong because of whatever reason. Maybe it's easier;
13 they don't want to do the work. We've seen that in many
14 cases of employees not following management's
15 instructions in terms of what they put down the sewer.
16 There are many instances of that kind of activity by
17 employees nationally and in Utah. So I would not rule
18 that out as a possibility here if these contaminants
19 that I've mentioned would be present. It's very
20 possible for them to enter the sewer system, not very
21 difficult for it to happen.

22 There is contaminants that are collected
23 that are specifically intended to not be allowed to
24 drain into the drain field, collected in sumps. Those
25 contaminants would come off from the casks and the

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1 transportation vehicles. They are such that they would
2 have to be tested according to procedures prescribed by
3 PFS to determine if they're contaminated or a hazardous
4 nature. If they are contaminated, they would be
5 disposed of, my recollection is by solidifying the
6 material, disposing of it as a hazardous material.
7 Therefore, the potential exists for the lack of
8 detection because of an error or because of an omission.
9 The opportunity is there for someone to not do it right.

10 Those liquids that are supposedly
11 uncontaminated are disposed of somewhere. I don't know
12 where. From the documents that were submitted, it was
13 not described. If a determination of no contamination,
14 it's very possible they may go into the drain field, or
15 I don't know where they're going to go. Are they going
16 to be dumped on the land? That's another potential
17 concern. And if there was a wrong judgment made that it
18 was clean and it's not clean, then associated
19 contaminants associated with that would go into the
20 groundwater.

21 That's kind of a summary of the drain field
22 pathway. There are other pathways that I'm aware of
23 that cause me concern relative to the potential for
24 something not going as planned and therefore causing a
25 contamination. This pathway that I just mentioned is a

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1 pathway that is not monitored. There's no monitoring on
2 the sewer pipes that go through the drain field.
3 There's no groundwater monitoring that has been proposed
4 that would be a performance measurement that everything
5 is working according to plan. So PFS likely would not
6 know that there were problems. And when you don't know
7 that there are problems, they usually have to get large
8 before you discover them accidentally.

9 The storage pad area is another area of
10 concern. Again, the nature of the material that is
11 being stored is a material that is of high concern, such
12 high concern that you're doing all of these tests, you
13 have these procedures, you have these canisters that you
14 store them in, and yet they're basically out exposed to
15 all of the elements.

16 The pads that they sit on will run off of
17 precipitation and snow melt to the areas between the
18 pads which are not lined and which will have some degree
19 of permeability, will allow infiltration of water
20 running off from the casks and off from the pads and off
21 from the areas that are used for transportation and
22 vehicles that can go into the ground at that point.

23 The concern is that there are detailed
24 procedures, at least two specific procedures requiring
25 the measurement of contamination potentially on the

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1 exterior of the cask, even if the casks are as tight as
2 you say they're supposed to be, to detect potential
3 contamination that can come off. And if somewhere along
4 the line that's not done right, then I assume that
5 that's a pathway of those same materials to be able to
6 get into the ground and ultimately into the groundwater,
7 as well as any other materials spilled in an industrial
8 application, which could include motor fuels, oils,
9 antifreeze, that types of materials.

10 I use the word "spilled" in a very general
11 way. It's very common to see folks who utilize these
12 types of vehicles intentionally get rid of those types
13 of fluids rather than disposing of them properly. It's
14 not unusual to see antifreeze drained on the ground.
15 It's not unusual to see oil drained on the ground,
16 especially with large equipment. And in spite of
17 company procedures or state rules, we find that
18 happening with contamination in similar situations.

19 Again, there is no liner provided, so that
20 those kinds of events, whatever potential they may
21 occur, so that they would be prevented from going into
22 the ground, there is no monitoring of the groundwater at
23 the storage site that would detect that the performance
24 of the facility is not according to plan relative to the
25 groundwater.

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1 This is a contradiction to me in that the
2 company proposes to monitor your perimeter boundary
3 radiation, but you do not monitor for radioactive
4 materials or other contaminants in the groundwater at
5 the periphery of the property. Seems like a good
6 performance measurement.

7 The other area of concern is the storm water
8 retention pond. It receives drainage from the pad
9 storage area and perhaps other parts of the facility
10 that we've talked about in the buildings. Again, this
11 is a facility that will receive rainwater, it's a
12 facility that will build up some degree of head. The
13 intention is for that water to infiltrate into the
14 ground and evaporate. Presence of building up a head
15 increases the amount of water that goes into the ground,
16 increases the transmission of water into the ground.
17 The potential exists, in my opinion, for that to enter
18 groundwater over long term.

19 The drainage for the storm water pond
20 includes all of the areas and all of the contaminants
21 that I've mentioned. If you have a plug in your septic
22 system and it surfaces and runs out over the ground, I
23 presume the drainage for the site, it would route the
24 storm water there. Any of the chemicals that I
25 mentioned have a potential of showing up there.

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<p>PAGE 53</p> <p>53</p> <p>1 Absent the liner and absent groundwater 2 monitoring, the potential exists for these conditions to 3 occur without detection until they become a bigger 4 problem.</p> <p>5 Other concerns with regards to potential 6 contamination would be associated with the intermodal 7 transfer points, and again, the activities and the 8 equipment and the materials that might be used and 9 stored there in the operation of those facilities have 10 the potential to contaminate groundwater. I haven't 11 seen any provisions to either detect or mitigate should 12 those materials get free into the ground at the site.</p> <p>13 And then I guess the final avenue of concern 14 may be in the ultimate transportation of materials. And 15 that would not be limited, I guess, to immediately 16 around the property but as to what could be the 17 potential of problems associated with surface water or 18 groundwater as live waters are crossed over, and the 19 potential for some sort of an accident is of concern.</p> <p>20 I think that's the bulk of the ways that we 21 see potential contamination could get into water.</p> <p>22 Q. I want to go over a couple of these, and not 23 in such exquisite detail, but at least explore some 24 things with you.</p> <p>25 Do you know what type of monitoring we</p>	<p>PAGE 55</p> <p>55</p> <p>1 performance of the operation in the groundwater. 2 Q. Okay. 3 A. In my opinion. 4 Q. Do you have other facilities sited in Utah 5 that have radioactive materials at them? 6 A. Yes. 7 Q. And in each of those facilities do they 8 require groundwater monitors? 9 A. I'm trying to think of every one of them 10 right now. And those that are active in operation, each 11 of those is required to have groundwater monitoring. 12 There may be some inactive sites that are basically 13 waste piles where there may not be routine groundwater 14 monitoring. Probably most of those there's some 15 groundwater monitoring going on in a different context. 16 Q. So each of the active facilities in the 17 state of Utah has groundwater monitoring for radioactive 18 materials? 19 A. Based upon my memory of those that have 20 radioactive components of their waste, that's correct. 21 Q. And do you know whether those facilities 22 actually work with radioactive materials, that is, as 23 opposed to our storage of the radioactive material? 24 A. MR. SEEL: Ernie, object on ambiguous. Can 25 you clarify?</p>
<p>PAGE 54</p> <p>54</p> <p>1 intend to do at the boundaries for radioactive 2 materials?</p> <p>3 A. I know we've asked for it and haven't been 4 given an indication that any monitoring would be done 5 for groundwater.</p> <p>6 Q. Let me talk about airborne just for the 7 moment, because I thought that you referred to 8 monitoring at the boundaries for some kind of things but 9 not others. And I wanted to ask, explore with you, just 10 so I understood what you thought was inadequate about 11 it, what your understanding is of what we plan to 12 monitor for.</p> <p>13 A. I believe in your documents you've indicated 14 that there would be some boundary monitoring. I'm 15 assuming, I'm not an expert in that area, that it's 16 relative to radioactivity. I think you may have called 17 it LAR monitoring. I can't recall for sure.</p> <p>18 Q. Maybe T?</p> <p>19 A. I could go back and find that for you if 20 you'd like.</p> <p>21 Q. No, that's all right.</p> <p>22 A. It's in your documents. You should know 23 what you called it. But you did use an acronym for it.</p> <p>24 My comment is not as to the inadequacy of 25 that monitoring but that it is not a monitoring of</p>	<p>PAGE 56</p> <p>56</p> <p>1 MR. BLAKE: I'll try. 2 Q. (BY MR. BLAKE) Do you not understand the 3 question? 4 A. Could you clarify it a little? 5 Q. Sure, I'll try. Let me start this way. Do 6 you understand how the radioactive materials at our 7 facility will be contained? 8 A. I understand the -- I think I understand the 9 information that PFS has provided. 10 Q. You understand that the spent fuel rods will 11 be contained in canisters? 12 A. Yes. 13 Q. And do you understand how those canisters 14 are sealed? 15 A. I have a general understanding of that from 16 the brief description in your report. 17 Q. And do you understand that the canisters are 18 contained within concrete overpacks or storage casks? 19 A. Yes. 20 Q. And do you know how the radioactive 21 materials would escape from this canister and the 22 overpack or cask configuration? 23 A. Well, one way is from the exterior. That's 24 the process you described for detecting contamination of 25 the containers. So that's one.</p>

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1 Q. That is, it wouldn't escape at all, it
2 already would have been there on the external surface
3 when it arrived?

4 A. I don't know that your report really talked
5 a lot about how it got there, but that that was an
6 occurrence that has to be monitored and decontamination
7 has to occur.

8 Q. Uh-huh. Do you know what is proposed to be
9 done in terms of monitoring at external surfaces?

10 A. I think there is a general, very brief
11 statement in the reports you've provided that describe
12 that process.

13 Q. And did you understand this to occur out on
14 the pads after the casks have been placed there for
15 storage, or at the time that the casks and canisters
16 inside initially arrive at the facility?

17 A. My understanding would be that's done at
18 arrival.

19 Q. And do you understand how -- what steps are
20 taken before the casks and canisters are ever shipped to
21 the facility to avoid that prospect?

22 A. My understanding is that you say in your
23 report it's supposed to be checked before it's shipped.
24 My concern is that that may not be done over the life of
25 the facility and that those procedures may not be

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1 followed in every case or someone may make a mistake.
2 The nature of the material is of greater concern than
3 many other contaminants.

4 Q. And when this cask or canister arrives
5 which, because somebody hasn't done their job, is
6 contaminated, you then understand that at the PFS
7 facility it will be checked again?

8 A. I understand that's the proposed procedure.

9 Q. And is your problem that that might not be
10 done or it might not be done appropriately?

11 A. That's one of the concerns, yes.

12 Q. And if it's not done or not done
13 appropriately, it's your understanding that that
14 pollutant could then run where, or how would it get out?

15 A. If it's not detected and not decontaminated,
16 then I assume the casks will be placed on the storage
17 pad, exposed to the elements, and would be carried off
18 by water.

19 Q. Do you understand that the cask that arrived
20 at the facility in which the canister was contained is
21 not the same cask that is used for storage on the pads?

22 A. No.

23 Q. Would that alleviate your concerns at all if
24 I were to represent to you that's the case?

25 A. I don't know. I don't know -- I don't think

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1 we have detailed handling procedures that have been
2 described to us about the minute that cask comes in the
3 door. There are a lot of questions and a lot of issues
4 relative with temporary storage and how it's processed,
5 the processing, details of handling of any
6 decontamination. None of those are real fully
7 described, in my opinion, and all of them have the
8 potential of being done wrong or not done. So I don't
9 know that would alleviate my concern entirely.

10 Q. If these materials were to be washed off or
11 somehow run onto the floor in the facility after a cask
12 arrived, is it your understanding that they would go
13 into the sewer system, or not?

14 A. No. It's my understanding they go into a
15 sump. It again requires someone to go through a
16 procedure and make a right call that it's okay or not
17 okay. And if it's not okay, my understanding is there's
18 a procedure for disposal that again would have to be
19 carried out and followed properly without mistakes; and
20 if it is okay, then it has not been defined, in my mind,
21 where that material goes. Hasn't been stated that it
22 won't go in the drain field, in my opinion, but I don't
23 know where it's going.

24 Q. If it's okay, is it of particular concern to
25 you what happens to it?

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1 A. Even the procedures for deciding if it's
2 okay haven't been described.

3 Q. So is the potential problem for what you're
4 describing would require at the point where this cask
5 and internal canister were shipped, a goof or an
6 oversight or some error there and then an error upon the
7 arrival of the canister and cask in terms of people not
8 monitoring, or if they're monitoring, not paying
9 attention, and then an error in assuming that they don't
10 find it and just the discharge of the materials, or if
11 they do find it, then just ignoring that and discharging
12 them anyway?

13 MR. SEEL: I object on the -- that was like
14 numerous different questions. Could you break that out
15 into a less complex question?

16 Q. (BY MR. BLAKE) I can if it requires
17 breaking down, but I think that was what you described.

18 A. I lost the tail end of yours as well. I
19 started thinking about the answer and you weren't
20 through with your question, so please give it again.

21 Q. Okay. In order to have a potential source
22 of contamination from a contaminated cask that arrives
23 at the facility, is it true in your mind that that would
24 require a goof or some inadequate procedure occurring at
25 the time the cask leaves whatever site it is coming

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1 from, first? Procedures not to be adequately followed?

2 A. If in fact the procedure is universally
3 applied at all sites, it should. And it's represented
4 that that would be the case in the report. That's my
5 assumption, yes.

6 Q. And then would it require as well some
7 inadequate implementation of procedures upon arrival at
8 the PFS facility?

9 A. Inadequate or -- I guess "inadequate" would
10 be a proper word. That could cover an error or an
11 intentional, we don't want to do this, we don't have
12 time.

13 Q. And then in addition it would require some
14 operation to get the material from the sumps which do
15 not go to the drain field to some external point -- get
16 them in the surface waters, get them in the groundwater,
17 something. All those would have to occur?

18 A. I do not know where that cask sits until it
19 gets into where it drains into a sump. None of that's
20 been described. We have problems at facilities in their
21 receiving before it gets into their standardized
22 processes. And normally in our permitting that's
23 defined and regulated in a great deal of detail.
24 Temporary storage, we call it.

25 I don't recall anything being discussed

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1 about that. So you may not have covered all of the
2 potential ways that our material can be released. I
3 agree that the ways you've described it are ways. There
4 may be more.

5 Q. Let me go to the second source, which was
6 the potential for runoff from the pads once the casks
7 are in place. How would the radioactive materials have
8 escaped and gotten onto the pad?

9 A. Well, again, if they're -- if the containers
10 have contamination, that's exposed to meteoric water and
11 that can escape because there's no liners into the
12 ground, which is a pathway to the groundwater.

13 I don't know that we would rule out the
14 impossibility of something else occurring to one of the
15 containers. Without, you know, being specific and
16 necessarily an expert on those containers, I don't think
17 that PFS has said there is no condition under which a
18 container could be breached ever. I don't think that's
19 the standard, based upon my understanding of what's been
20 read.

21 And so whatever those conditions are that
22 could cause a breach, then there is just no secondary
23 containment or monitoring to see if that occurs relative
24 to groundwater. And that would be the other relative to
25 the casks and canisters.

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1 Q. Why don't we take the second one first, the
2 second being the potential breach of a canister. I'll
3 use that term. Is that fair terminology for you? Are
4 you able to describe any kind of mechanism that you
5 believe might cause that?

6 A. I don't know that I would care to speculate
7 on the mechanisms. I'll just simply state that it's my
8 understanding from what I've read that you have
9 submitted that there are circumstances which could occur
10 which could cause a problem with the containment. How
11 likely they may be may be remote, but they have those
12 potentials.

13 And then the other questions are over long,
14 long-term storage how that may provide opportunity for
15 those rare things to occur. But I don't know that I can
16 go into any more detail than that. I haven't done the
17 analytical design on the canisters. Based upon what
18 I've read, that is a fear. Somewhat goes with the
19 desire to locate them out here in an isolated area,
20 desire to move them from where they are. If there is
21 just absolutely nothing associated with these canisters
22 that should be a concern, it raises the question of the
23 why to some extent.

24 Q. But you don't know, either, what the
25 materials are that are used to contain these materials

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1 or their thicknesses or their capabilities?

2 A. No, I don't.

3 Q. As to the second one, that is, that there
4 still be some form of external contamination which would
5 have survived, one, the shipping processes, two, the
6 arrival processes at the PFS, despite the fact it's in a
7 different cask, would somehow still make it to the pad,
8 is that all part of that scenario?

9 A. Uh-huh. And I would add that we see
10 materials shipped into Utah that are supposed to be
11 checked before they come, they're supposed to be checked
12 when they get here, and they end up in the facility and
13 they're wrong.

14 Q. This is in an NRC oversight facility?

15 A. In fact, I would say that's the case.

16 Q. Involving high level materials?

17 A. No.

18 Q. What you would like to see that would cure
19 this is liners around the pads? Would that cure the
20 problem for you?

21 A. What I personally would like to see is that
22 they not be brought here.

23 Q. Okay.

24 A. That risk is a lot better proposition than
25 trying to design for all of the what if's.

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1 Q. Are there any kinds of additional physical
2 barriers that you would propose here, assume that they
3 are going to be brought here?

4 A. Well, I have indicated that it was an
5 inadequacy, in my opinion, that the site is not
6 specifically lined with engineered materials that you
7 install yourself so that you have complete knowledge of
8 the homogeneous nature of those materials that would
9 tend to prevent migration of materials into the ground
10 or groundwater, and that the performance of the site be
11 monitored from a groundwater standpoint, which is the
12 ultimate test as to how everything is working.

13 Q. And do other facilities that you're aware of
14 in the state of Utah all have liners around all of their
15 facilities?

16 A. That's broad: other facilities. I mean,
17 dentists have radioactive materials and they don't have
18 liners, for example. But the normal industrial
19 operations and commercial waste disposal operations,
20 there is a significant attempt to install engineered
21 systems to prevent leakage of contaminants throughout
22 their operation. And normally there would be a means of
23 monitoring the groundwater to determine that there is in
24 fact functioning properly performance monitoring.

25 Q. You referred to engineered systems or

1 such as solvents and cleaners, other things an employee
2 might carry on the site himself for his own use,
3 domestic wastewater, laundry, labs, etc. Are these the
4 kinds of potential pollutants which exist in any
5 industrial site?

6 A. They would be common in a lot of industrial
7 sites, yes.

8 Q. And in those sites have you required liners
9 and the kinds of things you're talking about here?

10 A. Depends on the nature of the site. And
11 simply to say that a facility that uses petroleum
12 products and solvents in its operation wouldn't
13 necessarily mean there was a requirement for a liner.
14 It depends to some degree on the magnitude of the
15 operation and the overall nature of the operation.
16 Every mechanic's garage doesn't have a liner. They do
17 have requirements for containment.

18 But if you get into industrial waste
19 disposal operations, yes, liners, detection systems,
20 groundwater monitoring wells would be normal.

21 Q. Do you understand whether or not we'll be
22 doing any maintenance of any vehicles or anything of
23 that sort at the PFS facility?

24 A. It isn't totally clear to me. I know you
25 have a maintenance and operations building, and I don't

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1 engineered materials. What do you mean by those?

2 A. I mean that that would be a material placed
3 specifically for the prevention or elimination of
4 infiltration of water and contaminants.

5 Q. What's an example?

6 A. A liner.

7 Q. A liner, which would be some plastic
8 material?

9 A. It could be a number of different things.

10 Q. Would plastic be adequate?

11 A. If it was the right kind of plastic,
12 perhaps, and in the right configurations, the right
13 construction.

14 Q. What's another example of a liner material?

15 A. Well, when you say plastic, that covers a
16 lot of area. So I think the right kind of material,
17 whether it be synthetic flexible membrane liners in
18 combination with the appropriately tested and installed
19 natural materials has been common types of liners. Like
20 clay, for example, is what I'm saying. I'm not trying
21 to be evasive.

22 Q. You've referred to other kinds of potential
23 contaminants as well: fuels, any diesel fuel or gasoline
24 that was going to be intended to be stored on site,
25 other chemicals that were used to maintain equipment,

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1 know the nature of the activities that will be in that
2 building. That word is used in your documents.

3 Q. If it was not intended to do maintenance on
4 vehicles at that facility, would that make a difference
5 to you?

6 A. Well, I'd have to ask, again, what is the
7 purpose of the building and materials that we're talking
8 about. It could, relative to that one aspect.

9 Q. The third area you talked about was the
10 potential for groundwater pollution from the retention
11 pond. Is this a problem in all the kinds of pollutants
12 that you talked about, potentially?

13 A. Again, the descriptions of the operation are
14 not specific enough for me to be able to make all of
15 those determinations. But if the grading plan allows
16 drainage from the entire operation to flow to that
17 retention pond, then theoretically anything that is on
18 site could get there.

19 Q. In facilities where the need for chemicals
20 or cleaners or solvents is solely to maintain a standard
21 of cleanliness and upkeep for the facility, do you
22 require liners around the facility or concrete pads
23 associated with the facility, and do you require
24 monitoring of groundwater around that facility?

25 A. I think I answered that before relative to

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1 the maintenance shops. An operation that is heavy in
2 industry associated with a disposal practice where
3 potential contamination from the practices is of a
4 concern, you attempt to make sure that all potential
5 contaminants are handled in a way that doesn't cause
6 releases. Normally you're monitoring the groundwater,
7 and you don't want any of those products to show up in
8 the groundwater you're measuring for.

9 If you have a light business that has
10 janitorial supplies, obviously no, no liner, groundwater
11 monitoring is required. There's a big difference
12 between those two, in my opinion.

13 Q. If I take the radiological substances out of
14 the equation here for the moment, how does this facility
15 strike you? Is it heavy? Is it light? Would it
16 require in other facilities around the state kinds of
17 liners and groundwater monitoring you're talking about,
18 or not?

19 A. It's very hard for me even to respond to
20 that. Everything at the facility is geared towards
21 handling and processing of radioactive material, so I
22 have a hard time visualizing what the facility would be
23 if it isn't that. I'm not sure I can respond to that.

24 Q. Would the state require for this facility
25 groundwater monitoring and liners around the pads or the

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1 buildings at the facility solely because of the
2 potential for fuel or cleaner or solvent kinds of
3 pollutants?

4 A. Fuel storage normally requires some method
5 of liners and detection of leakage, regardless of what
6 you are. If you're an office and that's all you are is
7 an office, we would not. But if you're a facility whose
8 existence is the receipt and processing of waste, then
9 you would exercise caution about the primary waste
10 you're receiving and all the other ancillary materials
11 that could be on site.

12 Q. Does the volume of storage of fuel play a
13 role in the decision about groundwater monitoring and
14 need for liners?

15 A. Relative to this site?

16 Q. Yes.

17 A. Volume of storage of fuel?

18 Q. Fuel.

19 A. Are we talking about gasoline or --

20 Q. Gasoline or diesel was what I was referring
21 to.

22 A. Not talking about the fuel rods. Well, it
23 certainly could if you take the volume of fuel storage
24 to an extreme. But that may not be the primary factor.
25 I think you look at them in total, cumulative operation.

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1 Q. Do you know whether or not diesel fuel or
2 gasoline fuel is proposed to be stored at the site?

3 A. I believe it's represented in the documents
4 from PFS that there is a storage of fuels such as that.
5 I don't remember whether it's gasoline or diesel or
6 both.

7 Q. And would it make a difference to you
8 whether or not those were above or below ground?

9 A. No. We've had problems with both types of
10 storage.

11 Q. You spoke about the laboratories and the
12 discharges from laboratories. Do you know what that
13 discharge path is or how we could describe it, so that
14 it would become a problem?

15 A. Well, laboratories normally have sinks as a
16 minimum, and usually have restroom facilities and would
17 have a water supply and would utilize water in their
18 laboratory testing in general. And if those were
19 plumbed to the drain field, that would be a pathway of
20 releasing both laboratory chemicals as well as the
21 materials that were being tested to the environment.

22 Q. And do you know what kind of laboratory
23 materials might be used at this facility?

24 A. Well, we've asked for that. I think that's
25 something we've provided.

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1 Q. Assuming that any of these events that
2 concern you were to occur and potential pollutants were
3 released to the ground, what's the mechanism by which
4 you believe they would make it to groundwater?

5 A. Gravity.

6 Q. And what volumes of pollutants would it
7 require to reach the groundwater?

8 A. We've asked for some pollutant transport
9 modeling. We haven't received that from the company.
10 We have not made those computations. I think that's a
11 computation the company has to look at.

12 Q. Have you made any computations that would
13 support the potential for pollution of surface waters?

14 A. I think the potential for pollution of
15 surface waters would be based upon the potential that
16 the storm water pond should overflow in a flood that
17 exceeds a 100-year flood, which happened very often, and
18 magnitude of that flood and where they may be carried.
19 And at the time that that's going on, there would be
20 surface water. And really, the magnitude of that is not
21 really determined. It remains a potential way to move
22 pollutants off site with surface water flows.

23 Q. So your concern with regard to contaminated
24 surface waters would be an overflow of the retention
25 pond?

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1 A. That's one way.

2 Q. Why don't you stop there just for a second.
3 And that would occur, in your view, if there were a
4 flood which exceeded the 100-year flood?

5 A. Well, it's my understanding the design of
6 the storm water pond is based upon 100-year flooding.

7 Q. And if it were even greater than that, do
8 you have some particular flood that you believe is
9 likely to occur and we should be designing for?

10 A. We have not made a specific suggestion as to
11 that flood. I think there's been a review of your flood
12 routing system where that's been discussed at length,
13 and I'm not the expert person to address that. But I
14 think it's been covered by others.

15 Q. What particular surface waters would you be
16 concerned about having contaminated by that process?

17 A. Well, I think we have provided you a written
18 response to the surface waters in that area. It would
19 be limited to those I think that we've identified. Some
20 may be associated with the transportation route, others
21 are associated with just the location with respect to
22 the site. But I'd have to refer to those written
23 submissions on that specific question.

24 Q. You're not able today to identify --

25 A. No.

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1 Q. -- either by name or location?

2 A. No. But I think we did provide by name and
3 by location the surface waters that exist.

4 Q. What standard does the state require for
5 retention ponds constructed by other kinds of facilities
6 from the state? Something greater than the 100-year
7 flood?

8 A. It varies depending upon the nature of the
9 facility, nature of the pond. If you're talking about
10 runoff from a barnyard, you're going to be looking at a
11 25-year storm. If you're talking about other facilities
12 where you may consider there is higher risk for some
13 way, you may look at a much higher storm event. In some
14 areas facilities have been designed for storms in the
15 nature of a hundred years.

16 I guess the point is that -- I've seen years
17 when a 100-year storm has occurred two times in five
18 years. And that can happen very easily. So it's not an
19 occurrence that we think won't ever happen. It's not an
20 occurrence that we think is necessarily real unlikely to
21 happen. And that merely is a possible way to convey
22 pollutants that might be in the storm water out of your
23 facility and downgrading it to any surface waters via
24 surface water flow.

25 And that's really the extent of my

1 statement.

2 Q. Are there other facilities in the state that
3 have been required to design retention ponds for greater
4 than the 100-year flood?

5 A. Other facilities, there may be some that are
6 designed for the probable maximum flood.

7 Q. You're just not sure?

8 A. I think I would have to go back and check.
9 But certainly they would be limited, but I wouldn't
10 exclude the possibility that we have some that are in a
11 location where that's been the design.

12 For facilities that just can't be allowed to
13 discharge, great precautions are taken. It's not okay
14 to have a discharge from a contaminated impoundment that
15 could happen at that frequency in certain locations.

16 So I think there have been instances where
17 there has been designs for the probable maximum flood.

18 Q. And by --

19 A. It may not be common.

20 Q. And by your qualification of these
21 facilities where there simply cannot be discharges, you
22 would include our facility in that?

23 A. Well, my concern with this facility is, it
24 is a much higher nature of concern relative to the
25 nature of materials stored. And the permanent storage

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1 sites, they seem to be looking at sites that don't have
2 to deal with that. They're not looking at, well, once
3 in a hundred years we're going to have our water run
4 away. So it's in that context that I look at it and
5 think about it.

6 Q. And by nature of the materials stored,
7 you're talking about the radioactive materials?

8 A. Yes.

9 Q. And in fact that's what causes your concern
10 about these other potential contaminants as well,
11 chemicals, the solvents, whatever, because we're dealing
12 with radioactive?

13 A. Again, we haven't been provided the quantity
14 of the other chemicals. It's certainly one of the
15 factors that causes our concern. But absent the quality
16 of the other chemicals, I can't tell you whether we
17 would have concern absent the radiologic part.

18 Q. Is there anything that you have read or are
19 aware of which would lead you to believe we have any
20 more solvents, chemicals, cleaning materials, etc., on
21 site for that facility than would exist at any other
22 industrial facility of its size?

23 A. I just don't know how to compare the first
24 two. I have no idea of the -- there's not another
25 benchmark for this one so that I can compare that to

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1 other facilities. I'm relying solely on what you're
2 telling us you might have there. And I do think you've
3 indicated that it's small quantities. I don't know what
4 that means to you.

5 Q. You've indicated that the state hasn't done
6 any particular migration study from the surface to
7 groundwater, and you would expect us to have done it and
8 provide it to you. Is it fair, then, that you wouldn't
9 be able to respond to questions about what you would
10 expect the length of time to be, what you would expect
11 the concentration of any of these materials to be when
12 they reach groundwater, etc.?

13 A. Yes, that's fair. I think that the onus of
14 doing pollutant transport modeling is on the applicant,
15 and that that's been requested and hasn't been done.
16 And we would continue to believe that that is a pathway
17 based upon the information that we have and our
18 experience with other sites.

19 Q. What is your understanding of the level of
20 groundwater in the facility in the site?

21 A. I'm just going from memory, and I think your
22 report said 125, 130 feet range.

23 Q. And do you have any understanding of the
24 materials between the surface and that level of
25 groundwater?

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1 A. A general understanding from the material
2 you've provided from generalized geologic information,
3 vague understanding from material that you've alluded to
4 relative to the drinking water wells that have been
5 installed. So that's the information that I'm aware of
6 that exists.

7 Q. Is it fair to say that not anything that
8 arrives on the surface of the ground around the facility
9 would necessarily make it to the groundwater? Is that
10 fair?

11 A. I think that's unfair.

12 Q. Unfair?

13 A. Yeah. Without doing the modeling, I think
14 that's inappropriate at a specific point site to use
15 these generalized groundwater and geologic statements to
16 characterize the site itself. I think the actual
17 modeling needs to be done at the site.

18 Q. Does that mean that you would start with the
19 assumption that anything that goes on the ground might
20 reach the groundwater?

21 A. I think you have to have that kind of an
22 assumption.

23 Q. That's your starting point?

24 A. Yes.

25 Q. And that assumes that there's no filtering

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1 and no dissolution of pollutant materials between the
2 surface and the level of the groundwater?

3 A. No, I don't think it assumes that.

4 Q. If anything that goes on the surface makes
5 it to the groundwater, could it necessarily assume that
6 there would be no remediation in the ground between the
7 surface and the groundwater?

8 A. No. Filtering and dissolution would affect
9 the concentration --

10 Q. Okay.

11 A. -- in the groundwater, perhaps.

12 Q. So the concentration might be less when it
13 reaches the groundwater, but it doesn't mean that it
14 would be totally removed by that --

15 A. As well as dilution.

16 Q. Okay. I had misunderstood what you said
17 initially. So it's a matter of degrees and how much,
18 but you don't know on this particular site what that
19 might be?

20 A. We don't even know the concentration of the
21 potential pollutants. We've asked for that information
22 as well, and that's somewhat of an unknown as well.

23 Q. Let's just talk for a moment about potential
24 of downgradient of contamination. And what do you
25 understand to be the direction of travel of any

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1 potential downgradient?

2 A. I think it's indicated in your documents and
3 our documents. My recollection is northward towards the
4 Great Salt Lake.

5 Q. And what do you understand to be the
6 potential for downgradient contamination?

7 A. Well, once again, it's very difficult to be
8 specific, because I have seen nothing from the company
9 that even identifies the gradient of the groundwater at
10 the site. The generalized information that I've seen
11 gives you generalized gradients for the valley. They're
12 not appropriate at a specific point. That's only
13 possible by the explorations being done right at the
14 site. And so it's difficult to speculate more than just
15 in broad generalities.

16 Q. Has the state done any particular studies on
17 its own of the potential for the downgradient
18 contamination?

19 A. No, not that I'm aware of.

20 Q. If there were to be any downgradient
21 contamination, what would be the pathway here that would
22 be of concern to you?

23 A. I think downgradient contamination could
24 occur through at least two paths. One would be into the
25 groundwater and moving in the direction of groundwater

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<p>SHEET 11 PAGE 81</p> <p>81</p> <p>1 flow.</p> <p>2 Q. Okay.</p> <p>3 A. Knowing that the contaminants that we have</p> <p>4 talked about that are present on site could stay present</p> <p>5 in the groundwater for hundreds of years. Second would</p> <p>6 be a downgradient for all contaminants in the surface</p> <p>7 water and ultimate infiltration into the ground or</p> <p>8 continued carriage by surface water.</p> <p>9 Those are the two normal pathways.</p> <p>10 Q. The latter, surface water is the overflow,</p> <p>11 again, of the retention pond?</p> <p>12 A. At least would include that, yes.</p> <p>13 Q. I didn't hear any others before.</p> <p>14 A. I just don't know the drainage plan</p> <p>15 specifically of your site as to whether there are any</p> <p>16 other areas that would not be contained by the storm</p> <p>17 water pond but it would be through runoff from the site.</p> <p>18 If the runoff all goes through the storm water pond and</p> <p>19 overflowed, that would be a mechanism for seepage.</p> <p>20 Q. What are the kinds of facilities where the</p> <p>21 state requires the kinds of studies you're looking and</p> <p>22 would hope that we would perform here?</p> <p>23 A. Facilities with the potential to contaminate</p> <p>24 groundwater, the potential to release pollutants that</p> <p>25 could go to the groundwater by nature of the placement.</p>	<p>PAGE 83</p> <p>83</p> <p>1 would want to discuss that as the modeling were done, so</p> <p>2 we picked one that was amenable to both of us and was</p> <p>3 likely to be best for the pollutants and the site</p> <p>4 conditions that we're dealing with.</p> <p>5 Q. Are there any that you would name today that</p> <p>6 you think would do the trick?</p> <p>7 A. Well, I don't see the value -- I mean, today</p> <p>8 I'd just be naming modeling codes. What I think you</p> <p>9 would like is which ones would you like -- which one</p> <p>10 would we like you to use.</p> <p>11 Q. Right.</p> <p>12 A. And that one I think requires more</p> <p>13 consideration than off the top of my head and</p> <p>14 consultation with some of our expert folks on modeling.</p> <p>15 I wouldn't want you to go off and do it based upon this.</p> <p>16 It's worth more than that.</p> <p>17 Q. The questions that I might have about</p> <p>18 recharge, etc., those we agreed are probably in 4, and</p> <p>19 therefore not -- those are quantity more than quality?</p> <p>20 A. Uh-huh.</p> <p>21 Q. What about our understanding of other users</p> <p>22 of water in the valley and the surrounding area wells,</p> <p>23 etc.? That again, quantity more than quality? Or do</p> <p>24 you have input on that subject area? I talked with</p> <p>25 Mr. Mann about this yesterday, yesterday or the day</p>
<p>PAGE 82</p> <p>82</p> <p>1 Q. And are there a number of those where you've</p> <p>2 required that kind of transport study?</p> <p>3 A. Yes, there are. There are a number of types</p> <p>4 of facilities where that has been done to answer various</p> <p>5 questions.</p> <p>6 Q. Here in the state?</p> <p>7 A. Yes.</p> <p>8 Q. Have you review viewed in any detail our</p> <p>9 sewer septic system?</p> <p>10 A. I would like to. Haven't -- we've asked for</p> <p>11 the detailed plans and the design of the system, and to</p> <p>12 my knowledge, that's not been submitted. There's not</p> <p>13 any of that detail in the report.</p> <p>14 Q. Based on any of the materials that we have</p> <p>15 provided or that you have available to you, are you</p> <p>16 aware of any inadequacies?</p> <p>17 A. There is no design information that I recall</p> <p>18 in the report other than a general estimate of the total</p> <p>19 flow. There's just not anything there for us to review.</p> <p>20 Q. What modeling codes, if any, would you</p> <p>21 suggest that we use if we were to do a transport study?</p> <p>22 A. If you were to do that, I would want to</p> <p>23 consult with our modeling experts and make sure that we</p> <p>24 were using the best. There's a number of codes that are</p> <p>25 developed, and we have some that we like. I think we</p>	<p>PAGE 84</p> <p>84</p> <p>1 before. They're running together for me. The day</p> <p>2 before, maybe.</p> <p>3 A. If I'm understanding the question correctly,</p> <p>4 my understanding of whether users -- I assume that means</p> <p>5 which ones exist and where are they?</p> <p>6 Q. Uh-huh.</p> <p>7 A. I think that is appropriately the domain of</p> <p>8 the water quantity person. It's something that is of</p> <p>9 concern to us, though, with regards to risk</p> <p>10 considerations.</p> <p>11 Q. The risk considerations being in the event</p> <p>12 we have --</p> <p>13 A. Well, I guess there's two elements of risk</p> <p>14 that I would suggest. One is the location of users, the</p> <p>15 type of use that they're making, the connection of the</p> <p>16 aquifer to what's under the site. Those are existing.</p> <p>17 But then concerns go beyond that to potential uses which</p> <p>18 aren't so much tied to those sites, they're tied to what</p> <p>19 might happen in the next hundred years and who might</p> <p>20 want to make use of the water. And I think if we factor</p> <p>21 in both of those.</p> <p>22 Q. Let's explore, then, both of those. First</p> <p>23 with respect to existing. Which existing uses are of</p> <p>24 concern to you?</p> <p>25 A. All of them.</p>

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<div>PAGE 85</div> <div>85</div> <div><p>1 Q. Are there any in particular that are of</p><p>2 concern?</p><p>3 A. If there were uses for drinking water or</p><p>4 uses for stock watering, uses for irrigation. Those</p><p>5 would be examples of uses that would be of concern and</p><p>6 our desire to protect.</p><p>7 Q. And is your concern there the potential</p><p>8 groundwater pathway?</p><p>9 A. Our concern would be potential of</p><p>10 contaminants from this site arriving at those wells and</p><p>11 interfering in any way with the use.</p><p>12 Q. And is that by a groundwater pathway that</p><p>13 we're talking about, or surface, or --</p><p>14 A. If I could go back to my answers about how</p><p>15 could it be transmitted. It would be I suspect by</p><p>16 either pathway.</p><p>17 Q. What's the closest well that's of concern to</p><p>18 you?</p><p>19 A. I think that information is identified in</p><p>20 detail in the information that we've provided and that</p><p>21 you've provided. I'd be going by memory, but my</p><p>22 understanding is that there are several wells within the</p><p>23 proximity of a few miles from the site, and those would</p><p>24 be wells that are existing and be of concern. It</p><p>25 doesn't address the potential uses for the next many,</p></div>	<div>PAGE 87</div> <div>87</div> <div><p>1 A. It's my understanding that there are wells</p><p>2 that are downgradient of PFS.</p><p>3 Q. And so that pathway may be of concern?</p><p>4 A. Yes.</p><p>5 Q. Now let me go to future uses. Is the state</p><p>6 aware either by permitting, which we wouldn't</p><p>7 necessarily be aware of, or other means of intended</p><p>8 future uses that would be downgradient here and of</p><p>9 additional concern that we haven't identified or haven't</p><p>10 addressed?</p><p>11 A. Future uses that are now identified is out</p><p>12 of my area, and that would be the state engineer that</p><p>13 might have knowledge of that. My response was put in</p><p>14 the context that contaminants of this nature in the</p><p>15 groundwater exist for decades and centuries, and</p><p>16 attempting to predict the uses that might occur over the</p><p>17 life of those contaminants is very difficult. Just to</p><p>18 look out this window at this valley and think what it</p><p>19 was like a hundred years ago and compare it to now, who</p><p>20 would have thunk it, you know, so to speak.</p><p>21 So that's difficult. We have to consider</p><p>22 groundwater, all groundwater as potential future use for</p><p>23 drinking water. And we have to -- our goal is to</p><p>24 protect it for that use.</p><p>25 Q. And these substances you're talking about</p></div>
<div>PAGE 86</div> <div>86</div> <div><p>1 many years.</p><p>2 Q. Let me just stick to existing just for the</p><p>3 moment. Is there a surface pathway that you see of</p><p>4 concern from our site to a well which would be several</p><p>5 miles away?</p><p>6 A. I don't know that we have identified that</p><p>7 completely. I think that that's one of the questions</p><p>8 we've asked is to identify wells and the users and those</p><p>9 which are downgradient, which are upgradient. So I</p><p>10 think I'd have to refer to that question we've asked in</p><p>11 our responses to PFS to identify. I have a vague</p><p>12 recollection that there's been some identified in those</p><p>13 responses.</p><p>14 Q. There's been a lot of identification of</p><p>15 wells and surrounding wells, and I think there's pretty</p><p>16 good agreement, actually, between the state and PFS on</p><p>17 the location of those wells and their uses. I'm asking</p><p>18 you, though, is there a surface pathway to any of those</p><p>19 wells that's of concern to you?</p><p>20 A. I don't know that information relative to</p><p>21 the surface pathway. I don't know that we've seen the</p><p>22 work done by PFS and I don't know that we've done it</p><p>23 ourselves.</p><p>24 Q. And the same question with regard to</p><p>25 groundwater pathway.</p></div>	<div>PAGE 88</div> <div>88</div> <div><p>1 are all the various substances we've talked about?</p><p>2 A. Yes.</p><p>3 Q. Solvents, cleaners, petroleum products?</p><p>4 A. Radiologics.</p><p>5 Q. Radiologics.</p><p>6 A. Uh-huh.</p><p>7 MR. BLAKE: I'd like to take a break,</p><p>8 because I may be done.</p><p>9 (Recess from 11:57 to 12:04 p.m.)</p><p>10 MR. BLAKE: Appreciate the break and the</p><p>11 opportunity, and I have no more questions for you.</p><p>12 Thank you very much for appearing here today</p><p>13 EXAMINATION</p><p>14 BY MR. WEISMAN:</p><p>15 Q. I'm Bob Weisman. I'm the attorney for the</p><p>16 NRC, and I have got just a couple questions for you.</p><p>17 Mr. Blake asked you a few questions about</p><p>18 fuel storage, talking about diesel fuel and gasoline,</p><p>19 and you indicated that for many facilities there would</p><p>20 be some kind of a liner required. Is that correct?</p><p>21 A. That's what I answered.</p><p>22 Q. My question is, is there some kind of a</p><p>23 small quantity below which there would be no such</p><p>24 requirement?</p><p>25 A. Well, I guess it depends on whether it's</p></div>

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1 above ground or under ground. And I'm not the person
2 that implements underground storage tank programs, so I
3 don't have the recall as to the sizes. There are -- I
4 know there are plenty of exceptions to the underground
5 storage tank rule, and that rule does not apply to above
6 ground tanks, which I understand maybe all these are. I
7 don't know. But the discussion is that a lot of these
8 tanks are doubled lined. Oftentimes storage tanks
9 provide sufficient retention to contain the volume of
10 the tank should it rupture. Those are the kind of
11 things I was alluding to.

12 Q. For an above ground tank, is there some kind
13 of minimum volume before a liner would be required?

14 A. I suspect there is, yeah.

15 Q. Do you know what that is?

16 A. No, I don't.

17 MR. WEISMAN: Okay. That's really -- that's
18 all I have.

19 MR. SEEL: One follow-up question.

20 EXAMINATION

21 BY MR. SEEL:

22 Q. Why does the state have an underground
23 storage tank program? You mentioned a program of some
24 type. Do you know why they have that program?

25 A. Well, it's a national program. It is based

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1 around correcting problems with underground storage
2 tanks of fuel that have been leaking, and it is a
3 program to remedy a problem that has developed due to
4 improper storage. And Utah is delegated to administer
5 that program as a state.

6 MR. SEEL: No further questions.
7 (Deposition was concluded at 12:07 p.m.)

8 * * *

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C E R T I F I C A T E

1 State of Utah)
2 ss.

3 County of Utah)

4 I, Vicky McDaniel, a Registered Merit
5 Reporter and Notary Public in and for the State of Utah,
6 do hereby certify:

7 That the deposition of DON A. OSTLER, the
8 witness in the foregoing deposition named, was taken on
9 April 19, 2001, and that said witness was by me, before
10 examination, duly sworn to testify the truth, the whole
11 truth, and nothing but the truth in said cause;

12 That the testimony of said witness was
13 reported by me in stenotype and thereafter transcribed
14 into typewriting and that a full, true, and correct
15 transcription of said testimony so taken and transcribed
16 is set forth in the preceding pages.

17 I further certify that I am not of kin or
18 otherwise associated with any of the parties of said
19 cause of action and that I am not interested in the
20 event thereof.

21 WITNESS MY HAND and OFFICIAL SEAL at Saratoga
22 Springs, Utah, this 23rd day of April, 2001.

23 Vicky McDaniel, RMR
24 Utah License No. 87-108580
25

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1 Case: In the Matter of Private Fuel Storage
2 Case No.: ASLPB No. 97-732-02-ISFSI
3 Reporter: Vicky McDaniel
4 Date taken: April 19, 2001

WITNESS CERTIFICATE

5 I, DON A. OSTLER, HEREBY DECLARE:

6 That I am the witness referred to in the
7 foregoing testimony; that I have read the transcript and
8 know the contents thereof; that with these corrections I
9 have noted, this transcript truly and accurately
10 reflects my testimony.

11 PAGE-LINE CHANGE/CORRECTION REASON
12
13
14
15
16

17 _____ No corrections were made.

18
19 DON A. OSTLER
20 SUBSCRIBED and SWORN to at
21 , this day of
22 2001.

23 Notary Public
24
25

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