

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
SOUTHERN DIVISION
NO. 7:23-CV-897**

IN RE:

CAMP LEJEUNE WATER LITIGATION

This Document Relates To:

ALL CASES

**NOTICE OF FILING OF
CORRECTED EXHIBITS**

The United States files this Notice of Filing of Corrected Exhibits in the Unsealed Joint Appendix (Phase III Vol. 6) in support of the Parties' Phase II and Phase III Daubert motions and motions for summary judgment, in accordance with this Court's August 19, 2025 Order Amending Case Management Order No. 2 ("CMO 2"), D.E. 456. Specifically, Exhibits 616 and 617 were inadvertently filed in reverse order.

Dated: September 5, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on September 5, 2025, I electronically filed the foregoing using the Court's Electronic Case Filing system, which will send notice to all counsel of record.

/s/ Jennifer E. Adams
JENNIFER E. ADAMS

Exhibit 616

ERRATA

PAGE	LINE	CHANGE
13	17	Replace "Barbano" with "Dr. Plunkett"
	REASON:	I misspoke during the deposition
29	15	Replace "protected" with "protective"
	REASON:	Incorrect word transcribed.
31	9	Replace "protected" with "protective"
	REASON:	Incorrect word transcribed.
117	9	Replace "confidential" with "confidence"
	REASON:	Incorrect word transcribed.
139	10	Replace "a protein zero" with "approaching zero"
	REASON:	Incorrect word transcribed.
210	15	My response of "Correct" should have been "incorrect"
	REASON:	During the deposition, I agreed that the demonstrated calculation was correct but
		it was represented to me with a missing variable where the one workday exposure
		should have been divided by 7 before calculating ingestion volume days per week.
217	7	Replace "one microgram" with "1.46 microgram" as in the live
		spreadsheets
	REASON:	The one microgram value was represented to me during the deposition but was an
		incorrect value.
229	15	Replace "five" with "two"
	REASON:	I misspoke during the deposition
236	9	Replace "working" with "visiting and potentially running" at Hadnot Point

1 **REASON:** I incorrectly recalled Mr. Vidana's activities
2 243-252 Clarification of reasoning regarding Fancher Deposition
3 **REASON:** Fancher Deposition (p. 127-128) states that the average training day was once or
4 twice per week and usually lasted all day and into the night (sometimes 16+ hours).
5 I considered 16+ hours as full exposure days.
6 265 7 Replace "in" the field manual guidelines with "as per" the field manual guidelines
7 **REASON:** I misspoke during the deposition.
8 284 19 Replace "re-stint" with "stint"
9 **REASON:** I may have misspoke or the word was transcribed incorrectly.
10
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1
2 ACKNOWLEDGMENT OF DEPONENT

3
4 I, Kelly A. Reynolds, do
5 hereby certify that I have read the
6 foregoing pages, and that| the same is
7 a correct transcription of the answers
8 given by me to the questions therein
9 propounded, except for the corrections or
10 changes in form or substance, if any,
11 noted in the attached Errata Sheet.
12

13
14 [Signature] 08/15/25
15 WITNESS NAME DATE
16

17
18 Subscribed and sworn
to before me this

19 15th day of August, 2025.
20 My commission expires: July 4th 2029
21

22 [Signature]
Notary Public

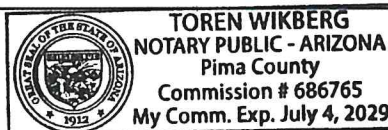


Exhibit 617

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
SOUTHERN DIVISION
NO. 7:23-CV-897

IN RE:)
)
CAMP LEJEUNE WATER LITIGATION)
)
)
This Document Relates to:)
ALL CASES)
-----)

VIDEOTAPED DEPOSITION OF
JUDY S. LAKIND, PH.D.,
a witness herein, called by the Plaintiffs for
examination, taken by and before Ann Medis, RPR,
CLR, CSR-WA, and Notary Public in and for the
Commonwealth of Pennsylvania, via Zoom
Videoconference, at Brockstedt Mandalas Federico,
2850 Quarry Lake Drive, Suite 220, Baltimore,
Maryland 21209, on Thursday, July 17, 2025,
commencing at 9:03 a.m.

a P P E A R A N C E S

On behalf of the PLG

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U.S. DEPARTMENT OF JUSTICE

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David Miceli

Richard Schuhmann

Dean Sherman, summer clerk, Keller Postman

Bradley Loy, videographer

* I N D E X *

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P R O C E E D I N G S

- - - -

THE VIDEOGRAPHER: We are now on the record. My name is Bradley Loy. I'm a videographer for Golkow, a Veritext Division. Today's date is July 17, 2025, and the time is 9:03. This video deposition is being held in Baltimore, Maryland, taken in the matter of Camp Lejeune Water Litigation, for the United States District Court for the Eastern Division of North Carolina, Southern Division. The deponent is Dr. Judy LaKind.

Will counsel please identify themselves.

MR. SNIDOW: J.J. Snidow on behalf of Plaintiff Leadership Group.

MR. SHERMAN: Dean Sherman. I'm a summer associate at Keller Postman.

MR. MICELI: Dave Micheli on behalf of Plaintiff Leadership Group.

MS. SILVERSTEIN: Kailey Silverstein on behalf of the United States.

MS. ELLISON: Anna Ellison of the United States.

THE VIDEOGRAPHER: The court reporter and will now swear in the witness.

1 JUDY S. LAKIND, PH.D.,
2 having been first duly sworn, was examined
3 and testified as follows:

4 EXAMINATION

5 BY MR. SNIDOW:

6 Q. Good morning, Dr. Goodman. I'm J.J.
7 Snidow, and I think you understand I represent
8 some of the plaintiffs in this case.

9 A. I do. It's Dr. LaKind.

10 Q. Gosh. You know why? That's the next I
11 have. Do you know Dr. Julie Goodman?

12 A. I do.

13 Q. Is she the reason you became involved in
14 this case?

15 A. I believe that's -- well, she's not the
16 reason I became involved, but I believe that the
17 initial contact with the DOJ was through her.

18 Q. And tell me about that. How did you
19 first become -- how did you first hear about this
20 case? We'll start there.

21 A. Well, I first heard about issues at Camp
22 Lejeune quite sometime ago from newspaper
23 articles. In this particular case, this is a
24 while ago now, but my memory is that Dr. Goodman
25 and I were talking, and she asked me if I ever did

1 expert witness work. This is really based on
2 memory from a long time ago, but this is how I
3 think it went. And I hadn't, but she thought she
4 might recommend me to her colleagues at the DOJ.

5 Q. Ballpark, approximately when was that?

6 A. Probably early 2023.

7 Q. Do you know when you were formally
8 retained by DOJ?

9 A. I don't know the formal date. It was
10 mid 2023, I think.

11 Q. And you said early 2023 is when you
12 first talked to Dr. Goodman about this case?

13 A. It's an estimate.

14 Q. Of course. When did you first begin
15 work on this case?

16 A. Again, I believe it was around mid 2023.

17 Q. When you first spoke to Dr. Goodman
18 about this case, am I correct that you had not yet
19 been retained by DOJ?

20 A. That's correct.

21 Q. And what did she tell you about the case
22 that you can remember?

23 A. My memory is she told me almost nothing.

24 Q. So she said, are you interested in doing
25 expert work. I assume you said yes.

1 A. Probably since I'm here.

2 Q. That's right. Then do you know how it
3 went from that conversation to you being retained?

4 MS. SILVERSTEIN: Object to foundation.

5 THE WITNESS: No. I just know that I
6 was contacted at some point by the DOJ.

7 BY MR. SNIDOW:

8 Q. Had you testified in other cases?

9 A. I have not.

10 Q. Have you given a deposition before?

11 A. I have not.

12 Q. I didn't know that. Well, then I'll do
13 something I don't always do. I think you
14 understand that you're under oath and you're
15 giving testimony just as if you were in a court of
16 law. Yes?

17 A. I do.

18 Q. It's not a memory test. So if you don't
19 recall, feel free to tell me that. If you don't
20 understand the question, feel free to tell me
21 that. If you need a break at any time, just tell
22 me that as well. Okay?

23 A. I am.

24 Q. The flip side of all that is if you do
25 answer the question, I'm going to assume that you

1 understood it. So it is very important if you
2 don't understand, ask me to rephrase, tell me you
3 don't understand.

4 Does that all make sense?

5 A. Yes, it does.

6 Q. Ms. Silverstein might object to some of
7 my questions as she's done one time, and I'm sure
8 she will again. You can still answer the question
9 unless she instructs you not to on the grounds of
10 privilege or something else.

11 Does that make sense?

12 A. It does.

13 Q. Have you given expert reports before in
14 litigation?

15 A. I think the best way to answer that is
16 to say that I have assisted in litigation, but I
17 have never had a report be used to my knowledge in
18 a case.

19 Q. What do you mean when you say "assist in
20 litigation"?

21 A. I have been asked to help with
22 scientific issues that were related to a case, but
23 it never evolved into an expert report.

24 Q. Consistent with whatever obligations you
25 have to whoever you were working for, can you tell

1 me what topic that case involved?

2 A. I can tell you that it involved the
3 persistent organic pollutants.

4 Q. Do you know who the client was?

5 A. I do. I don't think I'm permitted to
6 share that.

7 Q. Fair enough. Is that the only time that
8 you've done litigation work?

9 A. Can you define litigation work?

10 Q. So you said you've assisted in
11 litigation at times; right?

12 A. Right. So there would be two, two of
13 those instances.

14 Q. Were both of those regarding persistent
15 organic pollutants?

16 A. Yes.

17 Q. What did you do to prepare for this
18 deposition?

19 A. Well, let's see. I reviewed my reports
20 and many other documents that I relied on for my
21 reports. I met with lawyers from the DOJ. And I
22 don't think I'm permitted to tell you what we
23 talked about.

24 Q. You're not. Who was there though? You
25 can tell me that.

1 A. Kailey and Anna.

2 Q. Was that by Zoom or in person?

3 A. By Zoom except one meeting in person.

4 Q. Was that downtown at their office or
5 closer to you?

6 A. It was downtown at their office.

7 Q. How many times did you meet with DOJ
8 attorneys?

9 A. Are you referring specifically to
10 deposition prep?

11 Q. Yeah.

12 A. I don't know the exact number, but I
13 would estimate five or six.

14 Q. In preparing for this deposition, did
15 you speak to any other experts?

16 MS. SILVERSTEIN: Dr. LaKind, you can
17 answer the question, but on the basis of CMO 17,
18 please do not discuss anything that you talked
19 about with any other experts you may have met
20 with.

21 THE WITNESS: So specifically for
22 preparing for the deposition, no, I did not meet
23 with other experts.

24 BY MR. SNIDOW:

25 Q. How about before you submitted your

1 reports, did you speak to other experts?

2 A. Yes, I did.

3 Q. Which ones?

4 A. Well, there were numerous experts. And
5 it's been a couple of years of work, but I can --
6 I'm sure I can name some of them. Dr. Goodman,
7 Dr. Lisa Bailey, Dr. Hennet, Dr. Spilotopoulos,
8 Dr. Lipscomb. I believe I spoke briefly with an
9 historian, and I don't remember his name.

10 Q. Were these by Zoom?

11 A. They were all by Zoom with one
12 exception. Several of us had a field trip to Camp
13 Lejeune, and I had some conversations with experts
14 during that time.

15 Q. Who went on the site visit?

16 A. So Dr. Hennet was there. I think
17 Dr. Spilotopoulos. I'm not sure. One of the
18 historians was there. And if there were others, I
19 didn't interact with them.

20 Q. What was the purpose of the site visit?

21 A. To understand the layout of the base.

22 Q. Did you speak with any base personnel,
23 either Navy, Marines, civilians while you were
24 there?

25 MS. SILVERSTEIN: Dr. LaKind, you can

1 answer. But to the extent your answer involves
2 any information about what you discussed, I'll
3 instruct you not to answer.

4 THE WITNESS: Yes. There were people
5 who stated that they were affiliated with the
6 base.

7 BY MR. SNIDOW:

8 Q. Am I correct that you wrote 25 reports
9 in this case?

10 A. I wrote 25 reports that were submitted
11 as expert reports, yes.

12 Q. Were there any reports you wrote that
13 were not submitted?

14 MS. SILVERSTEIN: Dr. LaKind, the
15 reports that were not submitted are protected by
16 CMO 17. So I'll instruct you not to discuss any
17 draft reports that you prepared.

18 THE WITNESS: Okay.

19 MR. SNIDOW: Thus far I'm going to ask
20 if she prepared them. We won't go into what they
21 are.

22 MS. SILVERSTEIN: You can ask if she
23 prepared them, but who they pertain to or what
24 they involve --

25 MR. SNIDOW: Of course.

1 MS. SILVERSTEIN: -- I'll instruct her
2 not to answer.

3 THE WITNESS: The answer is yes.

4 BY MR. SNIDOW:

5 Q. Are all the opinions that you intend to
6 offer contained within the 25 reports that you
7 submitted?

8 A. I think it depends on what questions you
9 ask me. But generally, I would say yes.

10 Q. Fair enough. Are all the materials that
11 you relied upon contained in the materials
12 considered list in those reports?

13 A. I believe they are.

14 Q. Do you have any notes, either
15 handwritten or electronic, that you kept while
16 preparing your reports?

17 A. Very few.

18 Q. But maybe?

19 A. Yes.

20 Q. Handwritten or electronic?

21 A. I think both.

22 Q. Did you prepare any slides related to
23 your opinions in this case?

24 A. I assume you're referring to PowerPoint
25 slides. Yes. I have some PowerPoint slides.

1 Q. What's the purpose of those slides?

2 MS. SILVERSTEIN: Dr. LaKind, to the
3 extent these are about any slides you present for
4 presentation to DOJ, those are protected by
5 attorney/client privilege, and I instruct you not
6 to answer.

7 THE WITNESS: I can't answer.

8 BY MR. SNIDOW:

9 Q. Did you prepare slides for any other
10 purpose other than presenting to counsel?

11 A. No.

12 Q. Did you prepare slides for the purpose
13 of presenting to other experts?

14 A. Only insofar as if there were other
15 experts at the same meeting where the attorneys
16 were present.

17 Q. When you spoke to the other experts, was
18 it one on one or all in a group? What I mean is
19 was it just a Zoom with you and Dr. Bailey and
20 then a Zoom with Dr. Hennet and you and a Zoom
21 with you and Dr. Spilotopoulos, or were there
22 multiple experts all on the same Zoom?

23 A. So it was a mix. It depended on the
24 meeting.

25 Q. Was there ever a meeting in which all of

1 the experts that you named for me were on the same
2 Zoom?

3 A. I don't remember.

4 Q. Fair enough. Was there a meeting when
5 Dr. Bailey and Dr. Goodman were on the same Zoom?

6 A. I think there might have been one.

7 Q. Have you read the text of the Camp
8 Lejeune Justice Act?

9 A. Not in its entirety.

10 Q. Did you apply the at least as likely as
11 not standard when writing your reports?

12 MS. SILVERSTEIN: Object to form and
13 foundation.

14 THE WITNESS: I did not.

15 BY MR. SNIDOW:

16 Q. Are you aware that the Camp Lejeune site
17 has been remediated?

18 MS. SILVERSTEIN: Object to foundation.

19 THE WITNESS: I'm not familiar with
20 remediation activities at the site.

21 BY MR. SNIDOW:

22 Q. Fair enough. But are you aware that it
23 has been remediated?

24 A. I am aware that the water treatment
25 plant for Tawara Terrace was shut down and that

1 concentrations of chemicals it had in Tawara
2 treatment plant were substantially reduced;
3 presumably remediation, but I can't speak to
4 remediation.

5 Q. What is the largest meeting that you had
6 with experts, I mean the highest number of experts
7 that you can recall?

8 MS. SILVERSTEIN: Object to form.

9 THE WITNESS: You want the number of
10 people?

11 BY MR. SNIDOW:

12 Q. Start there.

13 A. These were Zoom calls, and I didn't
14 necessarily scroll across. Are you asking me to
15 guess?

16 Q. Estimate it. Is it more than five?

17 A. Yes.

18 Q. More than ten?

19 A. Yes. I believe there was a meeting
20 where there were more than ten.

21 Q. That was by Zoom or in person?

22 A. By Zoom.

23 Q. Do you know the background rate for the
24 kidney cancer?

25 A. I do not.

1 MS. SILVERSTEIN: Object to form.

2 BY MR. SNIDOW:

3 Q. If I ask you the same question for any
4 of the other diseases, bladder cancer, NHL,
5 leukemia and Parkinson's, would you give me the
6 same answer?

7 MS. SILVERSTEIN: Object to form.

8 THE WITNESS: I would.

9 BY MR. SNIDOW:

10 Q. Do you agree that risk assessment is
11 ultimately based on results either from the animal
12 studies or human epidemiology?

13 A. I'm sorry. Ask the question again.

14 Q. You're familiar with risk assessment;
15 right?

16 A. I am.

17 Q. And you're actually an expert in risk
18 assessment; right?

19 A. I am.

20 Q. Do you agree that risk assessment is
21 ultimately based on the results from either animal
22 studies or human epidemiology?

23 A. No, I don't.

24 Q. What else is it ultimately based on?

25 A. Risk assessment is based on information

1 from a wide array of disciplines and studies,
2 including single-cell studies and geologic studies
3 and just numerous all other studies. All of that
4 information is combined.

5 Q. That's fair. When doing risk
6 assessment, you know what a cancer slope factor
7 is; right?

8 A. I do.

9 Q. And inhalational unit risk?

10 A. I do.

11 Q. Those are ways of estimating a
12 dose-response curve; would you agree?

13 A. They don't estimate the dose-response
14 curve, no.

15 Q. How would you put it?

16 A. They describe the relationship between
17 exposure and effect. I think I'll stop there.
18 They describe the relationship between exposure
19 and effect.

20 Q. Fair enough. And those units, either
21 the cancer slope factor or the inhalational unit,
22 those two measures are ultimately based on either
23 human epidemiology or animal studies?

24 MS. SILVERSTEIN: Object to form.

25 THE WITNESS: The underlying foundation

1 is, generally speaking, human or animal study.
2 There are newer developments that are happening
3 now, but I would say the existing ones are
4 predominantly human and animal studies, yes.

5 BY MR. SNIDOW:

6 Q. Do you agree in general, it's preferable
7 to use human epidemiology?

8 MS. SILVERSTEIN: Object to form.

9 THE WITNESS: I do not.

10 BY MR. SNIDOW:

11 Q. All else equal, you wouldn't agree?

12 A. I don't know what you mean by "all else
13 equal."

14 Q. If you've got animal studies and human
15 epidemiology and you think the human epidemiology
16 is high quality, you would use human epidemiology;
17 right?

18 A. I disagree with that.

19 Q. You haven't published something to that
20 effect before?

21 A. No, not stating that exactly how you
22 stated it.

23 Q. How would you put it?

24 A. That a risk assessment relies on a
25 careful and systematic evaluation of all available

1 animal and human research. Here I'm talking about
2 the toxic potency component of the risk assessment
3 and an examination of quality, of uncertainty, of
4 reproducibility. There are many factors that go
5 into deciding ultimately which study one is going
6 to use as the basis for the toxic potency factor.

7 Q. Do you agree that risk assessment is not
8 an exact science?

9 A. Yes. I would agree with that.

10 Q. Why is that?

11 A. I can't think of a science offhand, a
12 scientific discipline that is exact.

13 Q. Physics maybe.

14 A. I was going to carve that one out.
15 There's just uncertainty and variability inherent
16 in life.

17 Q. Do you agree that it's possible for risk
18 assessments to underestimate risk?

19 MS. SILVERSTEIN: Object to form and
20 foundation.

21 THE WITNESS: I believe it's possible
22 for it to underestimate or overestimate risk.

23 BY MR. SNIDOW:

24 Q. Fair enough. Did you use -- did you
25 rely upon the water modeling performed by ATSDR

1 when creating your reports?

2 A. I relied on their data they published as
3 an outcome of their methodology.

4 Q. And the purpose that you're using it for
5 was to calculate the exposure for the 25
6 plaintiffs that you looked at; right?

7 MS. SILVERSTEIN: Object to form.

8 THE WITNESS: It was a component of the
9 overall risk assessment.

10 BY MR. SNIDOW:

11 Q. You didn't perform the risk assessment;
12 right?

13 A. I'm sorry. That was a mistake. I meant
14 to say exposure assessment.

15 Q. Of course. So we'll just clean up the
16 record. The purpose you used the water modeling
17 for was to create an exposure assessment for each
18 of the 25 plaintiffs; right?

19 A. It was a component of the overall
20 exposure assessment, yes.

21 Q. You did not use the ATSDR concentration
22 levels to do epidemiology; true?

23 A. That's correct.

24 Q. You did not use it to simply do relative
25 exposure. What I mean by that is you didn't just

1 categorize the plaintiffs into high, medium and
2 low. You the actually calculated absolute the
3 exposures; correct?

4 MS. SILVERSTEIN: Object to form and
5 foundation.

6 THE WITNESS: I agree with the first
7 part. I did not group plaintiffs in any kind of
8 high, medium, low category.

9 What was the second half of the
10 question?

11 BY MR. SNIDOW:

12 Q. I'll give another one. Thank you for
13 that.

14 You used the chemical concentrations in
15 the ATSDR water modeling to calculate absolute
16 exposures for each of the plaintiffs; true?

17 A. It's not clear to me what you mean by
18 "absolute."

19 Q. The ultimate number that you calculated
20 I believe was a number of micrograms per kilogram
21 per day; correct?

22 A. That's correct.

23 Q. And that is an absolute number, like 115
24 or something like that; correct?

25 A. I would call it a specific number.

1 Q. Perfect. Fair enough. You agree there
2 nothing wrong with using the ATSDR concentrations
3 to calculate a specific exposure number for
4 plaintiffs; true?

5 MS. SILVERSTEIN: Object to form and
6 foundation.

7 THE WITNESS: I believe what you're
8 asking me is are there any issues, for lack of a
9 better word, with the ATSDR data.

10 BY MR. SNIDOW:

11 Q. I'm not.

12 A. You're not?

13 Q. No. But we can clear this up now.
14 You're not a water modeler; correct?

15 A. I am not.

16 Q. You don't have any opinions on whether
17 the water modeling was done well or not well or
18 anywhere in between; true?

19 MS. SILVERSTEIN: Object to form.

20 THE WITNESS: I do not.

21 BY MR. SNIDOW:

22 Q. My question is a little different.
23 Assuming that the water modeling was done well,
24 there's nothing wrong with using those numbers to
25 calculate a specific exposure number for an

1 individual person; right?

2 MS. SILVERSTEIN: Object to foundation.

3 THE WITNESS: There are obvious
4 uncertainties that are introduced in using the
5 data that they produced, but given that it was the
6 most comprehensive dataset available, I found it
7 acceptable to use.

8 BY MR. SNIDOW:

9 Q. If someone said that this ATSDR water
10 modeling can only be used for epidemiology, you,
11 of course, have to disagree?

12 MS. SILVERSTEIN: Object to form and
13 foundation.

14 THE WITNESS: I don't agree that it
15 could only be used for epidemiology.

16 BY MR. SNIDOW:

17 Q. Is there any better data on chemical
18 concentrations at Camp Lejeune other than the
19 ATSDR water modeling that you're aware of?

20 MS. SILVERSTEIN: Object to form and
21 foundation.

22 THE WITNESS: I'm not aware of any other
23 comprehensive dataset.

24 BY MR. SNIDOW:

25 Q. Beside the ATSDR water modeling, are you

1 aware of any other data that you could have used
2 to model the plaintiffs' exposures?

3 A. I'm not.

4 Q. You relied upon deposition transcripts
5 in computing -- excuse me. Strike that.

6 You relied on deposition transcripts in
7 estimating the plaintiffs' exposures; true?

8 A. I relied to a partial extent on
9 information that I obtained from the depositions
10 to help me guide my decision making on the values
11 that I used in the modeling for exposure.

12 Q. Am I correct the reason that you relied
13 upon deposition transcripts is because you could
14 not locate any contemporaneous documentation of
15 people's exposures?

16 A. So let me start with the second half. I
17 did not identify any contemporaneous information
18 specific to plaintiffs during the time that they
19 were at Camp Lejeune. But I relied on their
20 information along with other information because
21 that's how exposure assessment is done.

22 Q. Besides the -- other than the deposition
23 transcripts, are you aware of any better
24 information showing what the plaintiffs were
25 exposed to while on base?

1 MS. SILVERSTEIN: Object to foundation.

2 THE WITNESS: So I think I need you to
3 reword that because the depositions didn't speak
4 directly to what they were exposed to.

5 BY MR. SNIDOW:

6 Q. That's fair. I'll restate.

7 Besides the deposition, any better
8 information that you're aware of that showed the
9 behavior of the plaintiffs while they were on
10 base?

11 MS. SILVERSTEIN: Object to form.

12 THE WITNESS: I don't generally like
13 ranking data sources. It's very plaintiff and
14 behavior specific. So I would need you to give me
15 a very specific example.

16 BY MR. SNIDOW:

17 Q. What other documentation did you use to
18 assess behavior of the plaintiffs while on base?

19 A. So sort of a long list. But as one
20 example, most people don't know how much air
21 they're breathing over the course of a day or a
22 minute, and there are studies that describe that.
23 So I used information predominantly from EPA and
24 ATSDR on inhalation rates. I don't know how many
25 examples you want.

1 Q. That's good. Let me just clarify
2 though. You're talking about something a little
3 different than behavior. You're talking about how
4 much air people were breathing.

5 MS. SILVERSTEIN: Object to form.

6 THE WITNESS: Which is related to
7 behavior. If you ran all day, that would be a
8 different inhalation rate than if you were sitting
9 at your desk all day.

10 BY MR. SNIDOW:

11 Q. How about in terms of determining where
12 plaintiffs lived on base, their activities on
13 base, any better the source of information other
14 than deposition transcripts that you're aware of?

15 MS. SILVERSTEIN: Object to form.

16 THE WITNESS: For living on base in
17 addition to depositions, there were -- for some
18 plaintiffs there were housing records. I can't
19 think of anything else right now. Maybe later.

20 BY MR. SNIDOW:

21 Q. Fair enough. So besides deposition
22 transcripts and the housing records, you're not
23 aware of any better source of data for determining
24 where people lived on base and where they went
25 while they were there?

1 MS. SILVERSTEIN: Object to form.

2 THE WITNESS: That's correct. For the
3 where and the how they behaved, I would say that's
4 correct.

5 BY MR. SNIDOW:

6 Q. The ultimate exposure metric that you
7 estimated was milligrams per kilogram per day of
8 exposure to each of the chemicals; correct?

9 A. That's not correct.

10 Q. Is it micrograms per kilogram per day?

11 A. I won't quibble, the mass designation.
12 For ingestion would be milligram per kilogram per
13 day. For the dermal exposure, also milligram per
14 kilogram per day. For inhalation, I included
15 milligram -- I think in that case microgram per
16 kilogram per day because it was part of the model
17 results. But I also included air concentrations
18 in microgram per meter cubed as that's the unit
19 needed by the risk assessors.

20 Q. So on the exposure that you used for
21 air, microgram per meter cubed, you'd agree that
22 does is not have a measure of the plaintiffs'
23 weight included; correct?

24 A. That's correct.

25 Q. That's a perfectly valid measure of

1 exposure even though it doesn't include the
2 plaintiffs' weight; right?

3 MS. SILVERSTEIN: Object to form.

4 THE WITNESS: Let me think about that
5 for a second.

6 Right. So just to be clear, if we're
7 talking about exposure in its strictest sense,
8 there are many ways of expressing units of
9 exposure. For example, when we evaluate blood
10 leads, we present that as microgram per liter
11 blood. So body weight is not always included in
12 the direct exposure measurement.

13 BY MR. SNIDOW:

14 Q. You said not always included?

15 A. In that component of an overall risk
16 assessment, in just the exposure component, the
17 units can vary.

18 Q. And sometimes do not include the weight
19 of the person; true?

20 A. That's correct.

21 Q. You did not calculate the
22 absolute cumulative mass of chemicals ingested by
23 the plaintiff in micrograms, milligrams dose.
24 Straight up SI mass units; right?

25 MS. SILVERSTEIN: Object to form.

1 THE WITNESS: I did not.

2 BY MR. SNIDOW:

3 Q. You did not calculate the exposure of
4 the plaintiffs in terms of microgram per
5 liter-months; true?

6 A. That's correct.

7 Q. If you had been asked, would you have
8 been able to calculate exposure in those units?

9 A. You mean am I capable of doing that?

10 Q. Yes, ma'am.

11 A. Yes, I am.

12 Q. I knew you were. I needed to ask for
13 the record.

14 You made your conclusions about an
15 individuals' exposure to a reasonable degree of
16 scientific certainty; true?

17 A. So just to be clear, while the reports
18 were plaintiff specific, what I was modeling was
19 exposure to people with the characteristics of the
20 plaintiff. So in that sense, it would be a
21 population representing or similar to that
22 individual.

23 Q. Tell me why you're making that caveat.

24 A. I'm making that caveat because it is --
25 it's unusual, especially in an historical exposure

1 assessment, to know exactly what anyone was ever
2 exposed to every single day, every single evening
3 day after day. So we make assumptions that we --
4 careful assumptions that we think represent
5 people, for example, like a particular plaintiff.

6 Q. So if I'm understanding right, the most
7 accurate way to characterize your exposure metric
8 is the exposure that you'd expect in a population
9 who behaved similarly to each of the plaintiffs?

10 A. Behave, similar size, similar -- lots of
11 similarities, right.

12 Q. Is the reason for this caveat because
13 exposure assessment is designed to look at
14 populations rather than specific individuals?

15 A. The exposure assessment can look at an
16 individual, but in this case, for these 25
17 plaintiffs, I felt it was more appropriate to
18 think about it on a population basis.

19 Q. Rather than an individual basis?

20 A. Correct.

21 Q. Do you agree that the risk of one cancer
22 from a chemical can be different than the risk of
23 another cancer from the same chemical?

24 MS. SILVERSTEIN: Object to form and
25 foundation.

1 THE WITNESS: I don't know what that
2 means.

3 BY MR. SNIDOW:

4 Q. Sunlight I think you agree causes skin
5 cancer; right?

6 MS. SILVERSTEIN: Object to form and
7 foundation.

8 THE WITNESS: It's not my area
9 expertise, but I will say okay.

10 BY MR. SNIDOW:

11 Q. Even though it's not your area of
12 expertise, sunlight causes lung cancer; true?

13 MS. SILVERSTEIN: Object to foundation.

14 THE WITNESS: I have not seen that.

15 BY MR. SNIDOW:

16 Q. So when you're trying to figure out the
17 risk of a certain chemical for cancer, it matters
18 what cancer you're talking about; is that fair?

19 A. If it's understood. And just to be
20 clear, some chemicals are associated with more
21 than one kind of cancer.

22 Q. But even for things like the cancer
23 slope for a particular chemical, sometimes there
24 are different cancer slopes for different types of
25 cancer; true?

1 MS. SILVERSTEIN: Object to form and
2 foundation.

3 THE WITNESS: I'm going to remind you
4 that I did not evaluate this for this case. So I
5 can only speak in generalities right now. But the
6 cancer slope factor will be dependent on the
7 specific study used to generate it, which is
8 generally specific to either one or more chemicals
9 and a health endpoint.

10 BY MR. SNIDOW:

11 Q. Like a particular cancer?

12 MS. SILVERSTEIN: Object to foundation.

13 THE WITNESS: I'm not sure. I don't
14 know if some cancers get grouped together. This
15 is falling outside of my area of expertise.

16 BY MR. SNIDOW:

17 Q. Fair enough. Do you think it's
18 appropriate to look at the epidemiology for, say,
19 brain cancer to evaluate the risk of, say, lung
20 cancer?

21 MS. SILVERSTEIN: Object to form and
22 foundation.

23 THE WITNESS: This is getting very
24 outside my area.

25

1 BY MR. SNIDOW:

2 Q. In your report, you note that you had to
3 use professional judgment; true?

4 A. That's correct.

5 Q. In what areas did you have to deploy
6 your judgment for in this case?

7 A. Well, you want an example? Is that what
8 you're asking me? So one example might be that
9 for the plaintiffs who worked in the mess hall
10 only -- I'd have to look at the reports, but my
11 memory is that only one of them provided hours per
12 day. So I used information that I saw online or
13 information about general workdays and mess hall
14 hours to develop an hours per day for that
15 plaintiff.

16 So I had some information. I didn't
17 have exact information. So I used my judgment.

18 Q. To estimate an average maybe?

19 A. No. I tried to be more conservative
20 than that. In this case, I estimated what I
21 thought was a high end.

22 Q. Any other areas of your analysis where
23 you had to deploy professional judgment?

24 A. Well, professional judgment is an
25 integral part of most scientific endeavors

1 including exposure assessment.

2 One other example I can give you is in
3 working to model residential exposures. I needed
4 to understand how many hours per day a plaintiff
5 or their family members may have been out of the
6 house. And very few plaintiffs were specific
7 about that, or they were specific, but it was very
8 variable. So I needed to rely on professional
9 judgment, and my understanding of typical workdays
10 and just other information gathered from 35 years
11 of doing this to come up with an estimate.

12 Q. You ultimately estimated exposures to
13 the chemicals for a 24-hour period; right?

14 A. For residential and barracks and
15 ingestion exposure, that's correct. For mess hall
16 and swimming pool, that's incorrect.

17 Q. For those it was less than a 24-hour
18 period?

19 A. For mess hall, it was 16 hours, and for
20 that swimming pool, time was not a factor.

21 Q. Then to convert those -- strike that.

22 You did not convert your one day or less
23 than one day estimate into an estimate of the
24 plaintiffs' long-term exposure; true?

25 MS. SILVERSTEIN: Object to form.

1 THE WITNESS: That's correct.

2 BY MR. SNIDOW:

3 Q. That's what Dr. Bailey did; correct?

4 A. That's correct.

5 Q. Am I correct you could have done that
6 part of Dr. Bailey's analysis yourself given your
7 expertise; true?

8 MS. SILVERSTEIN: Object to form and
9 foundation.

10 THE WITNESS: Yes, that's true.

11 BY MR. SNIDOW:

12 Q. If you had been asked by DOJ to, say,
13 estimate someone's total exposure in micrograms
14 per kilogram, you would have been able to do that?

15 A. Well, it would have been microgram per
16 kilogram per day. And, yes, I could have done
17 that.

18 Q. Just for the record, it's microgram
19 divided by kilogram-day is what you mean there?

20 A. That's correct.

21 Q. Why didn't you do it?

22 A. So it was partly or mainly a matter of
23 resources. So in understanding frequency and
24 duration of exposure, it requires more
25 information. I was working without staff. And it

1 was my understanding that Dr. Bailey had staff
2 available. And so she did that component.

3 (LaKind Exhibits 1 - 2 were marked.)

4 BY MR. SNIDOW:

5 Q. Dr. LaKind, I'm going to mark as
6 Exhibits 1 and 2 to your deposition, two of your
7 expert reports, one for plaintiff Dyer and one for
8 plaintiff Mousser. We'll mark Dyer as 1 and
9 Mousser as 2.

10 MS. SILVERSTEIN: You said Dyer 1,
11 Mousser 2?

12 MR. SNIDOW: Yep. Go off the record for
13 a second.

14 THE VIDEOGRAPHER: We are off the record
15 the time is 9:41.

16 (Recess from 9:41 a.m. to 9:42 a.m.)

17 THE VIDEOGRAPHER: We are on the record
18 at the 9:42.

19 BY MR. SNIDOW:

20 Q. Dr. LaKind, am I correct that Exhibit 1
21 is the report you prepared in the Dyer case and
22 Exhibit 2 is the report that you prepared in the
23 Mousser case?

24 MS. SILVERSTEIN: Do you have a copy of
25 2? I have 1.

1 THE WITNESS: So I obviously don't
2 have -- I think that you don't want me to actually
3 read these and compare them to my original report.
4 So I think what I'm allowed to say is that based
5 on just the cover sheet and just flipping through,
6 it appears to be what I produced.

7 BY MR. SNIDOW:

8 Q. You can put them to the side for now.
9 We're going to come back to them.

10 What is your hourly rate?

11 A. My current hourly rate is \$575 an hour.

12 Q. Do you have any staff at all that has
13 billed for your work on Camp Lejeune?

14 A. I do not.

15 (LaKind Exhibits 3 - 5 were marked.)

16 BY MR. SNIDOW:

17 Q. I'll mark as Exhibit 3 a composite
18 exhibit that we made of your invoices that were
19 produced to us. This is going to be Exhibit 4.
20 This is additional invoices.

21 MS. ELLISON: Do you have an extra copy?

22 MS. SILVERSTEIN: Is that an extra copy
23 for us?

24 MR. SNIDOW: Yeah. That's three.
25 That's four.

1 BY MR. SNIDOW:

2 Q. And 5. I'm definitely not asking you to
3 go through each one of these. But does the
4 letterhead appear to be from your office?

5 A. Yes, it is.

6 Q. Do these appear to be the invoices that
7 you submitted to the government for your work?

8 A. So these appear to be at least for
9 Exhibit 3 a mixture of invoices and I think
10 contract language.

11 Q. Have you totaled up the amount that
12 you've billed in this case?

13 A. So the short answer is yes. It exists
14 because I keep a running tally. Well, I guess
15 that's what you're asking. So yes.

16 Q. Am I correct that your billing so far
17 has been more than \$800,000?

18 A. That sounds right.

19 Q. You can put those to the side for now.

20 A. Should I keep them in order? Are you
21 coming back to these?

22 Q. I would keep them in order.

23 Dr. LaKind, I want to talk about the
24 scope of your opinions for a little bit.

25 You are not offering an opinion on

1 causation in this case; true?

2 A. That's correct.

3 Q. You're not offering an opinion on the
4 quality of epidemiology in this case?

5 A. That's correct.

6 Q. You're not offering an opinion on water
7 modeling?

8 A. That's correct.

9 Q. Or the quality of the ATSDR water
10 modeling; true?

11 A. That's correct.

12 Q. You're not offering an opinion on
13 whether any of the exposures you calculated are
14 sufficient to cause harm?

15 A. That's correct.

16 Q. Not offering an opinion on whether the
17 exposures you calculated can be compared to any
18 epidemiology; right?

19 A. Can be? That's correct.

20 Q. And you certainly did not do any
21 comparisons with the epidemiology?

22 A. That's correct.

23 Q. You're not offering an opinion on
24 whether the exposures you calculated can be used
25 in an individual risk assessment, are you?

1 A. I would word that as being encompassing
2 can or can't be. So that would be correct.

3 Q. You are not offering a risk assessment
4 yourself; true?

5 A. That's correct.

6 Q. You did not perform any margin of
7 exposure analysis?

8 A. I did not.

9 Q. You did not conduct a hazard assessment
10 for any of these chemicals?

11 A. I did not.

12 Q. You did not perform a Bradford Hill
13 analysis; true?

14 A. I did not.

15 Q. Or a meta-analysis of any literature;
16 true?

17 A. That's correct.

18 Q. You did not perform a systematic review
19 of any literature; true?

20 A. I did not.

21 Q. You did not perform a grade analysis of
22 any literature?

23 A. I did not.

24 Q. Am I correct you are capable of
25 performing systematic reviews, meta-analysis and

1 grade reviews?

2 MS. SILVERSTEIN: Object to form.

3 THE WITNESS: I am capable of performing
4 systematic review with others. They're generally
5 not done solo. I am not capable of performing a
6 meta-analysis. And I have never -- I'm familiar
7 with grade analyses. I have never performed one,
8 and so I can't comment on whether I would be able
9 to or not.

10 BY MR. SNIDOW:

11 Q. You have performed systematic reviews
12 before?

13 A. That's correct.

14 Q. You didn't review any risk factors for
15 individual plaintiffs; true?

16 A. Are you talking about disease risk
17 factors?

18 Q. Yes, ma'am.

19 A. Then that's correct.

20 Q. What role were you asked to perform in
21 this case?

22 A. I was retained to assess exposures to
23 plaintiffs at Camp Lejeune.

24 Q. Were you asked to assess exposures in
25 any particular way?

1 A. I believe this is falling under the area
2 of conversations with attorneys.

3 Q. I think you -- Ms. Silverstein is not
4 objecting, and I think the reason is I'm allowed
5 to ask what you were asked to do in this case.

6 A. Then ask me the question again.

7 Q. Were you asked to calculate exposures in
8 any particular way?

9 A. There were discussions about possible
10 ways.

11 Q. What other ways did you consider?

12 A. I'm not going to say I considered these,
13 but one other way that was discussed was to
14 determine whether plaintiffs could be -- I'm not
15 going to say this probably very well, but could be
16 organized according to their exposure levels.

17 Q. Tell me more. What do you mean by
18 organized?

19 A. At the time if my memory is right, my
20 understanding was that there were many more
21 plaintiffs that were to be evaluated. It was a
22 very short amount of time. So the kind of
23 analysis that I ended up doing it would simply not
24 have been possible.

25 So the question was could you perhaps

1 have some group of plaintiffs that were similar
2 enough to each other that they could be treated
3 similarly as far as exposure assessment goes or
4 not.

5 Q. Similar enough based on, I assume, a
6 more limited universe of information, like housing
7 records?

8 A. I don't recall the conversation getting
9 that far.

10 Q. Why didn't you ultimately perform this
11 analysis?

12 A. Well, I can't remember the exact
13 timeline, but it became clear at some point that
14 there would be fewer plaintiffs and a longer
15 timeline. So there was no need to do that.

16 Q. So for now, put aside any plaintiffs
17 except the 25. For the 25, were you asked to
18 calculate exposure in a certain way?

19 MS. SILVERSTEIN: Object to form.

20 THE WITNESS: No, I was not.

21 BY MR. SNIDOW:

22 Q. Were you asked to calculate exposure in
23 terms of micrograms per kilogram per day?

24 A. I was not told or asked to do my
25 exposure assessment in any particular way. I was

1 asked to do the exposure assessment, period.

2 Q. Were you asked to calculate exposure in
3 a way that could be used in a risk assessment?

4 A. Yes. It was my understanding that my
5 results would be a component of the risk
6 assessment.

7 Q. So you knew that whatever input you came
8 up with needed to be in units that could be used
9 in a risk assessment?

10 A. Yes.

11 Q. Were you asked to --

12 A. Can I add to that? It doesn't mean that
13 I couldn't have also chosen other units in
14 addition. No one told me not to do something.

15 Q. Did anyone ever ask you calculate
16 exposure in a way that can be compared to
17 epidemiology?

18 A. By the question I'm thinking that what
19 you're saying is that epidemiology never has units
20 in milligram per kilogram day.

21 Q. No, I didn't mean to imply that. But
22 sometimes it doesn't you'd agree; right?

23 A. That's correct.

24 Q. Were you ever asked to calculate
25 exposure in a way that can be compared to any of

1 the epidemiology on these chemicals or the water
2 at Camp Lejeune?

3 MS. SILVERSTEIN: Object to form.

4 THE WITNESS: No, I was not.

5 BY MR. SNIDOW:

6 Q. If you look at Exhibit 2, it should be
7 your Mousser report.

8 A. Correct.

9 Q. Do you mind turning to page 13. I want
10 to walk through the steps of your analysis.

11 Am I correct that your analysis began
12 with looking at the concentration levels in the
13 water at Camp Lejeune?

14 A. If you're asking me for a chronological
15 order of how I obtained information, I don't
16 recall.

17 Q. In your report, that's I think the first
18 thing that gets discussed.

19 A. That's a question?

20 Q. Yes, ma'am.

21 A. In terms of data, yes, I chose to
22 discuss water concentrations first.

23 Q. It looks like you reviewed expert
24 reports for Dr. Hennet and Dr. Spilotopoulos.

25 A. I did.

1 Q. You also reviewed the ATSDR water
2 modeling report; true?

3 A. Yes, yes.

4 Q. Then if you look at your report on page
5 23, in the bottom paragraph it says that you
6 looked at a spreadsheet compiled by S.S.
7 Papadopoulos & Associates?

8 A. That's correct.

9 Q. Who is that?

10 A. That would be the company that employs
11 Dr. Hennes and Dr. Spiliotopoulos. I assume
12 they're employees. I didn't ask them their
13 status.

14 Q. When you're referring to that Excel
15 spreadsheet, was that summarizing the numbers that
16 were in the reports that you reviewed?

17 A. I was not summarizing the numbers. It
18 was a direct translation of the numbers.

19 Q. Put a different way though, all of the
20 numbers that were in the Excel spreadsheet were in
21 the expert reports that you reviewed?

22 A. I'm hesitating because I don't remember
23 if the spreadsheets went beyond the timeframe of
24 the Camp Lejeune Act. And the ATSDR report had
25 additional years.

1 Q. But with that caveat, is what I said
2 correct?

3 A. Yes.

4 Q. On page 24, the bottom of the first full
5 paragraph, you say, "Based on the information in
6 these expert reports, the ATSDR concentration
7 described in this report as well as the associated
8 estimates of plaintiff exposure would be overly
9 conservative (too high)." Right?

10 A. That's what I'm reading here, yes.

11 Q. Am I right that is not an independent
12 opinion of yours. That's just based on what
13 Dr. Spilotopoulos said and Dr. Hennet?

14 MS. SILVERSTEIN: Object to form.

15 THE WITNESS: That's correct.

16 BY MR. SNIDOW:

17 Q. When you say too high, you did not try
18 to calculate more accurate numbers; fair?

19 A. I did not try to take into account the
20 conservative nature of these chemicals in
21 completing my exposures.

22 Q. You're not aware of any better set of
23 numbers to use besides the one you did; true?

24 A. I'm unaware of any other set of numbers
25 that are as comprehensive.

1 Q. You did not have data for each -- for
2 the concentrations on each day that the plaintiffs
3 were on base; true?

4 A. That's correct.

5 Q. You did have monthly averages; correct?

6 A. That's correct.

7 Q. And I think you'll agree. There's
8 nothing wrong with using monthly averages to
9 calculate exposure; true?

10 MS. SILVERSTEIN: Object to form.

11 THE WITNESS: I would agree.

12 BY MR. SNIDOW:

13 Q. That's true even though the chemical
14 concentrations in the water vary from day to day?

15 A. So in the real world, there will always
16 be exposure and variability -- uncertainty and
17 variability. And in exposure science, we use the
18 best information that we have available to us.

19 Q. As far as you're aware, the best
20 information available here is expressed in average
21 concentration levels in a given month; true?

22 A. That is the only information that I had
23 available to me.

24 Q. In your report, am I correct that you
25 assumed that a plaintiff was there for the entire

1 month if they were there for more than one day on
2 base?

3 A. That's correct.

4 Q. You agree that's a reasonable way to do
5 exposure estimations?

6 A. Yes. I believe it's reasonable given
7 the information that I had.

8 Q. You used three models to estimate
9 exposure; true?

10 A. Are you being specific to Mr. Mousser?

11 Q. Yeah, if you look at page 10, Section
12 2.1.

13 A. Section 2.1 is longer. I'm asking
14 because the number of models vary by plaintiff.

15 Q. Do you see under Section 2.1?

16 A. In the first paragraph?

17 Q. Yeah.

18 A. I used three models, yes.

19 Q. One was modeling dermal and inhalation;
20 true?

21 A. Yes.

22 Q. One was modeling oral exposure; true?

23 A. Correct.

24 Q. And one was modeling air concentrations;
25 correct?

1 A. Correct.

2 Q. For the ingestion exposure, you looked
3 at finished drinking water?

4 A. For ingestion exposure I used the ATSDR
5 data, which they purport to be for finished
6 drinking water.

7 Q. That also includes water used in cooking
8 and drinking -- strike that.

9 That also includes water used in
10 cooking; correct?

11 A. The estimates for intake for water
12 consumption, yes, include both direct and indirect
13 water consumption.

14 Q. It also includes water ingested while
15 swimming?

16 A. I don't believe Mr. Mousser swam, but I
17 would have to look at my table of contents.

18 Q. I think you're correct on that. I'm
19 just asking what that portion of the model takes
20 into account.

21 A. This model does not include swimming.

22 Q. If you'll look at page 11, do you see
23 under Routes of Exposure, it says, "Ingestion, for
24 example, if drinking the finished water, using the
25 water for cooking, drinking small amounts of water

1 during swimming."

2 A. Right. So please notice that in the
3 sentence above or the phrase above, I say could
4 have included. So for those who swam, then I
5 would have considered what's called incidental
6 ingestion which occurs during swimming.

7 Ultimately, I did not include that. But
8 for Mr. Mousser, since he did not recall swimming,
9 that was not included for him.

10 Q. Totally understood. I wasn't trying to
11 trick you. Just to clarify the record,
12 Mr. Mousser did not swim; correct?

13 A. To my knowledge.

14 Q. So for him, your ingestion model didn't
15 include any amount of water ingested during
16 swimming; true?

17 A. That's correct.

18 Q. But for a plaintiff who did swim, the
19 ingestion portion of the model would include water
20 ingested while swimming?

21 A. No, it would not.

22 Q. Why not?

23 A. So there are different models to assess
24 direct ingestion of water and direct and indirect
25 ingestion of water versus incidental ingestion

1 while swimming. Do you want the full explanation
2 here?

3 Q. Yeah.

4 A. So for the plaintiffs who did report
5 swimming, I used a model called the EPA swim
6 model. That model addresses potentially multiple
7 routes of exposure and including incidental
8 ingestion. I did an analysis of comparing
9 exposures while swimming from inhalation, from
10 dermal exposure and from incidental ingestion and
11 fully expecting that incidental ingestion would be
12 a very small component of the overall exposure
13 because we don't ingest that much water when we
14 swim.

15 When I performed those calculations I
16 found that, in fact, inhalation exposure was
17 orders of magnitude greater than dermal and
18 ingestion exposure. So I focused my attention on
19 inhalation exposure.

20 Q. For inhalation exposure, that includes
21 volatilized chemicals inhaled while showering and
22 bathing?

23 A. Correct.

24 Q. I guess washing machine as well, but
25 that was pretty small.

1 A. It includes washing machines for those
2 who either stated they had a machine or who were
3 unclear.

4 Q. On page 13 of your Mousser report, do
5 you see where you say, "I reviewed the ATSDR's
6 estimated monthly mean concentration"?

7 A. Correct.

8 Q. Any reason why those numbers could not
9 be used in the work that you did?

10 MS. SILVERSTEIN: Object to form and
11 foundation.

12 THE WITNESS: If I felt they could not
13 be used, I would not use them.

14 BY MR. SNIDOW:

15 Q. And you did use them?

16 A. I did use them.

17 Q. Any reason to think that there were
18 better estimates of concentrations elsewhere?

19 MS. SILVERSTEIN: Object to form and
20 foundation. Go ahead.

21 THE WITNESS: I did not identify any
22 other datasets that I could use.

23 BY MR. SNIDOW:

24 Q. For dermal and inhalation exposure, you
25 used the shower model?

1 A. That's correct.

2 Q. For drinking water ingestion, you used
3 the -- did you say PHAST or PAST?

4 A. I believe ATSDR pronounces it PHAST.

5 Q. That's the model you used?

6 A. Correct.

7 Q. On page 15 of your report, in the full
8 paragraph before the bottom, you say, "These
9 estimates are generally expressed in units of
10 milligram chemical per kilogram body weight per
11 day or milligrams per kilograms per day."
12 Correct?

13 A. I see that.

14 Q. There you're referring to estimates of
15 exposure; true?

16 A. That's correct.

17 Q. And you say there that the estimates are
18 generally expressed in those units.

19 Are there other units that exposure can
20 be expressed in?

21 A. As I mentioned before just as an
22 example, for blood lead it can be microgram per
23 liter. The short answer is yes.

24 Q. Actually I was hoping for an example.
25 So blood lead we talked about. We talked about

1 the air concentration, which is done in -- air
2 exposure, excuse me, which is done in micrograms
3 per meter cubed?

4 A. Can be; correct.

5 Q. Any other measures of exposure that you
6 can think of?

7 A. Well, you mentioned two before.

8 Q. Which ones did I mention?

9 A. I believe you mentioned mass per
10 kilogram time and total mass.

11 Q. And those are both measures of exposure?

12 A. Yes.

13 Q. We've been going an hour. Do you want
14 to take a break?

15 A. Yeah. Thank you.

16 Q. You're welcome.

17 THE VIDEOGRAPHER: We are off the record
18 at 10:05 a.m.

19 (Recess from 10:05 a.m. to 10:18 a.m.)

20 THE VIDEOGRAPHER: We are on the record
21 at 10:18.

22 MS. SILVERSTEIN: I just want to note
23 for the record that Dr. Schumann, who is an expert
24 for the plaintiffs, has been on the Zoom this
25 morning.

1 MR. SNIDOW: Fair enough. I guess we'll
2 segue right into that.

3 BY MR. SNIDOW:

4 Q. Dr. LaKind, am I correct that you were
5 on Zoom during the deposition of Dr. Reynolds.

6 A. That's correct.

7 Q. What was the purpose of that?

8 MS. SILVERSTEIN: Objection.
9 Dr. LaKind, to the extent that your answer
10 involves any conversations with the United States,
11 I'll instruct you not to answer.

12 THE WITNESS: I'm not going to answer.
13 BY MR. SNIDOW:

14 Q. Well, you can tell me why you thought
15 you were on. Don't tell me what you talked about
16 with her.

17 A. I think I was on at least partly because
18 I had never seen a deposition before.

19 Q. Were you in communication -- don't tell
20 me what you said -- were you in communication with
21 anyone during that deposition?

22 A. Yes.

23 Q. Were you in communication with anyone
24 other than counsel?

25 A. No.

1 Q. When modeling exposure, you would agree
2 that it's preferable to have site-specific data;
3 true?

4 A. That's correct.

5 Q. I should show you. Go to page 16 of
6 your report.

7 MS. SILVERSTEIN: Is this the Mousser
8 report?

9 MR. SNIDOW: Yep. Nope. The Dyer
10 report.

11 BY MR. SNIDOW:

12 Q. Go to Exhibit 1 and go to page 16.

13 In the first paragraph there, you say,
14 "Well supported site-specific data are generally
15 the preferred source of information for an
16 exposure assessment."

17 A. That's correct.

18 Q. What do you mean by site-specific data?

19 A. I think it's very much what it sounds
20 like. So information specific to the location for
21 which you're assessing exposure, the individual or
22 the population for whom you're assessing exposure.

23 Q. Information about what? Not an
24 exhaustive list. Is it information about chemical
25 concentrations, information about people's

1 behavior? What did you mean by that?

2 MS. SILVERSTEIN: Object to form.

3 THE WITNESS: Yes. It can include both
4 of those things.

5 BY MR. SNIDOW:

6 Q. Anything else?

7 A. Yes. So in addition to people's
8 behavior, just general characteristics of people.

9 Q. You say at the end of the paragraph,
10 "Unfortunately, in studies of past exposures, it's
11 often the case that these kinds of data are not
12 available." Right?

13 A. That's correct.

14 Q. Is that why you relied upon default
15 values?

16 A. I relied in part on default values and
17 that's correct.

18 Q. That's the reason why you did that?

19 A. Because I did not have site-specific and
20 plaintiff-specific information in certain cases,
21 yes.

22 Q. I think you'll agree there's nothing
23 wrong with using default values when doing
24 exposure assessment; true?

25 MS. SILVERSTEIN: Object to form.

1 THE WITNESS: There's absolutely nothing
2 wrong with it. It's a common practice.

3 BY MR. SNIDOW:

4 Q. In fact, sometimes you have to do it.
5 There's no other way; true.

6 A. That's correct.

7 Q. Do you agree it would be unreasonable to
8 expect someone to recall their exact water intake
9 during their time on base?

10 A. I do.

11 Q. For the some of the default values, you
12 used the EPA Exposure Factor Handbook?

13 A. That's correct.

14 Q. That's a reliable source for obtaining
15 default values?

16 A. In my view, it is.

17 Q. Besides that handbook, are there other
18 reliable sources that you think provide default
19 values?

20 MS. SILVERSTEIN: Object to form.

21 THE WITNESS: Are you referring
22 specifically to this case and these plaintiffs?

23 BY MR. SNIDOW:

24 Q. Let's start there.

25 A. I think that the default information

1 that I needed for this case and these plaintiffs
2 were available either through the Exposure Factors
3 Handbook or through ATSDR.

4 Q. Both of those are reliable sources for
5 default values?

6 A. That's a question?

7 Q. Yes.

8 A. Yes, I believe they are.

9 Q. Thank you. You agree that an essential
10 component of a risk assessment is an exposure
11 assessment; true?

12 A. It is one of the four main components.

13 Q. Another one is hazard assessment?

14 A. Hazard identification, yes.

15 Q. What are the other ones?

16 A. Dose-response assessment and risk
17 characterization.

18 Q. Here you performed only the exposure
19 assessment component; true?

20 A. That's correct.

21 Q. You did not view any analysis of
22 dose-response; correct?

23 A. I did not.

24 Q. I already asked about hazard
25 identification. You did not do any analysis --

1 what was the last one?

2 A. Risk characterization.

3 Q. You didn't do that?

4 A. I did not.

5 Q. When doing an exposure assessment, you
6 are supposed to estimate magnitude, frequency and
7 duration of exposure; true?

8 A. I'm glossing over the "supposed to."
9 Exposure assessment generally incorporates all of
10 those components. I did not include them all in
11 my portion of the exposure assessment that I
12 conducted.

13 Q. That was going to be my next question.
14 When doing an exposure assessment, there are four
15 parts -- excuse me -- three parts, magnitude,
16 frequency and duration; true?

17 A. Sorry. Those are three.

18 Q. Yes.

19 A. I thought you said four.

20 Q. I know. I did. I'll try it again.

21 There are three parts of an exposure
22 assessment, magnitude, frequency and duration?

23 A. So those are components of exposure
24 assessment. I want to make sure that you're not
25 saying that that's all exposure assessment.

1 Q. I'm not. Those are three components of
2 it?

3 A. Those can be three components.

4 Q. Here you only estimated magnitude?

5 A. That's correct.

6 Q. You did not estimate the frequency of
7 exposure?

8 A. I want to fix my last answer. I did not
9 assess frequency, but as I mentioned before, for
10 the mess hall component, I included duration.

11 Q. For?

12 A. Duration over the course of one day,
13 just to be clear.

14 Q. For anything other than the mess hall
15 exposure, did you estimate duration?

16 A. I estimated exposure over 24 hours. So,
17 no. Beyond that, no.

18 Q. We talked before -- I'm repeating
19 myself, but you'll see why. Your ultimate
20 estimate was expressed in terms of milligrams or
21 micrograms per kilogram-day; true?

22 A. I used those units for all routes of
23 exposure, but for inhalation, I also included
24 microgram per meter cubed.

25 Q. Let's focus on the microgram per

1 kilogram-day for a moment. You told me before you
2 didn't calculate total micrograms of cumulative
3 exposure; true?

4 A. That's correct.

5 Q. Or any other measure of total mass;
6 true?

7 A. Correct.

8 Q. You agree that's a valid measure of
9 exposure; true?

10 A. True.

11 Q. You could have calculated total
12 micrograms of exposure; correct?

13 A. I was capable of computing that, yes.

14 Q. This is where I wanted to go. To do
15 that, you need to make assumptions about the
16 number of days on base and a person's body mass?

17 MS. SILVERSTEIN: Object to form.

18 THE WITNESS: No. Only for microgram
19 you don't require body mass. If you're following
20 it only in micrograms, then you're computing
21 micrograms over the course of the time exposed.

22 BY MR. SNIDOW:

23 Q. No. I'm saying to convert your metric
24 or one of them, the microgram per kilogram-day
25 into micrograms, how would you do that?

1 A. I see what you're saying. So you would
2 have to adjust for days and for body mass.

3 Q. That's it?

4 A. Correct.

5 Q. So if you assume number of days on base
6 and knew someone's body mass, you could convert
7 your metric of exposure into straight micrograms,
8 milligrams, unit mass?

9 A. Correct.

10 Q. You also mentioned you did not calculate
11 microgram/liter-months of exposure; correct?

12 A. That's correct.

13 Q. I'm going to call that microgram per
14 liter months. But you'll know what I mean.

15 Do you agree that's a measure of the
16 area under the curve?

17 MS. SILVERSTEIN: Object to form.

18 THE WITNESS: I'm not an epidemiologist,
19 so I believe that's falls outside an area that I
20 want to answer.

21 BY MR. SNIDOW:

22 Q. Have you ever seen that kind of exposure
23 estimated?

24 A. You mean have I seen those units used in
25 some paper or report?

1 Q. Yes.

2 A. I have.

3 Q. For risk assessment or something else?

4 A. Something else.

5 Q. What was it?

6 A. Epidemiology.

7 Q. Do you know at all what exposure metrics
8 are used in the epidemiology that looks
9 specifically at the Marines at Camp Lejeune?

10 MS. SILVERSTEIN: Object to form and
11 foundation.

12 THE WITNESS: I don't.

13 BY MR. SNIDOW:

14 Q. Do you know what measure of exposure is
15 used in any of the studies looking at workers
16 exposed to any of the chemicals in their
17 occupations?

18 MS. SILVERSTEIN: Object to form and
19 foundation.

20 THE WITNESS: I'm sorry. Are you asking
21 universally for any paper on any chemical on any
22 job?

23 BY MR. SNIDOW:

24 Q. No. I'm talking specifically about TCE,
25 PCE, benzene and vinyl chloride. Are you aware

1 that there are studies of occupational exposure to
2 those chemicals?

3 A. Occupation for the Marines?

4 Q. Not the Marines. Dry cleaners, factory
5 workers.

6 A. I'm sorry.

7 Q. No problem. You're aware that those
8 studies exist?

9 A. I am.

10 Q. Do you know what measure of exposure or
11 what measures of exposure are employed in those
12 studies?

13 MS. SILVERSTEIN: Object to form and
14 foundation.

15 THE WITNESS: No, I don't recall.

16 BY MR. SNIDOW:

17 Q. Are you aware that there are
18 epidemiology studies looking at exposures via
19 water contamination events outside of Camp
20 Lejeune?

21 MS. SILVERSTEIN: Object to form and
22 foundation.

23 THE WITNESS: I'm sorry. I'm struggling
24 with these -- can you say the question again?

25

1 BY MR. SNIDOW:

2 Q. I'm focusing on TCE, PCE, benzene and
3 vinyl chloride.

4 A. Right.

5 Q. Those chemicals have been found to be
6 present in locations other than Camp Lejeune.
7 Yes?

8 A. I would assume that would be correct.

9 Q. Are you aware that there's epidemiology
10 looking at people exposed to those chemicals via
11 these other water contamination events?

12 MS. SILVERSTEIN: Object to form and
13 foundation.

14 THE WITNESS: I think I have to say I
15 don't know.

16 BY MR. SNIDOW:

17 Q. And because you don't know, you don't
18 know what the units of exposure are in any of
19 those studies?

20 MS. SILVERSTEIN: Object to form and
21 foundation.

22 THE WITNESS: I do not.

23 BY MR. SNIDOW:

24 Q. Assuming I'm right that they exist. But
25 that's fine.

1 You used central tendency exposure and
2 reasonable maximum exposure measurements; true?

3 A. So just to clarify, they're not
4 measurements. And for the -- go in order -- for
5 water ingestion, I reported central tendency,
6 reasonable maximum and what I viewed as a very
7 conservative value as well. So there were three
8 different reported estimates.

9 The shower model, for the barracks I
10 reported central tendency and reasonable maximum.
11 For the residential, I did that a little bit
12 differently. It's very complicated and I'm not
13 sure there's a direct comparison with RME and CTE,
14 but I used a shower duration that was considered
15 to be typical and one that was considered to be
16 conservative.

17 So in that sense, I think you could
18 probably have them correspond to something like
19 CTE and an RME. For the mess hall, I used what I
20 viewed to be pretty much a maximum. And I'm not
21 sure how to characterize the air concentration for
22 the swimming pool except to say that it was very
23 likely an overestimate. Yeah, I think that's
24 probably enough.

25 Q. In your field, anything unusual about

1 using the CTE and RME?

2 A. I would describe it as standard
3 practice.

4 Q. You did not calculate exposure factors?

5 MS. SILVERSTEIN: Object to form.

6 THE WITNESS: So as noted in my report,
7 when estimating exposure for a single day, the
8 components that go into the exposure factor
9 essentially cancel out and the value becomes one.
10 So in an equation, it would appear as multiplying
11 by one. So I guess the answer is yes and no.

12 BY MR. SNIDOW:

13 Q. Go to page 22 of the Dyer report, which
14 I think is Exhibit 1. Do you see at the top, it's
15 the paragraph bleeding over, there you describe
16 the equation for EF, which I think means exposure
17 factor?

18 A. Correct.

19 Q. And you note that you estimate exposures
20 for a single day. You do not consider frequency,
21 exposure duration or averaging time; correct?

22 A. That's correct.

23 Q. I assume that you're perfectly capable
24 of calculating each of those?

25 A. I am.

1 Q. And you didn't do that because I assume
2 you were not asked; is that true?

3 A. That's not true.

4 Q. Why didn't you do it? They trained you
5 well on deps. Buy, yes, why didn't you do it?

6 A. So as I mentioned before, in order to
7 obtain the information on these additional
8 components, that would have required many more
9 hours. And because I was working on my own, and
10 Dr. Bailey, it's my understanding that she had
11 staff. And so we agreed that she would address
12 those components.

13 Q. If you were doing a risk assessment all
14 by yourself, you, yourself, of course, would
15 calculate each of these values?

16 A. To be clear, are you asking about risk
17 assessment or exposure assessment?

18 Q. Don't you have to do the exposure
19 assessment first?

20 A. You do the exposure assessment as part
21 of risk assessment. I'm not so sure the order
22 matters.

23 Q. You have to do it; true?

24 A. For an exposure assessment then I would
25 include all of these if I were doing that

1 independently.

2 Q. That would be a component of an ultimate
3 risk assessment if you were doing it
4 independently?

5 A. Correct, except that I would not do the
6 risk assessment independently.

7 Q. Why is that?

8 A. So risk assessments generally require
9 multiple areas of expertise, and there are very
10 few situations in which I would want to take on
11 the portion of the risk assessment that required
12 toxicological or epidemiological expertise since
13 I'm an expert in neither of those.

14 Q. So when you are participating in a risk
15 assessment, what disciplines are involved?

16 A. For me or for everyone?

17 Q. On the team, I guess. Is that what you
18 were describing?

19 A. Yeah. So as I mentioned before, it can
20 be pretty varied. It can include engineers,
21 geologists, hydrogeologists, toxicologists,
22 epidemiologists, exposure scientists,
23 statisticians. That's probably -- I'm sure there
24 are more.

25 Q. And you are a trained toxicologist, of

1 course?

2 A. I am not.

3 Q. No. We'll give you your CV in a moment.

4 Do you think it would be appropriate for
5 a toxicologist to perform a risk assessment
6 without consulting other disciplines?

7 A. It depends on the risk assessment.

8 Q. In your experience, risk assessments are
9 typically done with a team?

10 A. In my experience, yes.

11 Q. Go to page 26 of the Dyer report. Here
12 you are reporting the estimated mean
13 concentrations of the various chemicals at Hadnot
14 Point and Tarawa Terrace during the time periods
15 when Ms. Dyer was on base; true?

16 A. That's correct.

17 Q. And --

18 A. Well, I would need a minute to confirm
19 that. Ms. Dyer had a fairly complicated history.
20 I would have to go back and look to see in this
21 case -- just a reminder, there were 25 plaintiffs,
22 so I did not memorize the details for all of them.
23 So I don't recall for Ms. Dyer if she stated that
24 she used -- there's a time period when she wasn't
25 on base, but used the swimming pool. You asked me

1 if this corresponded to times when she was -- did
2 you say living on base?

3 Q. I did.

4 A. So I'd have to check that.

5 Q. So let me clarify. This is the overall
6 mean concentration of the various chemicals during
7 the months when Ms. Dyer might have been exposed
8 to the water at Camp Lejeune?

9 A. When she might have been exposed via
10 drinking water and swimming pool exposure.

11 Q. These are expressed in means which in
12 laymen terms is an average; true?

13 A. Correct.

14 Q. And am I correct if someone was on base
15 for ten months when the exposure was a hundred
16 micrograms per liter every month, the number you
17 would use here would be a hundred micrograms per
18 liter; correct?

19 MS. SILVERSTEIN: Object to form.

20 THE WITNESS: Say that again.

21 BY MR. SNIDOW:

22 Q. If someone was on base for ten months
23 and every month the concentration was a hundred
24 micrograms per liter, the number you would report
25 here would be a hundred micrograms per liter?

1 A. Correct.

2 Q. And if someone was on base five months
3 when it was 50 micrograms per liter and five
4 months when it was 150 micrograms per liter, the
5 number would still be 100 microgram per liter?

6 A. I assume so. Now you're asking --

7 Q. Do you want a calculator?

8 A. Is this a Hewlett Packard.

9 Q. It's not. If it's five months at 50 --

10 A. I'm sorry. In order to do calculations,
11 especially in this kind of setting, I would ask
12 you for pen and paper and a calculator, preferably
13 a Hewlett Packard. I will say that if you're
14 asking me generally what an average is, you can
15 sum up the values and then divide by the number of
16 values.

17 Q. Let me abstract away for a second. When
18 you were creating this chart, it doesn't treat
19 spikey exposures differently than constant
20 exposures?

21 MS. SILVERSTEIN: Object to form.

22 THE WITNESS: An average is an average.
23 So whether the numbers were fairly constant or
24 were highly variable, it's still a calculation of
25 an average.

1 BY MR. SNIDOW:

2 Q. Go to page 54 of the Dyer report. In
3 this paragraph in the bullets, you are reporting
4 the exposure estimates via various routes for
5 Ms. Dyer; right?

6 MS. SILVERSTEIN: Object to form.

7 THE WITNESS: No. I'm reporting a
8 single route.

9 BY MR. SNIDOW:

10 Q. Just water ingestion?

11 A. Ingestion is the route, yes.

12 Q. In the paragraph leading up to it, you
13 say this is the exposure for people residing in
14 Camp Lejeune during the time period that Ms. Dyer
15 was there who lived in a similar area and engaged
16 in similar activities; right?

17 A. Correct.

18 Q. You're framing it there in terms of
19 population; correct?

20 A. That's correct.

21 Q. Is that because that's what these models
22 are designed to do?

23 A. No. That's not why.

24 Q. Why isn't it?

25 A. The model can estimate an exposure for a

1 population or individual. For the same reason
2 that I gave you earlier this morning, that because
3 I don't have exact perfectly accurate information
4 for Ms. Dyer, I did the best that I could to
5 estimate exposure for people like Ms. Dyer who had
6 similar behaviors on base at a similar time.

7 Q. Where have you seen these models used to
8 estimate a particular individual's exposure?

9 A. These particular models?

10 Q. Yes.

11 A. I've seen this done in documents that
12 I've read online. I have not done them myself.

13 Q. Let's go to Exhibit 5. This is the
14 invoice dated first of December 2024?

15 A. Correct.

16 Q. And in the memo you note that you had
17 calls with DOJ, Gradient, expert witnesses. Then
18 it goes on; right?

19 A. Yes.

20 Q. When you say Gradient, who do you mean?

21 A. So that would have been Dr. Lisa Bailey,
22 and she has staff working with her. I don't
23 recall who was on the call.

24 Q. You're aware that Dr. Goodman also works
25 at Gradient?

1 A. I am.

2 Q. Would she have been on these calls?

3 A. She may have. I did not mean to leave
4 her out.

5 Q. It says expert witnesses. Were those
6 the witnesses that you listed for me before?

7 A. Some set or subset, yeah.

8 Q. I imagine no recollection at all of
9 exactly who was on this call --

10 A. No.

11 Q. -- seven months ago or so?

12 A. No.

13 Q. If you look the very last line there, it
14 says address questions from Gradient on model
15 assumptions, and prepare draft slide for 6
16 December meeting.

17 Do you remember where that meeting took
18 place?

19 A. Would have been Zoom.

20 Q. Do you remember who attended?

21 A. No.

22 Q. Do you remember the purpose of the
23 meeting?

24 A. Now, no.

25 Q. Do you still have those slides?

1 A. Most likely.

2 (LaKind Exhibit 6 was marked.)

3 BY MR. SNIDOW:

4 Q. I'm going to mark as Exhibit 6 one of
5 your invoices from 1 November 2023. And just for
6 the record, LaKind Exhibit 6 is, if we did this
7 correctly, a subset of the composite exhibit.

8 Do you see at the bottom it says you
9 prepared risk assessment slides?

10 A. Correct.

11 Q. What was the nature of these slides?

12 A. I have no idea.

13 MS. SILVERSTEIN: Objection on the basis
14 of both privilege and possibly CMO 17. Any slides
15 prepared by Dr. LaKind and billed to the United
16 States would have been for the purpose of
17 educating or discussing with either the United
18 States or other United States witnesses.

19 BY MR. SNIDOW:

20 Q. Do you still have the slides?

21 A. Most likely.

22 Q. Would they be on a computer somewhere?

23 A. Yes.

24 Q. Well, they can be in hard copy.

25 A. Fair enough.

1 Q. Who is SSP&A?

2 A. I'm sorry. Where are you looking at?

3 (LaKind Exhibit 7 was marked.)

4 BY MR. SNIDOW:

5 Q. I'll mark as Exhibit 7 an invoice from
6 March 1, 2024. In the middle it says, call with
7 DOJ, SSP&A. Were those the water modeling folks?

8 A. That must be the water modeling. I
9 don't know the full name of the company.

10 Q. I think I saw an earlier reference to
11 Papadopoulos & Associates which makes me think
12 that's correct.

13 A. I'm not sure.

14 (LaKind Exhibit 8 was marked.)

15 BY MR. SNIDOW:

16 Q. Mark as Exhibit 8 an invoice from the
17 1st of May 2024. You'll see there in the memo
18 says, write memo on selection of decimal places
19 and EPCs.

20 A. I see it.

21 Q. What are EPCs?

22 A. Exposure point concentrations.

23 Q. What's that?

24 A. Concentrations.

25 Q. So like the water concentrations?

1 A. Correct.

2 Q. Why did you write a memo on the decimal
3 places for it?

4 MS. SILVERSTEIN: Objection.

5 Dr. LaKind, I'll instruct you not to answer on the
6 basis of privilege and possibly CMO 17.

7 BY MR. SNIDOW:

8 Q. Why does the number of decimal places in
9 the exposure point concentration matter to your
10 opinion?

11 MS. SILVERSTEIN: You can go ahead and
12 answer.

13 THE WITNESS: It matters because there
14 are -- I don't want to call them rules, but there
15 are guidelines for how we express data. And the
16 number of places after the decimal point gives an
17 indication of the accuracy of the number.

18 BY MR. SNIDOW:

19 Q. Do you remember how many decimal places
20 you ended up using?

21 A. I believe I used two, but I have to look
22 at my report.

23 Q. You said that you met with Dr. Lipscomb.

24 A. Can you define "met"?

25 Q. Had a call with him or a Zoom.

1 A. The timeframe that you're interested in?
2 (LaKind Exhibit 9 was marked.)

3 BY MR. SNIDOW:

4 Q. Mark as Exhibit 9 an invoice from
5 November 1, 2024. I assume that it's your
6 practice when doing these invoices to have the
7 memo summarize the previous billing period?

8 A. Yes. That's my practice.

9 Q. So here this is summarizing, and I guess
10 it says this, this is what did you in October of
11 2024?

12 A. Correct.

13 Q. It says that you had a call with DOJ,
14 Gradient, Dr. Lipscomb, and it goes on; right?

15 A. Correct.

16 Q. Do you know, was that a Zoom call?

17 A. Yes.

18 Q. Do you know if you've ever met with
19 Dr. Lipscomb in person?

20 A. So I'm not sure. That was a workshop
21 many years ago. I know he participated in some
22 form because he was on the resulting publication,
23 but I don't remember if he was there.

24 Q. Was that before or after you were
25 retained in this case?

1 A. Well before; early 2000s.

2 Q. So you knew Dr. Lipscomb before you
3 became involved in this case?

4 A. I was familiar with him. I wouldn't say
5 we know each other well.

6 Q. You have met him professionally?

7 A. Yes.

8 Q. And you also knew professionally
9 Dr. Goodman -- you told me that before -- before
10 you were retained; true?

11 A. Correct.

12 Q. Any other experts involved in this case
13 who you had a preexisting professional
14 relationship with?

15 A. I don't think so.

16 (LaKind Exhibit 10 was marked.)

17 BY MR. SNIDOW:

18 Q. Dr. LaKind, I'm going to show you an
19 exhibit I'll mark as Exhibit 10, which is your CV.

20 A. It's a portion of my CV.

21 Q. Portion of your CV. Fair enough. If
22 you'll go to page 76, it states that you have gone
23 through litigation support training.

24 A. Correct.

25 Q. When was that?

1 A. I want to say 1990 maybe, 1991, early in
2 my career.

3 Q. Fair enough. I'll just ask. Any memory
4 of what that entailed?

5 A. Yes.

6 Q. What did it entail?

7 A. So it was organized by the company I
8 worked for, which was VA Engineering Science and
9 Technology. My recollection was that it lasted
10 for a week and that we -- I can't remember the
11 beginning part. I remember the end because the
12 owner of the company had a connection with a judge
13 in Baltimore County. So we went into the
14 courthouse. And there was a judge there and mock
15 jury, and we were grilled. I can't remember what
16 the subject was.

17 Q. Fair enough. Any litigation training
18 since early 1990s?

19 A. Only...

20 Q. From counsel.

21 A. Yes.

22 MS. SILVERSTEIN: J.J., it looks like
23 this is from the one of the reports. Do you know
24 which report that is?

25 MR. SNIDOW: No.

1 MS. SILVERSTEIN: I'll just note that
2 this is part of a report, and the remainder of the
3 CV portion is not included.

4 THE WITNESS: Are we done with this?

5 MR. SNIDOW: No. I'm hoping I got lucky
6 and pulled it from one of these. For the record,
7 this is an excerpt of Exhibit 2, the Mousser
8 report.

9 BY MR. SNIDOW:

10 Q. You in your career have provided
11 technical analysis for regulatory support?

12 A. Correct.

13 Q. What does that entail?

14 A. So any regulation -- I shouldn't say
15 any. I'll say most regulations, particularly ones
16 developed by agencies like EPA, have a scientific
17 foundation. And on occasion I have been asked to
18 assist with the scientific underpinnings of the
19 regulations.

20 Q. On behalf regulator or potentially
21 regulated companies?

22 A. Definitely part of the regulated
23 companies. I'm trying to -- well, I provide
24 guidance for EPA as well. Yeah, I think it's fair
25 to say EPA as well. At least one of those

1 instances was in the form of a committee, a review
2 committee. I think that would be appropriate.

3 Q. Besides the review committee for the
4 EPA --

5 A. Correct.

6 Q. -- the remainder of the regulatory
7 support you've provided has been on behalf of a
8 company?

9 A. No. Well, you're pushing my memory. I
10 have done work for Health Canada and EPA. Where
11 I'm struggling here is whether those were specific
12 regulations or broader scientific issues that
13 could be applied to regulations. I can't
14 remember.

15 Q. That's fair. Let me ask it maybe the
16 other way. About how many times have you provided
17 regulatory support on behalf of a potentially
18 regulated company?

19 A. I've been doing this for 35 years. I
20 can't remember.

21 Q. More than 50?

22 A. I don't know.

23 Q. What work have you done with Julie
24 Goodman before this litigation?

25 A. So she and I worked with -- I have to

1 look at my résumé to remember how many other
2 people, at least two other people, on a review of
3 ozone literature, and we -- I'm sorry. There was
4 one other. We also with one other person
5 organized and led a workshop on accountability.

6 Q. On the ozone literature, was that on
7 behalf of a company?

8 A. You know what? She may not have been on
9 that. I would need to see my résumé.

10 Q. For which? The ozone?

11 A. The ozone.

12 Q. For the workshop on accountability, was
13 that on behalf a company?

14 A. It was on behalf of a trade association.

15 Q. Do you know which one?

16 A. The American Petroleum Association.

17 Q. What was the workshop on accountability
18 about?

19 A. On accountability what one tries to
20 understand is once there is an action, say, a
21 regulation, it can be an action, that's designed
22 to, again as an example, reduce human exposure,
23 after that regulation action occurs, how do we
24 determine whether it was effective.

25 Q. To the best of your memory, have you

1 done any other work with Dr. Goodman besides the
2 accountability workshop and maybe review of ozone
3 literature?

4 A. Now that I think about it, I don't --
5 anyway, we can check that. I don't think so.

6 Q. Have you done work with Gradient before
7 you got involved in this litigation?

8 A. So I don't remember, and the reason I
9 don't remember is because consultants sometimes
10 move around a bit. So I can't remember if people
11 who are there now were there when I worked with
12 them. I don't remember.

13 Q. You have done work for the American
14 Petroleum Institute; true?

15 A. Yes.

16 Q. That is a trade association for energy
17 companies?

18 A. Correct. I assume that's their scope.

19 Q. And they've funded papers that you've
20 written?

21 A. They've written research that resulted
22 in papers, yes.

23 Q. When you are writing a paper where the
24 research has been funded by a trade association,
25 do you allow them to have input into the

1 manuscript?

2 A. I do not. Specifically, I don't want to
3 say a hundred percent of the time because I have
4 to have my contracts in front of me. But the
5 preponderance of the time, it's stated in my
6 contract that they don't. We -- I say "we"
7 because I often work in teams -- often offer them
8 the courtesy of a look at the paper before it's
9 submitted. On occasion they found an editorial
10 mistake, leaving out a word in a sentence. But
11 no, other than that, unless it's specifically
12 stated that someone from industry was involved,
13 they were not.

14 Q. Why is that typically in your contracts?

15 A. So that there's no influence.

16 Q. What do you mean by influence?

17 A. There have been industries that have
18 worked to predetermine the outcome of research
19 that they fund. And that doesn't interest me.

20 Q. For that reason, you don't let them give
21 input into the content of the manuscript?

22 A. Correct.

23 Q. You've done work for the American
24 Chemistry Council?

25 A. Correct.

1 (LaKind Exhibit 11 was marked.)

2 BY MR. SNIDOW:

3 Q. I'll mark as Exhibit 11 a paper that you
4 are the lead author on called "Factors affecting
5 interpretation of national biomonitoring data from
6 multiple countries: BPA case study."

7 That's you at the top there; right?

8 A. Correct.

9 Q. If you go to page 328, it says,
10 Dr. LaKind was supported by the Polycarbonate/BPA
11 Global Group of the American Chemistry Council;
12 correct?

13 A. Correct.

14 Q. American Chemistry Council I assume is a
15 trade group?

16 A. Correct.

17 Q. Then you call out specifically that the
18 American Chemistry Council was not involved in the
19 preparation or approval of the paper; right?

20 A. Well, I don't see that, but that
21 sounds -- here it is. Correct.

22 Q. Why was that important for you to call
23 out?

24 A. For the same reason that I gave you in
25 the previous question.

1 Q. The possibility that allowing them to be
2 involved with the manuscript could lead to undue
3 influence?

4 A. Yes. The perception of influence and
5 the other thing I should note is that every
6 journal that I've worked with that I can remember
7 requires a statement like this. If it's true,
8 obviously, requires a statement like this.

9 Q. In other words, a statement saying that
10 they were not involved?

11 A. Correct.

12 Q. You can put that one aside. I'm not
13 going to walk through all of them, but fair to say
14 you've done research on multiple occasions funded
15 by the American Chemistry Council?

16 A. Correct.

17 Q. I assume each time you did not allow
18 them to be involved in preparing or approving the
19 manuscript?

20 A. Correct, unless -- I think there was one
21 occasion where one of their staff was part of the
22 workshop and was on the paper. So then clearly
23 they would be involved.

24 Q. Other than that?

25 A. To the best of my memory, that would be

1 true.

2 Q. You've done work for the pulp and paper
3 industry?

4 A. Correct.

5 Q. Work for Colgate Palmolive regarding
6 triclosan?

7 A. Correct.

8 Q. Triclosan is a chemical found in soaps
9 and toothpaste?

10 A. I believe that is past tense now. I'm
11 fairly certain it is not anymore.

12 Q. Had you ever published a paper saying
13 that a chemical caused a certain disease?

14 MS. SILVERSTEIN: Object to form.

15 THE WITNESS: I don't believe so.

16 BY MR. SNIDOW:

17 Q. You're not an expert in kidney cancer?

18 A. I am not.

19 Q. Or bladder cancer, Parkinson's disease,
20 leukemia or NHL; true?

21 A. That's correct.

22 Q. You're not an expert in carcinogenesis?

23 A. Correct.

24 Q. You're not a cancer epidemiologist?

25 A. I am not.

1 Q. Of course, you're not a medical doctor?

2 A. I am not.

3 Q. Are you an expert in evaluating animal
4 studies?

5 MS. SILVERSTEIN: Object to form.

6 THE WITNESS: No. For the purposes of
7 this, no.

8 BY MR. SNIDOW:

9 Q. And you've never conducted an animal
10 study?

11 A. Are we including humans?

12 Q. I wasn't. Have you ever conducted a
13 nonhuman animal study?

14 A. I have not. Yes, I have.

15 Q. When was that?

16 A. In college I did I think it was a
17 pesticide study on copepods, marine organisms.

18 Q. Besides that, no?

19 A. No.

20 Q. Ever been a primary investigator for a
21 clinical trial?

22 A. No.

23 Q. For an epidemiology study?

24 A. No.

25 Q. Have you ever served on a IARC advisory

1 panel for carcinogens?

2 A. No.

3 Q. Or for any other regulatory body?

4 A. Have I served on a panel for any
5 regulatory body?

6 Q. An advisory panel for carcinogens on
7 behalf any regulatory body.

8 A. No.

9 Q. Have you published on any of the five
10 diseases at issue here?

11 MS. SILVERSTEIN: Object to form.

12 THE WITNESS: I don't believe so.

13 BY MR. SNIDOW:

14 Q. Have you published on any of the
15 chemicals at issue here?

16 MS. SILVERSTEIN: Object to form.

17 THE WITNESS: Yes.

18 BY MR. SNIDOW:

19 Q. Which ones?

20 A. I would need to go back and look at the
21 paper. I believe that our research on
22 methodological issues for sample collection and
23 analysis of volatile organic chemicals in breast
24 milk may have included TCE. And I don't remember.
25 It was a list, and I don't remember now which ones

1 we looked at. And to answer your question more
2 fully, I would have to have my full CV in front of
3 me.

4 (LaKind Exhibit 12 was marked.)

5 BY MR. SNIDOW:

6 Q. I'm going to mark as Exhibit 12 a, I
7 believe, presentation that you did called "VOCs in
8 Human Milk: A Methodologic Pilot Study."

9 Is this what you were just referring to
10 just now?

11 A. Yes.

12 Q. That's, of course, your name at the top
13 right there?

14 A. Yes.

15 Q. VOCs means volatile organic chemicals?

16 A. Chemicals or compounds.

17 Q. This is just a vocabulary thing right
18 now. The term VOCs does include TCE, PCE, benzene
19 and vinyl chloride?

20 A. Correct.

21 Q. If you'll turn to the second slide, it
22 says, "Why measure exposure to VOCs?" It says,
23 "VOCs have been linked to health effects in humans
24 and animals." Correct?

25 A. Correct.

1 Q. You agree with that statement, of
2 course?

3 MS. SILVERSTEIN: Object to foundation.

4 THE WITNESS: Correct.

5 BY MR. SNIDOW:

6 Q. Then you list the health effects that
7 volatile organic chemicals or compounds is linked
8 to, and one of them is cancer; true?

9 A. Correct.

10 Q. And one of them is central nervous
11 system effects, I guess?

12 A. Correct.

13 Q. Do you agree that's true as well, VOCs
14 have been linked to both cancer and diseases of
15 the central nervous system?

16 MS. SILVERSTEIN: Object to foundation.

17 THE WITNESS: Be very careful that we're
18 agreeing on the word linked because that includes
19 any level of exposure. And link is not the same
20 as causality, just to be clear.

21 BY MR. SNIDOW:

22 Q. Of course. But you agree associations
23 have been observed between VOCs and the diseases
24 that you list here?

25 MS. SILVERSTEIN: Object to foundation.

1 THE WITNESS: Well, when I wrote this, I
2 clearly did. And I haven't looked at it since.
3 So that was my opinion in probably around 2008.

4 BY MR. SNIDOW:

5 Q. Besides this paper, any other
6 publications on any of the chemicals at issue?

7 A. Here's where I would have to look at my
8 list of peer-reviewed publications. It's not been
9 my major area of focus.

10 Q. You can put this aside. Have you ever
11 published a Bradford Hill analysis?

12 A. I have published papers, I believe,
13 where Brad hill was described, but a formal
14 point-by-point assessment, I don't remember if we
15 went through all of them. I don't remember.

16 Q. Fair enough. You're not offering an
17 opinion about what caused, for example, Ms. Dyer's
18 illness, are you?

19 A. I am not.

20 Q. Same answer for all the 25 plaintiffs;
21 true?

22 A. That's correct.

23 Q. No opinion on whether the water at Camp
24 Lejeune caused their illness; true?

25 A. That's correct.

1 Q. No opinion on whether the water at Camp
2 Lejeune played a role in their illness; right?

3 A. Correct.

4 Q. No opinion on whether the water at Camp
5 Lejeune is capable of causing any of the illnesses
6 at issue?

7 A. Correct.

8 Q. You have a position as an adjunct
9 associate professor in the department of
10 epidemiology?

11 A. And public health.

12 Q. And public health. Do you teach
13 epidemiology?

14 A. I want to be as accurate as possible. I
15 have taught risk assessment, and high level
16 concepts around epidemiology have been part of
17 that course.

18 Q. Do you hold yourself out as an
19 epidemiologist?

20 A. I do not.

21 Q. Do you consider yourself an expert in
22 epidemiology?

23 A. I do not.

24 Q. And you did not review any of the
25 epidemiology here?

1 MS. SILVERSTEIN: Object to form.

2 THE WITNESS: For Camp Lejeune? I can't
3 say for sure that I have I didn't look at a paper
4 during the course of the two years of doing this
5 work, but I don't remember.

6 BY MR. SNIDOW:

7 Q. Fair to say you did not do a systematic
8 review of the epidemiology here?

9 A. I didn't.

10 Q. When doing a risk assessment, the
11 ultimate output is the increased probability of a
12 certain illness?

13 MS. SILVERSTEIN: Object to form and
14 foundation.

15 THE WITNESS: That's incorrect.

16 BY MR. SNIDOW:

17 Q. How would you put it?

18 A. For carcinogens and the value that one
19 produces does reflect an increase over background
20 probabilistic value. I'm not saying this well.
21 I'm getting close to needing a break.

22 But for noncancer outcomes, it's --
23 there's no probabilistic component to it.

24 Q. How are those expressed for noncancer
25 outcomes?

1 A. They're expressed either as a hazard
2 index or a hazard quotient. A value above one --
3 I'm going to say it a different way. A value
4 below one indicates no appreciable likelihood of
5 developing an adverse health effect over the
6 course of a lifetime with recognized uncertainty
7 around an order of magnitude. The hazard
8 quotients are very similar, but it's for multiple
9 chemicals and pathways.

10 Q. Focusing on cancers for a moment the
11 ultimate output could be expressed as one
12 additional cancer in a million above background?

13 MS. SILVERSTEIN: Object to form.

14 THE WITNESS: That would be an example.

15 BY MR. SNIDOW:

16 Q. Or one in 10,000?

17 MS. SILVERSTEIN: Object to form.

18 THE WITNESS: That would be another
19 example.

20 BY MR. SNIDOW:

21 Q. Risk assessments don't produce relative
22 risk ratios?

23 A. I've never seen that.

24 Q. Do you want to take a break?

25 A. I do.

1 Q. By the way, you can ask any time.

2 A. Thank you.

3 THE VIDEOGRAPHER: We are off the record
4 at 11:12.

5 (Recess from 11:12 a.m. to 11:27 a.m.)

6 THE WITNESS: We are on the record at
7 11:27.

8 BY MR. SNIDOW:

9 Q. Dr. LaKind, before the break, we were
10 talking about the fact that risk assessments for
11 cancers produce a result expressed in terms of
12 increased probability over background. Yes?

13 A. Correct.

14 Q. And we said that could be one in a
15 million, one in a thousand.

16 My question is: Is there a number above
17 which it's sufficient to say a substance caused a
18 disease?

19 MS. SILVERSTEIN: Object to form and
20 foundation.

21 THE WITNESS: No. A risk assessment
22 is -- that's not what a risk assessment is.

23 BY MR. SNIDOW:

24 Q. Tell me more about that.

25 A. What exactly do you want to know?

1 Q. When you say risk assessment doesn't do
2 that, what do you mean by that?

3 A. So risk assessment can be used as part
4 of an understanding of causation, but in and of
5 itself, it's not -- in my experience, it's not
6 used for a causality assessment.

7 Q. So there's no -- you've never seen it
8 published where if the risk is above one in
9 10,000, you say that can be causal. If it's below
10 that, you say it couldn't be causal?

11 MS. SILVERSTEIN: Object to form and
12 foundation.

13 THE WITNESS: In my experience, that's
14 not the language that's used.

15 BY MR. SNIDOW:

16 Q. Have you ever --

17 A. Hang on. I want to amend that. Because
18 you said above and below, didn't you, in your
19 question?

20 Q. No. I think I just said above.

21 A. You just said above?

22 Q. Yeah.

23 A. Then never mind.

24 Q. Is there a number above which you can
25 consider something to be a risk factor for a

1 certain disease?

2 MS. SILVERSTEIN: Object to form and
3 foundation.

4 THE WITNESS: I mean, with all due
5 respect, I'm not sure that question makes sense.

6 BY MR. SNIDOW:

7 Q. Fair enough. Let's say you to a risk
8 assessment and you say that it comes out that the
9 risk is 1 in a thousand. Is that high enough to
10 rule in the exposure at issue as a risk factor for
11 a certain disease?

12 MS. SILVERSTEIN: Object to form and
13 foundation.

14 THE WITNESS: Your language is
15 confusing. This is -- the risk calculation is a
16 description of the probabilistic increase or
17 likelihood of the risk of cancer above background
18 in a given population. It's just different
19 language I think than what you're using.

20 BY MR. SNIDOW:

21 Q. Have you ever seen a peer-reviewed paper
22 uses a risk assessment to calculate an individual
23 person's risk of getting a disease?

24 A. No.

25 Q. Have you ever seen a risk assessment

1 used to prove causation in the peer-reviewed
2 literature?

3 A. In and of itself?

4 Q. Um-hum.

5 A. No.

6 Q. Do you agree that risk assessments and
7 epidemiology have different purposes?

8 MS. SILVERSTEIN: Object to form and
9 foundation.

10 THE WITNESS: They're both used for all
11 different kinds of purposes, and there is overlap.

12 BY MR. SNIDOW:

13 Q. Are you familiar with MoE, margin of
14 exposure?

15 A. I am.

16 Q. Have you ever seen margin of exposure
17 analysis employed in the context of cancer?

18 MS. SILVERSTEIN: Object to form and
19 foundation.

20 THE WITNESS: So other than in this
21 case, I don't remember. I don't remember.

22 BY MR. SNIDOW:

23 Q. Sitting here right now, and I'll break
24 it down. You know it's employed in this case
25 because I assume you've seen Dr. Bailey's reports.

1 Yes?

2 A. Correct.

3 Q. And you know that she performs an MoE
4 analysis for cancers; correct?

5 A. Correct.

6 Q. But as you sit here right now, you can't
7 recall ever seeing that done anywhere else other
8 than in Dr. Bailey's reports?

9 MS. SILVERSTEIN: Object to form.

10 THE WITNESS: I don't remember.

11 BY MR. SNIDOW:

12 Q. You can't recall that; right?

13 A. I can't recall.

14 Q. You know that Dr. Bailey does do a risk
15 assessment for individuals in her reports; right?

16 A. I don't remember exactly how she worded
17 it.

18 Q. Have you ever, aside from Dr. Bailey's
19 reports, ever seen someone use risk assessment to
20 calculate an individual's risk of getting cancer?

21 A. So as I mentioned before, I've seen
22 documents online that focus on risk assessment for
23 individuals.

24 Q. They actually perform the calculation?

25 A. I don't remember.

1 Q. Do you know what documents you saw?

2 A. They were either EPA or ATSDR.

3 Q. Had you ever seen a risk assessment in
4 the peer-reviewed literature used to disprove
5 causation?

6 MS. SILVERSTEIN: Object to form and
7 foundation.

8 THE WITNESS: No.

9 BY MR. SNIDOW:

10 Q. Have you outside of Dr. Bailey's reports
11 ever seen a risk assessment used to disprove
12 causation?

13 MS. SILVERSTEIN: Object to form and
14 foundation.

15 THE WITNESS: I don't know that's what
16 Dr. Bailey did.

17 BY MR. SNIDOW:

18 Q. Fair enough. So the answer is no I
19 guess; right?

20 A. You'd have to say the whole question
21 again so I know what the "no" is applying to.

22 Q. Put aside Dr. Bailey's reports for a
23 moment. Have you ever seen a risk assessment used
24 to disprove causation?

25 MS. SILVERSTEIN: Object to form and

1 foundation.

2 THE WITNESS: I don't know how to prove
3 a negative. The answer I guess would be no.

4 BY MR. SNIDOW:

5 Q. Have you ever seen an MoE analysis used
6 to disprove causation?

7 A. No, I don't think as to function.
8 Anyway, no.

9 Q. Do you agree that risk assessments are
10 typically done for populations?

11 MS. SILVERSTEIN: Object to form and
12 foundation.

13 THE WITNESS: I'm going to base my
14 answer on my personal professional experience. In
15 my experience, they generally have not been done
16 for an individual.

17 BY MR. SNIDOW:

18 Q. Put it the other way. They're usually
19 done for populations?

20 A. In my experience.

21 Q. You, yourself, have never calculated an
22 individual's risk of getting a disease using what
23 risk assessment, have you?

24 A. I have not.

25 Q. You, yourself, have never calculated an

1 MoE for an individual person, have you?

2 A. I have not.

3 Q. I might have asked you this, so
4 apologies. You've never even seen MoEs used at a
5 population level for cancer risks?

6 A. No, I don't believe I have.

7 Q. In an ideal world, when doing an
8 exposure assessment, you would have directly
9 measured values of the contaminant concentrations?

10 A. So I think it's important to understand
11 that both model values and measured values have
12 their own sets of uncertainties and impacts
13 associated with variability. Personally in my
14 professional experience, I think it's a good thing
15 to have some measurements at least as a guide.

16 Q. Here we don't have very many
17 measurements of direct measurements of the
18 chemicals in the water at Camp Lejeune from 1953
19 to 1987; right?

20 A. Based on what I've read, that's my
21 understanding.

22 Q. Because of that, no choice for you but
23 to rely upon the water modeling; correct?

24 MS. SILVERSTEIN: Object to form.

25 THE WITNESS: I relied on the water

1 modeling because it was the only comprehensive
2 dataset that I located.

3 BY MR. SNIDOW:

4 Q. And DOJ actually asked you to rely on
5 ATSDR's mean monthly chemical concentration data
6 for estimating exposures at Camp Lejeune; right?

7 A. Right. So to be clear, I want to make
8 the distinction between asking and requiring. So,
9 yes, they thought that that would be a useful
10 dataset for me.

11 Q. And you agreed?

12 A. I did.

13 Q. At no point did you say this water
14 modeling is too unreliable to use for an exposure
15 assessment, did you?

16 MS. SILVERSTEIN: Objection.
17 Dr. LaKind, to the extent your answer requires you
18 to discuss any conversations you had with counsel,
19 I'll instruct you not to answer on the basis of
20 privilege.

21 THE WITNESS: I won't answer.

22 BY MR. SNIDOW:

23 Q. At no point did you think to yourself
24 this data is too unreliable to use for an exposure
25 assessment?

1 MS. SILVERSTEIN: Object to form and
2 foundation.

3 THE WITNESS: I did not.

4 BY MR. SNIDOW:

5 Q. Do you agree modeling is often the only
6 way that you can get information needed to conduct
7 an exposure assessment?

8 MS. SILVERSTEIN: Object to form.

9 THE WITNESS: I would say that's
10 reasonable.

11 BY MR. SNIDOW:

12 Q. In your report you say the
13 ATSDR -- strike that.

14 In your report, you say that using ATSDR
15 data is a conservative approach. Yes?

16 A. Can you show me in the report?

17 Q. Yeah. Exhibit 1 at page 28.

18 A. Are you referring to the last sentence?

19 Q. Yep.

20 A. Can you ask your question again?

21 Q. I think it was you describe using ATSDR
22 data as a conservative approach.

23 A. What I state specifically is, "Based on
24 the expert opinion of Dr. Spilotopoulos, using the
25 concentrations would result in a conservative

1 estimate," yes.

2 Q. That was my next question. You don't
3 have an independent opinion on whether that's
4 true?

5 A. I do not.

6 Q. You don't have an independent opinion on
7 evaporative losses; true?

8 A. Not specific to this database. In
9 general, they're called volatile organic compounds
10 because they volatilize. And so they would tend
11 to -- some portion of them would tend to leave the
12 water and enter the air. So just in terms of
13 physical chemical properties, it makes sense. So
14 I have an opinion about that. In terms of the
15 extent of evaporative loss model by
16 Dr. Spilotopoulos, no, I don't have an opinion on
17 that.

18 Q. To put it concretely, you don't have an
19 opinion on the quantitative extent of the
20 volatilization?

21 A. I do not.

22 Q. For air concentrations, there were not
23 any measurements taken during 1953 to 1987;
24 correct?

25 MS. SILVERSTEIN: Object to form.

1 THE WITNESS: I was not able to find
2 any.

3 BY MR. SNIDOW:

4 Q. So all of those measurements are based
5 on model data?

6 A. All of those concentrations are based on
7 model data.

8 Q. Nothing wrong with using model data in
9 that capacity; right?

10 MS. SILVERSTEIN: Object to form.

11 THE WITNESS: Not in my view.

12 BY MR. SNIDOW:

13 Q. In your words, can you tell me what
14 margin of exposure means?

15 A. So let me start by saying that I did not
16 do a risk assessment or a margin of exposure
17 assessment. And it's been a while since I've
18 reviewed some of these concepts. But in a margin
19 of exposure, my understanding of it is that it's
20 the ratio of the exposure to a toxic potency
21 factor or to be more specific, a point of
22 departure in the toxic potency factor.

23 Q. You agree the point of departure is
24 often defined as an absolute increased risk above
25 background of 1 percent?

1 MS. SILVERSTEIN: Object to form and
2 foundation.

3 THE WITNESS: I don't think that's
4 correct.

5 BY MR. SNIDOW:

6 Q. What do you think it's usually defined
7 at?

8 MS. SILVERSTEIN: Objection.
9 Foundation.

10 THE WITNESS: So I think what I'm going
11 to say is that this involves fairly complex
12 dose-response modeling, which is outside my area
13 of expertise.

14 BY MR. SNIDOW:

15 Q. Fair enough. Have you ever seen a
16 publication saying if the MoE is less than 1, that
17 means the population is not at an increased risk?

18 MS. SILVERSTEIN: Object to form and
19 foundation.

20 THE WITNESS: I'm struggling with your
21 language because, again, in at least noncancer
22 assessments, we don't really talk about risk. I
23 believe that I have seen definitions describing
24 the value of 1 as the cutoff. But once again, I
25 would say that we're pushing into areas that are

1 outside of my area.

2 BY MR. SNIDOW:

3 Q. Do you agree that risk assessments rely
4 upon theoretical assumptions about the shape of
5 the dose-response curve?

6 MS. SILVERSTEIN: Object to form and
7 foundation.

8 THE WITNESS: Again, you're asking me
9 about complex modeling of dose-response. So I
10 would that's outside of my area.

11 BY MR. SNIDOW:

12 Q. You did not do any modeling yourself of
13 the dose-response curves for any of these
14 chemicals?

15 A. I have not.

16 (LaKind Exhibit 13 was marked.)

17 BY MR. SNIDOW:

18 Q. I'll show you a document that I'll mark
19 as Exhibit 13. This is a slide presentation that
20 I think you created. Yes?

21 A. Looks familiar.

22 Q. If you go to page 38, it's kind of gray,
23 do you see at the top where it says "Risk
24 Assessors want to use epidemiology data"?

25 A. Correct.

1 Q. Why is that?

2 A. Risk assessors generally would like to
3 be able to use any scientific information that
4 would help them have a strong foundation for their
5 methodology.

6 Q. And how do risk assessors use
7 epidemiology data?

8 MS. SILVERSTEIN: Object to form and
9 foundation.

10 THE WITNESS: Risk assessors can use
11 epidemiology data to understand human exposures as
12 one example.

13 BY MR. SNIDOW:

14 Q. And to model dose-response curve?

15 MS. SILVERSTEIN: Object to form and
16 foundation.

17 THE WITNESS: I believe that's been
18 done.

19 BY MR. SNIDOW:

20 Q. If you look at the disclaimer.

21 A. Yes.

22 MS. SILVERSTEIN: I just want to note
23 that this appears to be an excerpt of the
24 presentation and not the entire presentation.

25 MR. SNIDOW: Fair enough.

1 BY MR. SNIDOW:

2 Q. Do you see that diagram there that
3 you've drawn?

4 A. Yes.

5 Q. I think you're trying to show how
6 confounding works.

7 A. So do you remember the year that I gave
8 this talk?

9 Q. 2023.

10 A. So it's a couple of years ago, and I may
11 have been showing where exposure sits in the
12 relationship between these three components. But
13 I've given many talks, and I don't remember
14 exactly what I was trying to show here.

15 Q. I guess put aside what you were trying
16 to do. Do you agree that to be a confounder, the
17 variable needs to be associated both with the
18 exposure and the outcome?

19 A. Agree.

20 MS. SILVERSTEIN: Object to foundation.

21 THE WITNESS: I agree.

22 BY MR. SNIDOW:

23 Q. To put it another way, if the variable
24 is associated only with the outcome, but not the
25 exposure, it can't be a confounder?

1 MS. SILVERSTEIN: Object to form and
2 foundation.

3 THE WITNESS: So first I'll remind you
4 that I'm not an epidemiologist. But that's my
5 understanding of what a confounder -- how it
6 functions.

7 BY MR. SNIDOW:

8 Q. Thank you. If you will look at this
9 page (indicating).

10 MS. SILVERSTEIN: What page is that?

11 MR. SNIDOW: It doesn't have a page
12 number bizarrely, but it's the third slide.

13 MS. SILVERSTEIN: Is that the disclaimer
14 page?

15 MR. SNIDOW: Yes.

16 BY MR. SNIDOW:

17 Q. Do you see where it says exposure
18 assessment there?

19 A. Yes.

20 Q. It says, how much of the pollutant are
21 people exposed to during a specific time period
22 and then how many people are exposed; right?

23 A. That's correct.

24 Q. What are the different ways of
25 determining how much of a pollutant people were

1 exposed to during a specific time period?

2 A. I'll start by saying this is a graphic
3 that I believe was developed by EPA. You're
4 asking how many ways. There are numerous ways.
5 They fall under the general categories of direct
6 and indirect I guess that's fair to say. In
7 direct we have various ways of measuring exposure,
8 including community air monitors, personal air
9 monitoring. We have biomonitoring. And in
10 indirect we have various many types of models that
11 we use.

12 Q. I think I understand the direct. Can
13 you give me some examples on the indirect of how
14 that's done?

15 A. So one example would be proximity to
16 roadway. If you want to understand how traffic
17 impacts people and you don't have sufficient
18 monitoring data, people use estimates based on how
19 close they are to the roadway.

20 Q. Anything wrong with using that kind of
21 exposure assessment?

22 A. There's nothing wrong with it. It has
23 to be the right kind of approach for the question
24 that you want to answer.

25 Q. In the situation you're describing, the

1 researcher, if I'm understanding correctly, they
2 don't have direct measure of how much of pollution
3 from automobiles someone is exposed to. So they
4 look at proximity to roadway as a sort of proxy?

5 MS. SILVERSTEIN: Object to form
6 foundation. I was slow on that one.

7 THE WITNESS: That can be an approach.
8 BY MR. SNIDOW:

9 Q. That is perhaps not common, but that is
10 something that's done in your field, is using a
11 proxy when you don't have direct exposure data; is
12 that fair?

13 A. So common implies, I don't know, greater
14 than some percentage. I can't comment on how
15 often proxies are used.

16 Q. But you've seen it done?

17 A. Yes.

18 Q. To calculate -- to estimate exposure?

19 A. Yes. In that case, it might be to
20 estimate relative exposure.

21 Q. Is it reasonable to use proxies when
22 doing an exposure assessment?

23 MS. SILVERSTEIN: Object to form and
24 foundation.

25 THE WITNESS: Right. I think we just

1 discussed that. It's done frequently and is an
2 accepted practice, as long as it's the right proxy
3 for the right question.

4 BY MR. SNIDOW:

5 Q. Sure. I'm not trying to hide the ball.
6 Obviously, if you have direct exposure data,
7 that's typically used, but sometimes you don't;
8 right?

9 A. It's typically used if it's of
10 sufficient quality and quantity.

11 Q. You agree here we do not have what
12 you're characterizing as direct exposure
13 measurements for the people at Camp Lejeune?

14 A. We don't have direct measurements to my
15 knowledge for air, for swimming pool water and
16 even for finished water.

17 Q. Yeah. There's no exposures that we do
18 have direct exposure data for?

19 A. Based on my examination of the available
20 information, there is insufficient measurement
21 data to use for my exposure assessments.

22 Q. You have employed the
23 weight-of-the-evidence approach in your work?

24 A. I have.

25 Q. Do you agree that approach requires

1 scientific judgment?

2 A. Yes, I do.

3 Q. When doing a weight-of-the-evidence
4 approach you would, of course, want to read all
5 the evidence available?

6 A. It's very helpful to do that.

7 Q. You wouldn't just defer to another
8 expert's review of the literature, would you?

9 MS. SILVERSTEIN: Object to form and
10 foundation.

11 THE WITNESS: No. Then there would be
12 no point in doing it. Having said that, let me
13 add one piece to that. There's something that I
14 believe -- I may have the term wrong, but I
15 believe it's called an umbrella review. We refer
16 to it as a review of reviews. And you can
17 examine -- it's often the case that more than one
18 group does a review, weight-of-evidence or a
19 systematic review, and it's perfectly reasonable
20 to review to reviews and to get an understanding
21 of what the preponderance of what the evidence is
22 showing in those.

23 BY MR. SNIDOW:

24 Q. I think I know what you're saying.
25 Sometimes you might not have to read every

1 individual study if you read the kind of
2 intermediate reviews; is that fair?

3 MS. SILVERSTEIN: Object to form.

4 THE WITNESS: Depends what your purpose
5 is.

6 BY MR. SNIDOW:

7 Q. Is that what you're trying to describe
8 to me?

9 A. I'm trying to describe that to you in
10 the context of what is the scientific community
11 thinking about this and where are the strengths
12 and weaknesses in the literature and in the
13 reviews themselves.

14 Q. But if you were going to decide if you
15 agreed with another scientist's conclusion after
16 performing a weight of the evidence approach,
17 you'd want to review either the underlying studies
18 or at a minimum the reviews?

19 MS. SILVERSTEIN: Object to form and
20 foundation.

21 THE WITNESS: I think that's true.

22 (LaKind Exhibit 14 was marked.)

23 BY MR. SNIDOW:

24 Q. Thank you. I'll show you Exhibit 14,
25 which is a paper that you're lead author on called

1 Epidemiology for Risk Assessment.

2 Do you remember this paper?

3 A. I do.

4 Q. It's from 2023.

5 A. Okay.

6 Q. Do you see the abstract there? It says,
7 "Epidemiology research plays an important role in
8 regulatory risk assessments"?

9 A. I do.

10 Q. And you agree with that?

11 A. Yes.

12 Q. If you look down in the Introduction, it
13 says -- there's a sentence that begins, "The World
14 Health Organization."

15 Do you see that?

16 A. Yes.

17 Q. It says, "The World Health Organization
18 has defined the weight of evidence as 'a process
19 in which all the evidence considered relevant for
20 a risk assessment is evaluated and weighed.'"

21 A. Okay.

22 Q. You've done that before; right?

23 A. Yes.

24 Q. Before doing that, you read -- you tried
25 to read as much of the underlying evidence as you

1 could find; correct?

2 A. Yes, with the understanding that in a
3 weight-of-evidence assessment, there are often
4 papers that come from multiple disciplines, and
5 there's an acknowledgement that the person with
6 the most expertise in that discipline will have
7 the greatest responsibility for that collection of
8 literature.

9 Q. Understood. But when doing the
10 weight-of-the-evidence, you certainly would try to
11 review papers that were within your discipline?

12 A. Yes.

13 Q. If you go to the right-hand column at
14 the very end, it says, "For dose-response
15 assessment, the quantitative relationship between
16 exposure and effect(s) is determined."

17 A. I see it.

18 Q. Do you agree that dose-response is
19 sometimes based on exposure measurements other
20 than milligrams per kilogram?

21 MS. SILVERSTEIN: Object to form.

22 THE WITNESS: Can you give me an
23 example?

24 BY MR. SNIDOW:

25 Q. In the epidemiology, sometimes exposure

1 is not defined in milligrams per kilogram, but
2 authors still see there's a dose-response effect?

3 MS. SILVERSTEIN: Object to form and
4 foundation.

5 THE WITNESS: So here I think we're
6 referring since we're referring to regulatory risk
7 assessment, ultimately, we're going to need units
8 of milligram per kilogram day. So I'm not sure
9 that's the answer to your question. I think maybe
10 there's some conversion, but I'm moving outside of
11 my area.

12 BY MR. SNIDOW:

13 Q. Just tell me. I truly don't want to go
14 into areas you're not comfortable with. If that
15 ever comes up again, just tell me.

16 If you will go to page 2, the first full
17 paragraph, you say, "Going forward, human
18 epidemiology research is playing an increasingly
19 important role in understanding and quantifying
20 relationships between chemical exposure and
21 adverse health outcomes."

22 A. Okay.

23 Q. Do you agree still with that?

24 A. I do.

25 Q. If you'll go to page --

1 A. Can I give you at least a partial reason
2 why? There's an effort that's been under way for
3 at least a few years to minimize the use of
4 animals and animal testing. So we're relying on
5 humans. We have to rely on something. So human
6 data will become increasingly important.

7 Q. If you go to page 9, there's a very long
8 paragraph begins, "This review." If you look sort
9 of in the middle, you'll see a sentence that
10 begins, "Further, the presence of a
11 dose-response."

12 A. Yes.

13 Q. It says, "Further, the presence of a
14 dose-response informs causal judgments as does the
15 reliability of the underlying data."

16 A. I see it.

17 Q. I want to focus on the first part. When
18 you say the presence of a dose-response informs
19 causal judgments, you mean when there's a dose
20 response that makes causation more likely?

21 MS. SILVERSTEIN: Object to form and
22 foundation.

23 THE WITNESS: I would have to go back
24 and read for context. I just don't remember the
25 one sentence in this overall paper and what we

1 were trying to get at there.

2 BY MR. SNIDOW:

3 Q. I guess put aside the paper. Do you
4 agree when there's a dose-response relationship,
5 causation is more likely, all else equal?

6 MS. SILVERSTEIN: Object to form and
7 foundation.

8 THE WITNESS: You're asking me to weigh
9 in on the Bradford Hill criteria, and that's
10 outside my area.

11 BY MR. SNIDOW:

12 Q. It sounds like you know a little bit.

13 A. Just knowing a little bit doesn't make
14 me an expert.

15 Q. That's fine. Let's go to page 10, the
16 last sentence, "We hope that this publication can
17 contribute to bridging the epidemiology risk
18 assessment gap."

19 This is an area that you've written on
20 extensively; correct?

21 A. Correct.

22 Q. What do you mean by epidemiology risk
23 assessment gap?

24 A. So we have two disciplines. And while
25 we are -- it is my personal opinion and

1 professional, I think ultimately many of us are
2 trying to achieve the same goal of protection of
3 human health, but we are using different tools to
4 do that. And oftentimes, we don't I think do as
5 good a job as we can in talking to each other and
6 in making sure that we're designing our studies
7 and our tools so that they are advantageous to the
8 other discipline.

9 Q. Can you give me a concrete example?

10 A. Sure. I'll give you a concrete example
11 that's going to be hypothetical because I just
12 don't remember the details. But sometimes in
13 epidemiology studies, exposure is categorized as
14 low, medium and high. In risk assessment, we're
15 seeking to quantify exposure. So we need to know
16 an actual value. So when we deem it high, it
17 doesn't always help us in the way that we would
18 like it to.

19 So we might encourage an epidemiologist
20 to say, look, even if you don't have the funding
21 to get a full round of measurements that we would
22 like, can you get a few measurements. And that
23 might help us use your study in the context of our
24 risk assessment.

25 Q. I think I understand. So the

1 epidemiologist will categorize it low, medium,
2 high. They say, look, we found a dose-response.
3 And that's frustrating to the risk assessors
4 because it's not quantified.

5 A. It can be.

6 Q. And what you'd like is it to be
7 quantified so that you can try to use those
8 results to better inform things like the cancer
9 slope factor, the IUR or whatever?

10 A. Or the exposure assessment.

11 Q. I'll mark this in a second. Do you know
12 what a threshold dose is?

13 A. Yes.

14 Q. Are genotoxic carcinogens generally
15 thought to have a threshold dose?

16 MS. SILVERSTEIN: Object to form and
17 foundation.

18 THE WITNESS: You're getting into a very
19 complex area of molecular toxicology that's
20 outside my area of expertise.

21 BY MR. SNIDOW:

22 Q. When you are doing risk assessments for
23 a genotoxic carcinogen, am I correct it's standard
24 practice to use a linear no threshold model?

25 A. Same answer as your last question.

1 Q. Ever seen a publication saying that
2 genotoxic carcinogens do have a threshold dose?

3 A. I can't remember.

4 Q. Can't recall?

5 A. Well, the fact that it is a complex
6 issue would lead me to think that I probably have,
7 but I don't remember.

8 Q. So assume for a second you do a risk
9 assessment for a population. It comes out to be
10 one times ten to the negative one. So it's a
11 1 percent increased risk?

12 A. Okay.

13 Q. Did I get it right?

14 A. I think so.

15 Q. I want it to be 1 percent anyway. We'll
16 Leave the scientific notation for another day.
17 Assume it comes out to be a 1 percent increased
18 risk. You agree that's a material risk?

19 MS. SILVERSTEIN: Object to form and
20 foundation.

21 THE WITNESS: You have to define
22 material.

23 BY MR. SNIDOW:

24 Q. That's one that a risk assessor would
25 take very seriously?

1 MS. SILVERSTEIN: Object to form and
2 foundation.

3 THE WITNESS: So I don't want to
4 speculate on serious since that's sort of a
5 squishy term. And often there's a demarcation
6 between the risk assessor and the risk manager.
7 So the risk assessor, they produce a report where
8 a risk was, say, one in a hundred. Then, yes,
9 generally my experience and based on my
10 understanding and history, a risk manager would
11 view that as a number that would indicate that
12 some action needs to be taken.

13 (LaKind Exhibit 15 was marked.)

14 BY MR. SNIDOW:

15 Q. I'm going to show you an exhibit I'll
16 mark as 15, which is a series of excerpts from
17 Dr. Lipscomb's deposition. Sounds like you know.

18 MS. SILVERSTEIN: I'll just note this is
19 not the complete transcript from Dr. Lipscomb's
20 deposition and it looks like something prepared by
21 counsel rather than pages taken directly from the
22 transcript.

23 BY MR. SNIDOW:

24 Q. If you will turn to page 4.

25 A. Does it begin with "And risk

1 assessment"?

2 Q. Yes. Dr. Lipscomb here said risk
3 assessment is not a causation analysis. Do you
4 agree with him on that point?

5 A. Yes. I believe in and of itself, that's
6 to the purpose or goal of a risk assessment.

7 Q. Do you see in the middle of the page,
8 Dr. Lipscomb says, "EPA has been very clear these
9 reference values cannot be used as estimators of
10 risk or causation"?

11 A. I do.

12 Q. Do you agree with that?

13 MS. SILVERSTEIN: Object to form and
14 foundation.

15 THE WITNESS: With the understanding
16 that I'm not -- well, yes, I would agree with
17 that.

18 BY MR. SNIDOW:

19 Q. Can you turn to the next page. Do you
20 see Dr. Lipscomb says, "I've been very clear in my
21 definitions that reference values have no place in
22 the estimation of causation"?

23 A. I see it.

24 Q. Do you agree?

25 MS. SILVERSTEIN: Object to form and

1 foundation.

2 THE WITNESS: Yes.

3 BY MR. SNIDOW:

4 Q. Turn to the last page.

5 A. Hang on. I just want to add to my
6 answer that I'm not actually sure what estimation
7 of causation means.

8 Q. That's fair. Could you go to the page
9 that looks like this.

10 A. Second to last page.

11 Q. Yeah. Do you see at the bottom, he
12 says, "Epidemiology studies is the distribution
13 and occurrence of diseases across populations."
14 He agrees. I assume you agree as well?

15 MS. SILVERSTEIN: Object to form and
16 foundation.

17 THE WITNESS: Yeah. I'd rather than not
18 provide a formal definition of epidemiology.

19 BY MR. SNIDOW:

20 Q. Fair. Then the very last part of this
21 excerpt, so turn to the very last page, do you see
22 Dr. Lipscomb says, epidemiology and regulatory
23 risk assessments are not the same discipline.

24 And I think you testified that they are
25 related, but you agree they're not the same

1 discipline?

2 A. Correct.

3 Q. Put that one aside. Let's take a quick
4 break. I'm going to see how much I have. We
5 might be able to wrap up without taking a lunch
6 break.

7 THE VIDEOGRAPHER: We are off the record
8 at 12:07.

9 (Recess from 12:07 p.m. to 12:16 p.m.)

10 THE VIDEOGRAPHER: We are on the record
11 at 12:16.

12 BY MR. SNIDOW:

13 Q. Dr. LaKind, you said, I think, you had
14 seen some suggestions on the internet where
15 someone used risk assessment to look at an
16 individual's risk. Is that what you said?

17 A. I believe I said an agency, ATSDR, EPA.

18 Q. Did you discover these internet
19 publications before or after you were retained in
20 this case?

21 A. Definitely after. I don't recall when.

22 Q. Were they given to you by another
23 expert?

24 A. No.

25

1 Q. Did you find it yourself?

2 A. Yes.

3 Q. What inspired you to go looking for that
4 sort of thing?

5 MS. SILVERSTEIN: Objection. To the
6 extent your answer comes from conversations with
7 counsel or other experts, I'll direct you not to
8 answer on the basis of privilege and CMO 17.

9 THE WITNESS: I won't answer.

10 BY MR. SNIDOW:

11 Q. Did you save your searches for that
12 information anywhere?

13 A. I did not.

14 Q. Are you aware of any epidemiology on
15 TCE, PCE, benzene or vinyl chloride that measures
16 exposure in terms of milligrams per kilogram days?

17 MS. SILVERSTEIN: Object to form.

18 THE WITNESS: I'm not sufficiently
19 familiar with the literature.

20 BY MR. SNIDOW:

21 Q. Do you know what exposure
22 misclassification is?

23 A. Broadly.

24 Q. Do you know what nondifferential
25 exposure misclassification is?

1 A. Broadly.

2 Q. Do you agree that when there's a
3 nondifferential exposure misclassification, that
4 leads to bias toward the null?

5 MS. SILVERSTEIN: Object to foundation.

6 THE WITNESS: While this is outside of
7 my area of expertise, I am aware that there have
8 been published peer-reviewed papers disagreeing
9 with that concept.

10 BY MR. SNIDOW:

11 Q. What does bias toward the null mean?

12 A. It means that -- so you understand bias;
13 right?

14 Q. (Nodding.)

15 A. And A null result means a
16 nonstatistically significant result. So it would
17 push the result in that direction?

18 Q. And make the results appear smaller than
19 they are in reality?

20 A. It probably depends which direction from
21 the null you're approaching.

22 Q. If the result is positive, then what I
23 said is true?

24 MS. SILVERSTEIN: Object to form.

25 THE WITNESS: So now we're talking an

1 area of context, and it's outside my area.

2 BY MR. SNIDOW:

3 Q. Fair enough. You agree that you and
4 Dr. Reynolds performed similar exposure analyses?

5 MS. SILVERSTEIN: Object to form.

6 THE WITNESS: I believe that we both
7 relied on ATSDR water data to examine exposure via
8 water ingestion, but beyond that, we used -- we
9 had many differences in our approaches.

10 BY MR. SNIDOW:

11 Q. One of them is that Dr. Reynolds
12 calculated a cumulative consumption metric?

13 A. So one is that she used a cumulative
14 consumption metric. Another is that she did not
15 take into account inhalation or dermal exposure.

16 Q. And you could have calculated cumulative
17 consumption if you were asked to?

18 A. Yes, I could have.

19 Q. Nothing unreasonable methodologically
20 about calculating exposure that way?

21 MS. SILVERSTEIN: Object to form.

22 THE WITNESS: I think that including
23 body weight provides very valuable information.
24 So that would be my preferred approach.

25

1 BY MR. SNIDOW:

2 Q. In part because that allows to do a risk
3 assessment; right?

4 A. In part because it's appropriate for
5 risk assessment and in part because body weight
6 impacts the effects of a dose.

7 Q. But your inhalation exposure estimates
8 do not take body weight into account?

9 A. I presented the inhalation results in
10 two different ways, as air concentration, but also
11 as dose and microgram per kilogram day.

12 Q. You do not have a standalone opinion
13 about what exposure units are appropriate to the
14 use here, do you?

15 MS. SILVERSTEIN: Object to form.

16 THE WITNESS: I don't understand the
17 question.

18 BY MR. SNIDOW:

19 Q. You're deferring to Dr. Bailey's
20 analysis on what to do with the exposure
21 information; correct?

22 MS. SILVERSTEIN: Object to form.

23 THE WITNESS: I'm deferring -- sorry.
24 I'm struggling with the question.

25

1 BY MR. SNIDOW:

2 Q. You calculated milligrams per kilogram
3 day; correct?

4 A. And microgram per meter cubed.

5 Q. Microgram per meter cubed. What happens
6 after that, you deferred to Dr. Bailey?

7 A. Dr. Bailey was responsible for the risk
8 assessments.

9 Q. Do you know what Haber's rule is?

10 A. I do not.

11 Q. If you go to page 26 of the Dyer report,
12 I think Exhibit 1.

13 A. What page?

14 Q. 26. Like we were talking about before,
15 this is showing concentrations in terms of
16 microgram per liter?

17 A. Table 1; correct.

18 Q. If you assume, say, five liters of water
19 per day, you could use that to calculate -- to
20 turn this into micrograms of exposure?

21 MS. SILVERSTEIN: Object to form.

22 THE WITNESS: So I believe what you're
23 missing is the number of days.

24 BY MR. SNIDOW:

25 Q. That's fair.

1 A. Unless you want it on a per day.

2 Q. What I described would turn it into
3 micrograms per day?

4 A. Microgram per liter times liter equals
5 microgram.

6 Q. If you assumed, let's say, 100
7 micrograms per liter concentrations here and you
8 assumed they had five liters of water per day,
9 then their daily microgram consumption would be
10 500 micrograms. Yes?

11 MS. SILVERSTEIN: Object to form.

12 THE WITNESS: I think that math is
13 right, off the top of my head.

14 BY MR. SNIDOW:

15 Q. And then if they're on base for ten
16 days, their cumulative microgram exposure would be
17 5,000 micrograms?

18 MS. SILVERSTEIN: Object to form.

19 THE WITNESS: Again, doing the math in
20 my head, which I prefer not to do, then I think
21 that would be fine.

22 MR. SNIDOW: No further questions.

23 MS. SILVERSTEIN: We have no questions
24 for you, Dr. LaKind.

25 THE VIDEOGRAPHER: We are off the record

1 at 12:23.

2 (Whereupon, at 12:23 p.m., the taking of
3 the instant deposition ceased.)
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1 COMMONWEALTH OF PENNSYLVANIA)

2 COUNTY OF ALLEGHENY) SS:

3 C E R T I F I C A T E

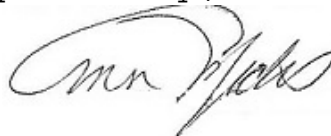
4 I, Ann Medis, RPR, CLR, CSR-WA and
5 Notary Public within and for the Commonwealth of
6 Pennsylvania, do hereby certify:

7 That JUDY S. LAKIND, PH.D., the witness
8 whose deposition is hereinbefore set forth, was
9 duly sworn by me and that such deposition is a
10 true record of the testimony given by such
11 witness.

12 I further certify the inspection,
13 reading and signing of said deposition were not
14 waived by counsel for the respective parties and
15 by the witness.

16 I further certify that I am not related
17 to any of the parties to this action by blood or
18 marriage and that I am in no way interested in the
19 outcome of this matter.

20 IN WITNESS WHEREOF, I have hereunto set
21 my hand this 4th day of July, 2025.

22 
23

24 _____
Notary Public
25

COMMONWEALTH OF PENNSYLVANIA) E R R A T A
COUNTY OF ALLEGHENY) S H E E T

I, JUDY S. LAKIND, PH.D., have read the foregoing pages of my deposition given on July 17, 2025, and wish to make the following, if any, amendments, additions, deletions or corrections:

Page	Line	Change and reason for change:
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In all other respects, the transcript is true and correct.

JUDY S. LAKIND, PH.D.

_____ day of _____, 2025.

Notary Public

GOLKOW, a Veritext Division
One Liberty Place
1650 Market Street, Suite 5150
Philadelphia, Pennsylvania 19103
877.370.3377

August 4, 2025

Kailey Silverstein, Esquire
U.S. Department of Justice
1100 L Street, NW
Washington, DC 20005
Re: Deposition of JUDY S. LAKIND, PH.D.
Notice of Non-Waiver of Signature

Dear Ms. Silverstein:

Please have the deponent read her deposition transcript. All corrections are to be noted on the Errata Sheet.

Upon completion of the above, the Deponent must affix her signature on the Errata Sheet, and it is to then be notarized.

Please forward the signed original of the Errata Sheet to John J. Snidow, Esquire for attachment to the original transcript, which is in his possession.

Please return the completed Errata Sheet within 30 days of receipt hereof.

Sincerely,

Ann Medis, RPR, CLR, CSR-WA

cc:

John J. Snidow, Esquire

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

VERITEXT LEGAL SOLUTIONS

COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

Veritext Legal Solutions is committed to maintaining the confidentiality of client and witness information, in accordance with the regulations promulgated under the Health Insurance Portability and Accountability Act (HIPAA), as amended with respect to protected health information and the Gramm-Leach-Bliley Act, as amended, with respect to Personally Identifiable Information (PII). Physical transcripts and exhibits are managed under strict facility and personnel access controls. Electronic files of documents are stored in encrypted form and are transmitted in an encrypted

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**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
SOUTHERN DIVISION
NO. 7:23-CV-897**

IN RE:

CAMP LEJEUNE WATER LITIGATION

This Document Relates To:

ALL CASES

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