

Exhibit 613

UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA

IN RE:)
)
CAMP LEJEUNE WATER LITIGATION)
)
) Case No. 7:23-cv-00897
)
This Document Relates to:)
)
ALL CASES)
_____)

VIDEO-RECORDED DEPOSITION OF

KELLY A. REYNOLDS, PhD

June 25, 2025
9:11 a.m.

1790 East River Road, Suite 300
Tucson, Arizona

REPORTED BY: RICHAEAL M. SILVIA, RMR, CRR, CRCR
Arizona CR No. 51017
New Mexico CR No. 554

1 The Video-Recorded Deposition of KELLY A.
2 REYNOLDS, PhD, noticed by Defendant, was taken on
3 June 25, 2025, from 9:11 a.m. to 7:06 p.m., at Schmidt,
4 Sethi & Akmajian, PLLC, 1790 East River Road, Suite
5 300, Tucson, Arizona, before Richael M. Silvia,
6 Registered Merit Reporter, Certified Realtime Reporter,
7 Colorado Realtime Certified Reporter and Arizona
8 Certified Reporter No. 51017.

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Diana Gjonaj
JT Malone
Judy LaKind
Whitney Wallace
Zachary Mandell
Zina Bash
Mike Dowling, Plaintiffs' Co-Lead Counsel

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(None.)	

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1 The following proceedings were taken pursuant
2 to the Federal Rules of Civil Procedure.

3 THE VIDEOGRAPHER: We are going on record at
4 9:11. The date is June 25, 2025. We are at Schmidt,
5 Sethi & Akmajian in Tucson, Arizona, for the deposition
6 of Dr. Kelly Reynolds, In re Camp Lejeune Water
7 Litigation, Case No. 7:23-CV-00897.

8 My name is David Boyan, I am the
9 videographer. The court reporter is Richael Silvia.
10 Will counsel please introduce yourselves.

11 MR. MICELI: David Miceli here on behalf of
12 Plaintiffs' Leadership Group.

13 MR. SNIDOW: JJ Snidow on behalf of the
14 Plaintiffs' Leadership Group.

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

17 MS. ELLISON: Anna Ellison on behalf of the
18 United States.

19 MR. BAIN: Adam Bain on behalf of the United
20 States.

21 KELLY A. REYNOLDS, PhD,
22 having been first duly sworn to state the whole truth,
23 testified as follows:

24 ///

25 ///

EXAMINATION

BY MS. SILVERSTEIN:

Q. Good morning, again, Dr. Reynolds. I know we met briefly earlier. I'm Kailey Silverstein. I'm here with my colleagues, Anna Ellison and Adam Bain. We represent the United States in the Camp Lejeune litigation, and we're with the Department of Justice.

We'll be asking you questions today.

Can you please state your full name.

A. Yes, it's Kelly Anne Reynolds.

Q. Can you provide your current business address.

A. It's 1295 North Martin Avenue, at the University of Arizona, Tucson, Arizona 85724.

Q. Have you been deposed before?

A. Yes.

Q. So some of what I say in the next couple minutes might be familiar to you, but I just want to make sure that we're all on the same page for what this deposition should look like.

Do you understand that you are under oath?

A. Yes.

Q. And do you understand that this is a court proceeding even though it's not in a courtroom?

A. Yes.

1 Q. Do you understand that because you're under
2 oath you're also under the penalty of perjury?

3 A. Yes.

4 Q. And do you understand that that means you're
5 obligated to tell the truth today?

6 A. Yes.

7 Q. Our lovely court reporter is taking down
8 everything that we say today. So it's important that
9 any questions I ask, you answer verbally. I know in
10 normal conversation it's easy to nod our head or say
11 uh-hum, but that can be hard to translate to a record.
12 So if you could answer verbally or out loud for all the
13 questions, that would be great.

14 Does that make sense?

15 A. Yes.

16 Q. Okay. You and I should also try not to
17 interrupt each other. There may be times where you
18 know exactly what question I'm about to ask and you're
19 probably right, but I'll ask that you let me ask --
20 finish asking my question anyway. And there may be
21 times where I start asking a question before you're
22 finished with your answer. I'll try and avoid doing
23 that. But if I do, please let me know. And you can,
24 of course, finish your answer.

25 A. Okay.

1 Q. Great. If today I ask a question that is
2 confusing or doesn't make any sense or you don't
3 understand, please let me know. I'll try and clarify
4 the question. If you don't ask me to clarify the
5 question or let me know you don't understand what I'm
6 asking, I'll assume that you understood the question.

7 Is that fair?

8 A. Yes.

9 Q. Okay. During the deposition you may hear
10 someone say "objection," or object to the question that
11 I ask. Unless you're instructed not to answer the
12 question, you can go ahead and answer the question
13 after they make their objection.

14 Does that make sense?

15 A. Yes.

16 Q. Is there any reason why you're not able to
17 give your most truthful and accurate testimony today?

18 A. No.

19 Q. Are you taking any medication that might
20 impair your memory?

21 A. No.

22 Q. During the deposition I generally try and
23 take a break every hour-ish. If, in between the
24 breaks, you'd like a break for any reason, please just
25 let me know. We can go off the record and take a

1 break. I'll just ask that if I have already asked a
2 question that you haven't answered yet, you'd answer
3 the question first and then we can go on break after
4 that.

5 Does that make sense?

6 A. Yes.

7 Q. Okay. Do you understand that today you are
8 here pursuant to a subpoena from the United States?

9 A. Yes.

10 Q. And my understanding is that your involvement
11 in the Camp Lejeune litigation is you're a retained
12 expert on behalf of Plaintiffs' Leadership Group; is
13 that correct?

14 A. Yes.

15 Q. At any point when you were preparing your
16 report on an ex- -- on exposure assessment, did you
17 meet with any other plaintiffs' experts?

18 A. Could you just ask that again.

19 Q. Sure. When you were preparing your report
20 that you submitted in the Camp Lejeune litigation, did
21 you, at any point, meet with any other plaintiffs'
22 experts?

23 A. I guess I'm asking for a clarification
24 because while I was creating my report, no. But after
25 my report was created I -- I had some clarification

1 questions from other experts.

2 Q. Okay. After your report was completed, who
3 did you -- which experts did you meet with?

4 MR. MICELI: Object to the form.

5 A. I met with -- I'm trying to think of the
6 names. Maybe it was Kailey [sic] Andruska.

7 Q. (BY MS. SILVERSTEIN) Okay.

8 A. I believe it was a toxicologist. A
9 Mr. Barbano and there was another person who was a
10 neurologist whose name is escaping me right now.

11 Q. Okay. Did you meet with them in person, over
12 Zoom, by phone or in some other way?

13 A. Yeah, one was by phone and another by Zoom.

14 Q. Okay. About how long did those meetings
15 last?

16 A. Maybe ten minutes. Well, the -- it was the
17 female, actually. Barbano, that was maybe 20 to 30
18 minutes. And for the neurologist and the toxicologist,
19 it was maybe 10, 15 minutes.

20 Q. Okay. And you said that you had those
21 meetings after you finished your report; is that right?

22 A. Correct.

23 Q. Did any of those meetings change any of the
24 opinions in your report?

25 A. No.

1 Q. Aside from yourself and the expert that --
2 the other expert you were talking to, was anybody else
3 at those meetings?

4 A. Some of the legal team.

5 Q. Do you remember who?

6 A. Not specifically. There were a few people
7 only with the Barbano Zoom call.

8 Q. Okay. Was everybody present besides you and
9 Dr. Barbano and an attorney?

10 A. Yes. As far as I know.

11 Q. As far as you know, sure. Which is a great
12 point. If I'm asking you a question and you don't know
13 the answer to it, please feel free to say that. You
14 know, there may be times where you're comfortable
15 estimating. And that's fine. Just let me know that
16 it's an estimate. I don't want you to, you know, take
17 any wild guesses on anything --

18 A. Okay.

19 Q. -- that you're not familiar with.
20 Was the other expert you met with
21 Dr. Schwarz?

22 A. I don't believe so.

23 Q. Okay.

24 A. I actually can't remember, I'm sorry.

25 Q. No problem.

1 Okay. In preparing your report, you relied
2 on a couple of Army field manuals; is that right?

3 A. Correct.

4 MR. MICELI: Kailey, before you show her an
5 exhibit, can we go off the record for just one second?
6 And you and I speak outside -- the counsel speak
7 outside for a second.

8 MS. SILVERSTEIN: Sure.

9 THE VIDEOGRAPHER: The time is 9:19. We're
10 going off the record.

11 (Recess taken from 9:19 a.m. to 9:28 a.m.)

12 THE VIDEOGRAPHER: The time is 9:28. We're
13 back on record.

14 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, a few
15 minutes ago we were talking about some documents that
16 you relied on for your reports. Those documents
17 included certain Army field manuals, correct?

18 A. Correct.

19 Q. How did you select the Army field manuals,
20 excuse me, to rely on?

21 A. I did a literature search, but the actual
22 manuals that I utilized were provided by the legal
23 team.

24 Q. Were you provided any field manuals from any
25 year that you didn't rely on?

1 A. No.

2 Q. Okay. I am handing you Exhibit 1.

3 (Deposition Exhibit 1 was marked.)

4 MR. MICELI: I'm going to hand this back to
5 you.

6 MS. SILVERSTEIN: I don't know. I think it's
7 yours now.

8 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, I just
9 handed you Exhibit 1, which is a 1957 Military
10 Sanitation Guide ending in the -- with the Bates stamp
11 CLJA_ARMYFH_0000000274.

12 Do you see that?

13 A. I do, yes.

14 Q. And this is one of the field manuals that you
15 relied on --

16 A. Yes.

17 Q. -- for your report, right?

18 A. Correct.

19 MR. MICELI: Remember to let her finish her
20 question.

21 Q. (BY MS. SILVERSTEIN) At the -- on the very
22 first page. Do you see in the top left-hand corner
23 where it says, "Department of the Army Field Manual"?

24 A. Yes.

25 Q. And then below that it says, "Department of

1 the Air Force Manual"?

2 A. Yes.

3 Q. This field manual isn't marked for the
4 Department of the Navy, correct?

5 A. Correct.

6 Q. And are -- you're aware that the Marine Corps
7 is part of the Navy, right?

8 A. Yes.

9 Q. If you could turn to the page ending with the
10 Bates No. 278 about four pages in.

11 A. I'm there, yes.

12 Q. Okay. Thank you. Do you see where it says,
13 "Purpose and scope"?

14 A. Yes.

15 Q. Under purpose and scope, it says, "This
16 manual provides information and instruction in the use
17 of established practical measures designed to preserve
18 health and prevent disease in the Army," right?

19 A. Correct, yes.

20 Q. It doesn't say that the scope of the field
21 manual applies to the Marine Corps, right?

22 A. Correct.

23 Q. And it doesn't say that the scope of the
24 field manual applies to the Navy, right?

25 A. It does not say that.

1 Q. If you go to the page ending in 309.

2 A. Yes, I'm there.

3 Q. Okay. Great. Thank you.

4 And do you see where it says, "43 Quality of
5 Water," as the heading?

6 A. I do.

7 Q. Under that section, it says, "The amount of
8 water necessary for any given number of persons varies.
9 The season of the year, the geographical location and
10 the tactical situation are factors which must be taken
11 into consideration when estimating minimum
12 requirements," right?

13 A. Yes, that's what it says.

14 Q. Did you account for the time of year in your
15 estimate, your exposure estimates?

16 A. I did in that those were the minimums listed
17 in the field manuals, there were no values below that
18 so the values were less than 80 degrees.

19 Q. Okay. You can go ahead and set that document
20 to the side.

21 A. Okay.

22 MR. MICELI: I'm just going to help you out,
23 if we put them facedown as we go. If she asks you to
24 get another one, you can flip them over, and they'll be
25 in order.

1 A. Okay.

2 Q. (BY MS. SILVERSTEIN) And I'm handing you
3 Exhibit 2.

4 (Deposition Exhibit 2 was marked.)

5 THE DEPONENT: Thank you.

6 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, I just
7 handed you Exhibit 2, which is a July 1970 Field
8 Hygiene and Sanitation Manual, correct?

9 A. Correct.

10 Q. And it says, "Departments of the Army and Air
11 Force" on the bottom, right?

12 A. Correct.

13 Q. This is one of the field manuals you relied
14 on for your report, correct?

15 A. It is, yes.

16 Q. If you turn to the first page of text, which
17 is ending 836. It's about the back of the second page
18 of the document.

19 A. Let me take the clip off. Okay.

20 Q. Do you see where it says, "Chapter 1:
21 Introduction" at the top?

22 A. Yes.

23 Q. And do you see the section Purpose and Scope?

24 A. Yes.

25 Q. Under purpose and scope, it says, "This

1 manual provides information and instruction in the use
2 of established practical measures designed to preserve
3 health and prevent disease in the Army and Air Force,"
4 correct?

5 A. Correct.

6 Q. This manual does not include as part of its
7 purpose or scope instructions on water use for the
8 Department of Navy, correct?

9 A. Correct.

10 Q. Okay. You can go ahead and set that to the
11 side.

12 (The witness complied.)

13 Q. (BY MS. SILVERSTEIN) Would it be fair to say
14 that all other things being equal, a person needs to
15 drink less water on a cool day than on a really hot
16 day?

17 MR. MICELI: Object to form.

18 A. What do you mean by "all things being equal"?

19 Q. (BY MS. SILVERSTEIN) Sure. If a person is,
20 you know, the very same person doing the exact same
21 activity in the exact same location, they would need to
22 drink less water on a really cool day than on a really
23 hot day, right?

24 MR. MICELI: Object to the form, foundation.

25 A. So generally, people do drink less, all

1 things being equal, when it's cooler than when it's
2 hotter.

3 Q. (BY MS. SILVERSTEIN) So you'd agree that,
4 you know, the amount of water recommended for when the
5 temperature is 85 degrees or higher, someone would
6 generally need more water than when it's 50 degrees,
7 right?

8 MR. MICELI: Object to the form, foundation.

9 A. That would be the general recommendation, all
10 things being equal.

11 Q. (BY MS. SILVERSTEIN) So, Dr. Reynolds, would
12 you agree that media is a major source of information
13 about environmental risk?

14 MR. MICELI: Object to the form, foundation.

15 A. Could you just repeat that.

16 Q. (BY MS. SILVERSTEIN) Would you agree that
17 media is a major source of information for people about
18 environmental risk?

19 MR. MICELI: Subject to the same objection.

20 A. So I guess it depends on the audience, the
21 context of who media can reach. But I would say
22 generally no, from my perspective as a scientist.

23 Q. (BY MS. SILVERSTEIN) Okay. From the
24 perspective of -- well, I'll start with this. You do a
25 lot of work with educating the public about

1 environmental risk, right?

2 A. Yes.

3 Q. And would you agree that for the public, a
4 lot of their information about environmental risk comes
5 from media sources?

6 MR. MICELI: Object to the form, foundation.

7 A. I mean, I don't know exactly where, you know,
8 population -- population would get their information.
9 I think it comes from a multitude of sources, certainly
10 media is one of those sources. Yeah, I guess I'll
11 leave it there.

12 Q. (BY MS. SILVERSTEIN) Would you agree that
13 public concern about risk doesn't always correlate with
14 scientific data?

15 MR. MICELI: Object to the form.

16 A. I think in an uninformed population, that
17 would be true.

18 Q. (BY MS. SILVERSTEIN) Okay. In the -- how
19 about in the general public. If we're talking about
20 the general public, it would be fair to say that public
21 concern about risk doesn't always correlate with
22 scientific data, right?

23 MR. MICELI: Object to the form, foundation.

24 A. You said always, so there's very few absolute
25 always terms. So I would say it doesn't always

1 correlate.

2 Q. (BY MS. SILVERSTEIN) And you'd agree that if
3 the risk is from a memorable event, there's typically
4 more public concern, right?

5 MR. MICELI: Object to the form, foundation.

6 A. That's a foundational concept and risk
7 perception, yes.

8 Q. (BY MS. SILVERSTEIN) Okay. Do you agree
9 that preconceptions about risk influence policy?

10 MR. MICELI: Object to the form, foundation.

11 A. Does preconception about risk influence
12 policy? It shouldn't. It may sometimes but it
13 shouldn't.

14 Q. (BY MS. SILVERSTEIN) Would you agree that
15 misconceptions about re- -- about risk can create poor
16 policy?

17 MR. MICELI: Object to the form, foundation.

18 A. Misconceptions about risk can certainly
19 create poor policy.

20 Q. (BY MS. SILVERSTEIN) Would you agree that
21 it's important not to feed into what might already be a
22 public bias about water quality?

23 MR. MICELI: Object to the form.

24 A. Yeah, I mean, as a scientist, I certainly
25 would not want to feed into bias of perception.

1 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, you have
2 a bachelor's degree in microbiology, right?

3 A. Yes.

4 Q. And a master's degree in public health,
5 right?

6 A. Yes.

7 Q. And a PhD in microbiology, right?

8 A. Yes.

9 Q. Is it accurate to say that environmental
10 microbiology is the study of how microorganisms
11 interact with the environment?

12 A. Yes. And just a correction, my PhD is in
13 environmental sciences, which is inclusive of
14 environmental microbiology.

15 Q. Would it be fair to say your focus was on
16 environmental microbiology?

17 A. That's one of my focus areas, yes.

18 Q. Dr. Reynolds, you're not an expert in
19 toxicology, right?

20 A. No.

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

23 A. No.

24 Q. Do you consider yourself an expert in risk
25 assessment?

1 A. Yes.

2 Q. And in exposure assessment?

3 A. Yes.

4 Q. You didn't perform a risk assessment for the
5 Camp Lejeune litigation, correct?

6 A. No.

7 Q. Sorry, I just want to clarify. Is that no,
8 that's not correct or no you didn't perform a risk
9 assessment?

10 A. Right. I did not perform a risk assessment
11 for Camp Lejeune.

12 Q. Okay. Great. Thank you.

13 You're aware that EPA has defined safe water
14 in terms of acceptable risk, right?

15 A. EPA defined safe water in terms of acceptable
16 risk. Yeah, I mean, that -- acceptable risk is the
17 guidance, the regulatory guidance benchmark for what
18 would be considered minimal harm.

19 Q. And you've used the EPA's acceptable risk
20 threshold in publications, right?

21 A. I have, yes.

22 Q. And that's the acceptable risk threshold of 1
23 times 10^{-6} to 1 times 10^{-4} ,
24 right?

25 A. It would be 1 times 10^{-6} is the

1 threshold that we utilize to trigger further
2 evaluation.

3 Q. Okay. But the EPA's acceptable risk is 1
4 times 10 to the minus 6 to 1 times 10 to the minus 4,
5 right?

6 A. Depends on the context.

7 Q. Okay.

8 A. So the default would be 1 times 10 to minus
9 6.

10 Q. Okay. That's the -- I guess, the low end of
11 their acceptable risk range, right?

12 A. Right.

13 Q. You'd agree that the EPA's acceptable risk
14 threshold is generally accepted in the scientific
15 community, right?

16 A. It's accepted as a decision-making benchmark
17 for risk management.

18 Q. Okay. But that's generally accepted among
19 the scientific community?

20 A. For that --

21 MR. MICELI: Object to the form.

22 A. For that application, yes.

23 Q. (BY MS. SILVERSTEIN) Would you agree that
24 your primary expertise is in microbiology?

25 MR. MICELI: Object to the form.

1 A. No. I would -- I would say my primary
2 expertise is in exposure science.

3 Q. (BY MS. SILVERSTEIN) Okay. Would it be fair
4 to say that in the last five years, your work in
5 exposure science has mostly related to disease
6 transmission?

7 A. Yes.

8 Q. The majority of your media appear --
9 appearances in that time period have been related to
10 disease transmission, right?

11 A. Yes.

12 Q. And is that true for the majority of your
13 peer-reviewed publications, have those also been
14 related to disease transmission?

15 A. Yes.

16 Q. Are you familiar with EPA's oral slope
17 factors for evaluating risk from carcinogens?

18 A. Yes.

19 Q. Do you agree that EPA uses the unit parts per
20 million or milligram per kilogram per day?

21 A. In risk assessment processes, yes.

22 Q. And are parts per million and milligram per
23 kilogram per day generally considered to be the same or
24 equal units?

25 A. Yes.

1 Q. And you're aware that EPA has calculated
2 chemical concentrations that lead to increased risk of
3 disease between 1 times 10 to the minus 4 and 1 times
4 10 to the minus 6 from a lifetime exposure to that
5 concentration, right?

6 A. Could you repeat that, please.

7 Q. Sure. When EPA provides the acceptable level
8 of chemical concentration, they calculate that based on
9 a 70-year lifetime exposure, right?

10 A. Yes.

11 MR. MICELI: Object to the form.

12 Q. (BY MS. SILVERSTEIN) And they calculate that
13 risk between 1 times 10 to the minus 4 and 1 times 10
14 to the minus 6 over that 70-year lifetime exposure,
15 right?

16 A. You're saying they calculate -- they
17 calculate it to that. I mean, that's the benchmark.
18 So when you would compare a concentration of exposure
19 to that regulatory benchmark, then you would be looking
20 at the concentration or the intake value times the
21 cancer slope factor would give you the risk value that
22 you would compare to that 10 to minus 6 threshold. Is
23 that what you're asking?

24 Q. Yeah, so the chemical -- the chemical
25 concentrations. When EPA says, "This is an acceptable

1 exposure," it's based on that 10 to the minus 6 to 10
2 to the minus 4 risk factor over 70 years; is that
3 right?

4 MR. MICELI: Object to the form.

5 A. I mean, what they're calling acceptable at a
6 10 to minus 6 is a risk management decision. So it's
7 an acceptable risk, which would not -- if it's less
8 than one in a million it would be an acceptable risk
9 that would not drive a management decision.

10 Q. (BY MS. SILVERSTEIN) Okay. You'd agree that
11 the threshold set by EPA doesn't mean that any exposure
12 over that amount automatically causes disease, right?

13 A. Well, those values are set on -- on MCLs,
14 which is maximum contaminant limits, which are not
15 fully in and of themselves health protected. So
16 certainly there could be disease occurring at that
17 level. When you have -- when you have contaminants
18 that have MCLGs, there could be values far below the
19 MCLs that could still be causing cancer.

20 Q. You'd agree that the MCLs don't indicate
21 whether or not that amount of exposure can cause
22 disease, correct?

23 MR. MICELI: Object to the form.

24 A. The MCLs are not a measure or threshold of
25 causation. They're a regulatory limit that's

1 federally, you know, enforceable. An enforceable
2 regulatory limit that has been acceptable in the realm
3 of what's economically feasible, where health effects
4 might occur, but they're not fully protective of public
5 health in terms of causing cancer.

6 Q. (BY MS. SILVERSTEIN) Sure. I think my
7 question was maybe a little different. You'd agree
8 that the MCLs aren't set based on health effects,
9 right?

10 MR. MICELI: Object to the form.

11 A. Not entirely. I mean, health effects is one
12 of the things that's considered when an MCL is created,
13 but that's not the only thing that's considered.
14 Feasibility and economic -- again, feasibility is part
15 of that equation.

16 Q. (BY MS. SILVERSTEIN) So then, would it be
17 fair to say your opinion is that MCLs are reflective of
18 health risk?

19 A. Yeah, I mean, MCLs are set at a level that is
20 trying to achieve the most protective concentration
21 that's -- of exposure that's economically feasible and
22 physically feasible to manage.

23 Q. And what is your basis for saying that MCLs
24 are reflective of health risk?

25 A. I mean, MCLs are based on the cancer slope

1 factors and extrapolation from dose response curves
2 where it's estimated and it's modeled to low-dose
3 regions of where health effects might be occurring.
4 And normally there's, kind of, a safety margin of where
5 you want to be as protective as possible and still have
6 it be feasible to manage. But they're -- you know,
7 when you're talking about carcinogens, MCLs are
8 recognized -- if they're not at zero, they're
9 recognized to be not fully health protected.

10 Q. You'd agree that when someone says there's
11 an -- if someone were to say there's an increased risk
12 at 1 times 10 to the minus 4, that means that there's
13 one additional cancer per 10,000 individuals, right?

14 MR. MICELI: Object to the form.

15 A. I mean, from a theoretical risk model, that's
16 what that's indicating. But from a decision-making
17 process, not from a causation.

18 Q. (BY MS. SILVERSTEIN) When you're talking
19 about a decision-making process, you're talking about
20 health protective regulatory decisions, right?

21 MR. MICELI: Object to the form.

22 A. Yes, so those are -- those are benchmark
23 levels to say whether or not, you know, at what level a
24 risk management decision might be triggered.

25 Q. (BY MS. SILVERSTEIN) But you'd agree that a

1 risk of 1 times 10 to the minus 4 indicates one
2 additional cancer per 10,000 individuals exposed,
3 right?

4 MR. MICELI: Same objection.

5 A. It indicates the risk of, yes.

6 Q. (BY MS. SILVERSTEIN) You'd agree that a 1
7 times 10 to the minus 6, that's indicating one
8 additional cancer per 1 million individuals exposed,
9 right?

10 MR. MICELI: Object to the form.

11 A. Yes. So it's a risk of one in a million
12 from, like, a population default perspective.

13 Q. (BY MS. SILVERSTEIN) These risks are derived
14 from oral cancer slope factors determined during animal
15 studies, right?

16 A. There could be a variety of different
17 studies, mostly animal toxicology studies, but it could
18 be other human studies as well.

19 Q. And you've done -- since you're a risk
20 assessor, you've done calculations to estimate targets
21 in between the 1 times 10 to the minus 6 to 1 times 10
22 to the minus 4 threshold, right?

23 A. Correct, yes.

24 Q. So you're familiar with those calculations?

25 A. Yes.

1 (Deposition Exhibit 3 was marked.)

2 Q. (BY MS. SILVERSTEIN) I am handing you
3 Exhibit 3.

4 Dr. Reynolds, I just handed you a document
5 from U.S. EPA, Integrated Risk Information System,
6 IRIS, on TCE, right?

7 A. Yes.

8 Q. Have you looked at this document before?

9 A. I have, yes.

10 Q. And if you can go ahead and turn to page 40.

11 A. I'm there.

12 Q. And do you see the box, Route to Route
13 Extrapolation of Site-Specific Inhalation Unit Risks to
14 the Oral Slope Factors?

15 A. Yes.

16 Q. Okay. And so you'd agree that the oral slope
17 factor for NHL is 2.16 times 10 to the minus 2 per
18 milligram per kilogram per day, right?

19 A. Correct.

20 Q. If 1 milligram per kilogram per day will
21 result in a risk of 2.12 times 10 to the minus 2, how
22 many milligrams per kilogram days are needed to result
23 in a risk of 1 times 10 to the minus 4? Do you know?

24 MR. MICELI: Object to the form.

25 A. Well, it does say 2.16. That's a small

1 clarification. But, no, I would have to calculate it
2 just to make sure -- certain I was correct.

3 Q. (BY MS. SILVERSTEIN) And the equation to
4 calculate that is 2.16 times 10 to the minus 2 divided
5 by 1 milligram per kilogram per day equals 1 times 10
6 to the minus 4 divided by "X" number of milligrams per
7 kilogram per day, right?

8 MR. MICELI: Object to the form.

9 A. That sounds correct.

10 Q. (BY MS. SILVERSTEIN) And with that equation,
11 you're ultimately trying to determine what "X"
12 milligrams per kilograms per day is, right?

13 A. And you're doing this based on what variable
14 change?

15 Q. If you're trying to determine how many
16 milligrams per kilograms per day are needed to result
17 in 1 times 10 to the minus 4, then you're trying to
18 determine how many or what the "X" of the milligrams
19 per kilograms per day is, right?

20 MR. MICELI: Object to the form.

21 A. Yes.

22 Q. (BY MS. SILVERSTEIN) And would you agree
23 that the next step to solving that equation is 1 times
24 10 to the minus 4 equals "X" times 2.16 times 10 to the
25 minus 2?

1 A. Honestly, I kind of need to write it out
2 myself and, sort of, see it. But, in general, what you
3 would do is you would extrapolate -- you would set
4 your -- these are called risk-based screening levels.
5 So you would set your target risk and then with the
6 cancer slope factor, you would then calculate what the
7 allowable concentration would be in milligram per
8 kilogram day. So I think that's what you're
9 describing, it's a little hard to visualize.

10 Q. Sure. And I appreciate it can be hard to do
11 math mentally without seeing anything written down. So
12 I'll just go ahead and hand you this blank piece of
13 paper.

14 MR. MICELI: Excuse me. I'm going to object
15 to her -- and I'm going to instruct her not to conduct
16 calculations at your instruction. She has provided an
17 expert report, and you're welcome to question her on
18 her bases of her -- and her methodology. But I'm not
19 going to get you to -- I'm not going to allow you to
20 instruct her to conduct calculations for you. That's
21 not part of her expert report.

22 MS. SILVERSTEIN: On what basis are you
23 instructing her that.

24 MR. MICELI: Because you're asking our expert
25 to conduct an investigation for you. She has provided

1 an expert report. You have the opportunity to question
2 her on her basis and her knowledge, her expertise and
3 her methodology. We can stop and we can call the
4 magistrate if you'd like, but you're not -- I'm not
5 going to allow her to be given assignments during the
6 deposition for you to have her make calculations for
7 you.

8 MS. SILVERSTEIN: I'm just trying to
9 understand what the -- how to figure out how to apply
10 the oral slope risk factor to 1 times 10 to the minus
11 4. I'm noting for the record that there is not a
12 privilege or CMO 17 basis to instruct her not to answer
13 and that I believe this instructed not -- instruction
14 not to answer the questions is improper. And we will
15 be holding the deposition open if you continue to
16 instruct her not to answer.

17 MR. MICELI: That's fine, we will hold the
18 deposition open. We can do that. We can address it
19 with the Court.

20 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, are you
21 going to listen to Mr. Miceli and refuse to answer the
22 question?

23 A. Yes.

24 MS. SILVERSTEIN: Let's go ahead and take a
25 quick break.

1 MR. MICELI: Okay.

2 THE VIDEOGRAPHER: Time is 9:59. We're going
3 off record.

4 (Recess taken from 9:59 a.m. to 10:10 a.m.)

5 THE VIDEOGRAPHER: The time is 10:10. We are
6 back on record.

7 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, during
8 the break, did you talk to anybody about the substance
9 of your testimony?

10 A. No.

11 MR. MICELI: Are you done with 3? Can I flip
12 it over?

13 MS. SILVERSTEIN: Yes.

14 MR. MICELI: Thank you.

15 MS. SILVERSTEIN: For now. We'll come back
16 to that.

17 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, would you
18 agree that toxicologists typically express dose as the
19 weight of a chemical per unit of body weight?

20 MR. MICELI: Object to the form, foundation.

21 A. It depends on the context of the study. So
22 they may or may not, depending on what metric they're
23 comparing to.

24 Q. (BY MS. SILVERSTEIN) So is it your opinion
25 that dose doesn't necessarily mean weight of chemical

1 per unit of body weight?

2 MR. MICELI: Object to the form.

3 A. Correct.

4 MR. MICELI: Make sure you let me -- for her
5 benefit.

6 THE DEPONENT: Gotcha.

7 Q. (BY MS. SILVERSTEIN) If they're talking
8 about the dose of a person, would that be weight of a
9 chemical unit per body weight?

10 A. No, not necessarily.

11 Q. And why not?

12 A. That unit of measurement is specific to risk
13 assessment and the risk assessment process.

14 Q. I'm handing you Exhibit 4.

15 (Deposition Exhibit 4 was marked.)

16 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, I've
17 handed you Exhibit 4, which is the Reference Guide on
18 Exposure Science by Joseph V. Rodricks.

19 Have you ever seen this document before?

20 MR. MICELI: Object to the form, foundation.

21 A. No, not recently, certainly.

22 Q. (BY MS. SILVERSTEIN) You said not recently.
23 Have you seen it at some point?

24 MR. MICELI: Object to the form, foundation.

25 A. I may have but I don't recall.

1 Q. (BY MS. SILVERSTEIN) Okay. Were you aware
2 that there is a judicial reference guide on exposure
3 science?

4 A. Not specifically, no.

5 Q. Can you turn to page 525.

6 MR. MICELI: Did you say 525?

7 MS. SILVERSTEIN: Yes.

8 Q. (BY MS. SILVERSTEIN) Are you on page 525?

9 A. Yes.

10 Q. The last not really full paragraph but
11 paragraph-ish section that begins, "For a number of
12 reasons."

13 Do you see that?

14 A. Yes.

15 Q. It says, "For a number of reasons,
16 toxicologists express dose as weight of chemical per
17 unit of body weight," right?

18 A. It says that, yes.

19 Q. But you disagree with that statement?

20 MR. MICELI: Object to the form.

21 A. I would just say it depends on the context.

22 Q. (BY MS. SILVERSTEIN) What do you mean by "it
23 depends on the context"?

24 A. So a toxicologist, depending on what their --
25 what their expected outcome or what their experiment

1 was may represent dose as total mass. They may
2 represent dose per body weight. If you're talking
3 about an animal toxicology study, they may talk about
4 dose as the administered dose, absorbed dose. There's
5 a lot of different dose measurements. So it depends on
6 what unit you're trying to compare to, and that would
7 dictate what unit you would want your measurement in in
8 the end.

9 Q. You'd agree that using the unit of total mass
10 doesn't account for an individual's body weight, right?

11 A. A unit of total mass alone would not account
12 for body weight.

13 Q. Right. You'd have to do something to account
14 for the body mass of the subject being studied, right?

15 MR. MICELI: Object to the form and
16 foundation.

17 A. If you wanted to have your dose in units of
18 body weight, you would have to utilize body weight in
19 the equation, yes.

20 Q. (BY MS. SILVERSTEIN) And you'd agree that
21 when determining how much of a substance someone is
22 exposed to, how the substance is metabolized makes a
23 difference, right?

24 MR. MICELI: Object to the form, foundation.

25 A. That may depend on the contaminant and its

1 mechanistic function in the body whether metabolism is
2 a driver of risk.

3 Q. (BY MS. SILVERSTEIN) Did you look into the
4 mechanistic characteristics of TCE, PCE, vinyl
5 chloride, or benzene?

6 MR. MICELI: Object to the form, foundation.

7 A. No.

8 Q. (BY MS. SILVERSTEIN) So you don't know if
9 those chemicals are metabolized by someone exposed to
10 those contaminants, right?

11 MR. MICELI: Object to the form.

12 A. Correct.

13 Q. (BY MS. SILVERSTEIN) So when determining
14 what units to use in your report, you didn't take into
15 account whether or not these substances were
16 metabolized, did you?

17 MR. MICELI: Object to the form.

18 A. No.

19 Q. (BY MS. SILVERSTEIN) Would you agree that
20 choosing the proper units to express concentration of
21 chemicals, then, is important to defi- -- to precisely
22 define exposure?

23 MR. MICELI: Object to the form, foundation.

24 A. Not in and of itself. I mean, exposure can
25 mean a number of different things and utilizing body

1 weight is a specific measure for regulatory risk
2 assessment that's common.

3 Q. (BY MS. SILVERSTEIN) So I think my question
4 was a little different. Would you agree that choosing
5 the right units to express exposure in is important to
6 representing your work?

7 MR. MICELI: Object to the form, foundation.

8 A. Well, you need to choose the right units or
9 you can't compare across -- you know, you have to have
10 the same units to compare the same values.

11 Q. (BY MS. SILVERSTEIN) You'd agree that
12 expressing chemical concentrations as the weight of
13 chemical per unit weight or volume of media makes
14 conversion to the dose equivalent usually expressed in
15 terms of weight of chemical per unit of body weight
16 more convenient, right?

17 MR. MICELI: Object to the form, foundation.

18 A. Only if you're doing regulatory risk
19 assessment. That measurement -- that unit measurement
20 is specific to regulatory risk assessment.

21 Q. (BY MS. SILVERSTEIN) You keep saying if
22 you're doing regulatory risk assessment. But you'd
23 agree that to determine what a specific person's actual
24 bodily exposure to a substance is, it's important to
25 understand the age of the person, the size of the

1 person, and -- so that you can understand how that
2 concentration affects an individual, right?

3 MR. MICELI: Object to the form, foundation.

4 A. I would not agree with that.

5 Q. (BY MS. SILVERSTEIN) Maybe I'll ask it a
6 little differently. You'd agree that, you know, a
7 six-year-old drinking a beer -- the beer's going to
8 have a different effect on that six-year-old than if
9 it's a 50-year-old 200-pound man, right?

10 A. Generally, yes.

11 Q. Okay. And that it wouldn't make sense to say
12 both of them consumed one beer; therefore, they have
13 the same exposure to alcohol, right?

14 A. Correct.

15 MR. MICELI: Object to the form.

16 Q. (BY MS. SILVERSTEIN) Instead, when
17 determining what each of those two individual's
18 exposure is, you'd want to know how much they weigh,
19 right?

20 MR. MICELI: Object to the form.

21 A. That is one factor that could be important,
22 but it depends on the contaminant. It depends on,
23 again, the mechanism of action. But in general, that
24 would be the case.

25 Q. (BY MS. SILVERSTEIN) In general, you'd want

1 to know the weight of the person you're determining
2 exposure for something like alcohol, right?

3 MR. MICELI: Excuse me. Object to the form.

4 A. That's one factor that could be important,
5 but it would be very contaminant specific.

6 Q. (BY MS. SILVERSTEIN) Right. And you didn't
7 look into whether to determine what someone's exposure
8 to TCE is, whether body weight is important, right?

9 MR. MICELI: Object to the form.

10 A. My role was to calculate exposure and think
11 of it in terms of the epi studies and units of epi
12 studies.

13 Q. (BY MS. SILVERSTEIN) Okay. Dr. Reynolds,
14 you said earlier you're not an epidemiologist, right?

15 A. Correct.

16 Q. But are you aware that epi studies apply to
17 populations?

18 A. Usually epi studies are a subset of a
19 population, and then the results are sometimes
20 generalized to a population that has similar exposures
21 and similar characteristics. So I think the short
22 answer would be no, depending on context.

23 Q. I guess, maybe put differently, you're aware
24 that an epi study isn't researching -- an epi study
25 isn't looking at a specific individual's level of risk

1 based on exposure, right?

2 MR. MICELI: Object to the form.

3 A. Normally, you have a cohort of individuals in
4 epi studies.

5 Q. (BY MS. SILVERSTEIN) So there would be
6 multiple individuals?

7 A. Correct.

8 Q. And epi study results are determined based on
9 that cohort of multiple individuals, right?

10 A. Typically, yes.

11 Q. What chemicals are you aware of where body
12 weight doesn't matter for determining an individual's
13 exposure?

14 MR. MICELI: Object to the form.

15 A. I think that's a better question for the
16 toxicologist.

17 Q. (BY MS. SILVERSTEIN) Okay. So as an
18 exposure assessor, you're not aware of any chemicals
19 where you know you wouldn't want to account for
20 someone's weight in your determination?

21 MR. MICELI: Object to the form, foundation.

22 A. For regulatory risk assessment, I would
23 consider body weight because that's what the comparison
24 value is in. So I would look at it as a risk assessor
25 in those type of units. But that's not always true in

1 terms of exposure science, what would be important.

2 Q. (BY MS. SILVERSTEIN) Okay. So for exposure
3 science, what chemicals does body weight not matter for
4 determining an individual's exposure?

5 A. I don't have the full, you know, scope of
6 every chemical in memory right now, but there could be,
7 and I think that is a better question for the
8 toxicologist, but there could be mechanistic impacts of
9 certain chemicals that would be -- where body weight
10 may not be important.

11 Q. But sitting here today, you can't identify
12 any chemicals where body weight isn't important for
13 exposure assessment?

14 MR. MICELI: Object to the form, foundation.

15 A. No, not specifically.

16 Q. (BY MS. SILVERSTEIN) Okay. Thank you.

17 Dr. Reynolds, have you ever done an exposure
18 assessment for specific individuals before?

19 A. No, I don't think so. Generally, you're
20 looking at -- well, no, I take that back. I have
21 done -- you know, I've looked at specific individual
22 characteristics in terms of exposure variables that
23 might drive their risk, like how much water consumed.
24 And so you survey individuals, but oftentimes we're
25 looking at that as, you know, more generalizable to a

1 population, too, that had similar exposure
2 characteristics.

3 Q. Have you done an exposure assessment for TCE
4 before?

5 A. I have but not for the public arena. I teach
6 a course in quantitative risk assessment. So TCE in
7 the past has been part of our case studies, and it may
8 have been a student project in the past. There's been
9 many student projects, and they pick a contaminant, and
10 TCE may have been one.

11 Q. So when you say "TCE may have been one," do
12 you recall specifically whether TCE was one of the
13 contaminants?

14 A. Not specifically, no.

15 Q. Have you ever done an exposure assessment for
16 PCE before for specific individuals?

17 A. So if you're saying exposure assessment, then
18 potentially because exposure assessment would be
19 looking at ingestion rates and duration. So I'd say
20 generally that's a foundational step in risk
21 characterization. So I have likely done exposure
22 assessments for -- that would be applied to a wide
23 variety of chemicals likely including TCE and PCE, but
24 the exposure assessment part can occur independent of
25 what the actual contaminant is.

1 Q. When you say the exposure is independent of
2 that, do you mean determining how much of a media like
3 water or air someone is consuming?

4 A. Right. The portion of exposure assessment
5 where you're evaluating how much they drank and at what
6 frequency, and what their behaviors were that drove
7 that exposure.

8 Q. And in those instances, you wouldn't be
9 calculating how much PCE the individual or population
10 is specifically exposed to, right?

11 MR. MICELI: Object to the form.

12 A. Only when you're calculating dose would you
13 bring into the equation the concentration of the
14 contaminant itself.

15 MR. MICELI: Are we done with 4?

16 MS. SILVERSTEIN: Yeah, we can go ahead and
17 set 4 aside for now.

18 Q. (BY MS. SILVERSTEIN) And I am handing you
19 Exhibit 5. Thank you.

20 (Deposition Exhibit 5 was marked.)

21 MR. MICELI: Thank you.

22 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, you were
23 just handed Exhibit, 5 which is the calculations that
24 were provided to us for your -- the appendices to your
25 tables, appendices -- Appendices 1-25 for each

1 plaintiff.

2 Have you seen this before?

3 A. Yes.

4 Q. And does this appear to be a fair and
5 accurate copy of the calculations that you relied on?

6 A. It appears to be, yes.

7 Q. You'd agree that these calculations do not
8 include an adjustment for a plaintiff's weight, right?

9 A. They do not.

10 Q. You'd also agree that you did not calculate
11 DCE exposure for any plaintiff, right?

12 A. That's correct.

13 Q. You didn't consider any plaintiff's
14 inhalation exposure, right?

15 A. That's correct.

16 Q. And you didn't consider any plaintiff's
17 dermal exposure, right?

18 A. That's correct.

19 Q. And you didn't compare the plaintiff's
20 exposure to the VOCs from Camp Lejeune to exposure to
21 VOCs from any other source, right?

22 A. That's correct.

23 Q. And would it be fair to say that someone
24 should be able to re-create the values in the charts in
25 your appendices based on these calculations?

1 A. Yes.

2 Q. Did you -- did you prepare this document of
3 calculations yourself?

4 A. I did, yes.

5 Q. When you were doing the calculations for your
6 appendices, how did you do the calculations? By that I
7 mean, did you do them on, like, notebook paper, in a
8 spreadsheet, mental math or in some other way?

9 A. I used an Excel spreadsheet.

10 Q. And in the Excel spreadsheet, you'd adjust
11 the parameters that you use for each calculation,
12 right?

13 A. Correct, yes.

14 Q. Have you preserved that Excel spreadsheet?

15 A. I have, yes.

16 Q. And would you agree that based on -- in order
17 to generate the numbers in your appendices, you took
18 them directly from your Excel spreadsheets?

19 MR. MICELI: Object to the form.

20 A. That's correct.

21 Q. (BY MS. SILVERSTEIN) You can go ahead and
22 set that aside for now.

23 (Deposition Exhibit 6 was marked.)

24 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, you were
25 just handed Exhibit 6.

1 MR. MICELI: Exhibit 5, I think, isn't it.

2 MS. SILVERSTEIN: No. Exhibit 5 is the
3 calculations.

4 MR. MICELI: Okay. Sorry. You're correct.

5 MS. SILVERSTEIN: I think.

6 MR. MICELI: You're right. Navy on
7 scientific evidence is 4.

8 MS. SILVERSTEIN: A lot of documents moving
9 back and forth.

10 MR. MICELI: Yep.

11 Q. (BY MS. SILVERSTEIN) You were just handed
12 Exhibit 6, which is Chapter 6 of the ATSDR 2007
13 document on benzene. Have you reviewed ATSDR's 2007
14 benzene monograph?

15 A. Is that on my list of -- do you have that on
16 my list of reviewed documents?

17 Q. It's not -- I'm asking if you've ever
18 reviewed that document.

19 It's the ATSDR toxicology profile.

20 MR. MICELI: Excuse me.

21 A. No, I haven't reviewed this document.

22 Q. (BY MS. SILVERSTEIN) And when you say you
23 haven't reviewed this document, just to clarify, does
24 that mean you've never, over the course of your career,
25 you don't recall ever reviewing the ATSDR tox profile

1 for benzene?

2 A. I can't be certain about that. It's possible
3 that I reviewed it over the course of my career; that
4 it's come up in projects with my students in class.
5 But as I sit here right now, I don't recall reviewing
6 this, and I did not review it for this case.

7 MR. MICELI: Kailey, for the purpose of this
8 deposition, I'll take your representation that this is
9 the benzene tox profile.

10 MS. SILVERSTEIN: It is the ATSDR 2007 tox
11 profile for benzene.

12 MR. MICELI: Okay. But for the benefit of
13 the record, it's Section 6, beginning with 6.1 overview
14 and it says, "Benzene potential for human exposure."
15 But it's your representation this is a part of the
16 benzene tox profile?

17 MS. SILVERSTEIN: Correct. This is Chapter
18 6.

19 MR. MICELI: Okay. Thank you, I just want to
20 make sure we're clear.

21 Q. (BY MS. SILVERSTEIN) Can you go ahead and
22 turn to page 272. Are you on page 272?

23 A. Yes, I am.

24 Q. It's Table 6-3, Benzene in Food.

25 A. Yes.

1 Q. Okay. Table 6-3 shows concentration minimum
2 to maximum in parts per billion identified in various
3 food sources, right?

4 A. Yes.

5 Q. And you'd agree that Table 6-3 shows that
6 there were up to 132 parts per billion of benzene in
7 raw bananas, right?

8 MR. MICELI: Object to the form -- I see.

9 A. Number of cases found. I mean, that's what
10 this table is showing. I don't really know the context
11 of this study, but it's showing that in raw bananas in
12 14 cases found there was a range of 11 to 132 parts per
13 billion in that food source.

14 Q. (BY MS. SILVERSTEIN) And it shows that in at
15 least one sample of Cola, there were up to 138 parts
16 per billion of benzene, correct?

17 A. I'm sorry, one sample of -- what did you say?
18 Cola?

19 Q. Cola.

20 A. Where do I -- where do you see that? I see.
21 "Cola carbonated in number of cases found" -- so this
22 appears to say -- I don't have the context in full, but
23 it appears to say in 3 of 14 samples of Cola that --
24 I'll draw straight across. It looks like, yeah, the
25 max -- minimum to maximum parts per billion ranges from

1 1 to 138 of benzene in three Cola samples.

2 Q. You'd agree that the up to 132 parts per
3 billion of benzene in bananas is equivalent to
4 132 micrograms per liter, right?

5 A. Yes.

6 Q. And the 138 parts per billion for Cola is
7 equivalent to 138 micrograms per liter, right?

8 A. That's correct.

9 Q. Okay. You can set that aside for now.
10 (Deposition Exhibit 7 was marked.)

11 Q. (BY MS. SILVERSTEIN) I'm handing you
12 Exhibit 7.

13 MR. MICELI: Thank you.

14 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, you were
15 handed Exhibit 7, which is the corrected Appendix 3 for
16 Terry F. Dyer, a bladder cancer patient, correct?

17 A. Correct.

18 Q. And this is a corrected appendix that you
19 prepared for Ms. Dyer, right?

20 A. That's correct, yes.

21 Q. And does this appear to be a fair and
22 accurate copy of that corrected appendix?

23 A. It appears to be, yes. The font's very
24 small. I can't read it.

25 Q. I'll represent that that is how it was

1 produced to us.

2 You modeled Ms. Dyer as on base for up to
3 5,280 days; is that right?

4 A. Can you point to where that value is in this
5 spreadsheet?

6 Q. If you go to the third page of the document,
7 the --

8 MR. MICELI: Third page of the text. That
9 one.

10 MS. SILVERSTEIN: The third piece of paper.

11 A. Yes, so it appears the total days is 5,000 --
12 it appears it's 5,232.

13 MR. MICELI: Kailey, I'm sorry, I just want
14 to make sure that I'm singing out of the same hymnal.
15 You said the third page?

16 MS. SILVERSTEIN: Yeah, so one page, two page
17 and then the front of page 3.

18 MR. MICELI: Okay. Thank you.

19 Q. (BY MS. SILVERSTEIN) And, Dr. Reynolds,
20 you'd agree that the fourth column over, that bottom
21 number in the top chart on that page says 5,280, right?

22 A. It appears to say that, but I can't
23 completely read it.

24 Q. Sure. And if you look on the first page of
25 the chart, you'd agree that the fourth column

1 represents the total number of days that you estimated
2 Ms. Dyer was exposed to water at Hadnot Point, right?

3 The fourth column says, "Total days HP."
4 Do you see that?

5 A. Truly, my glasses are not strong enough to
6 read it. But if it says, "Total HP," then that would
7 indicate that column is total days at Hadnot Point.

8 Q. And I'll represent that this is an unaltered
9 version of the corrected Appendix 3 as it was provided
10 to us, font sizing and all.

11 If Ms. Dyer ate one banana per day for the
12 days that she -- you modeled her on base, so
13 5,280 days, that would be equivalent to
14 19,400,040 micrograms per liter of exposure to benzene,
15 right?

16 MR. MICELI: Object to the form.

17 A. Well, not necessarily because it depends on
18 if the bananas sourced from whatever she was eating had
19 contaminants in them. It's not a given that every
20 banana has the highest level of benzene that was
21 monitored in another study. So it depends on context.

22 Q. (BY MS. SILVERSTEIN) Sure. But assuming --
23 I'm sorry, go ahead and finish.

24 A. I would say it depends on the context, yeah.

25 Q. Okay. So assuming that's Ms. -- Ms. Dyer ate

1 one banana that had the amount of benzene in the ATSDR
2 2007 tox profile for benzene of 132 parts per billion
3 or 132 micrograms per liter, that would mean that she
4 consumed the equivalent -- or was exposed to the
5 equivalent of 19,400 -- 19 million, excuse me,
6 400,040 micrograms per liter of benzene, right?

7 MR. MICELI: Object to the form.

8 A. To know if that's the exact number, I would
9 have to calculate it. But what you would do is
10 calculate the dose in the bananas -- or concentration
11 in the bananas times the number of bananas eaten per
12 day times the number of days, and then you would get
13 total concentration in bananas.

14 Q. (BY MS. SILVERSTEIN) Well, you get the total
15 of concentration in benzene based on the bananas,
16 right?

17 A. Yeah, sorry. Total benzene concentration in
18 bananas.

19 Q. And just to make that calculation a little
20 more concrete, it would be the 132 parts per billion
21 that ATSDR observed in the bananas, times the
22 5,280 days that you modeled Ms. Dyer as exposed on base
23 times one banana per day, right?

24 MR. MICELI: Object to the form.

25 A. Correct.

1 Q. (BY MS. SILVERSTEIN) And understanding that
2 you haven't done the calculation yourself, I'll
3 represent that that comes out to 19,400,040 parts per
4 billion or micrograms per liter of exposure to benzene.
5 Does that make sense?

6 MR. MICELI: Object.

7 Q. (BY MS. SILVERSTEIN) If I represent that to
8 you -- do you understand I'm representing that number?

9 MR. MICELI: Object to the form.

10 A. I understand you're saying what that number
11 that -- that's what the number is.

12 Q. (BY MS. SILVERSTEIN) Okay. In your opinion,
13 should we be -- should someone be concerned to that
14 amount of exposure from benzene?

15 MR. MICELI: Object to the form, foundation.

16 A. I would look at what the MCLs were for
17 benzene and make a decision about whether or not that
18 exposure would trigger a risk management decision or
19 the need for further study. But in terms of whether
20 it's a concern, there's a lot of factors that go into,
21 you know, what the risk would be for that individual.
22 But if you compare it to a standard that -- that is
23 already set based on risk assessment, then that would
24 trigger concern if it was above acceptable levels of
25 risk.

1 Q. (BY MS. SILVERSTEIN) You said a lot of
2 factors go into whether that's a concern for a specific
3 individual. What are those factors?

4 A. I mean, if you look at -- I mean, the factor
5 would be comparing it to dose response curves, epi
6 studies -- you know, primarily epi studies showing at
7 what level of exposure triggers measurable health
8 effects.

9 Q. All right. And so then none of those factors
10 that go into whether the amount of exposure could be
11 concerning for an individual depend on the
12 characteristics of the individual. Is that fair?

13 MR. MICELI: Object to the form.

14 A. No. Certainly the individual characteristics
15 could be important.

16 Q. (BY MS. SILVERSTEIN) What individual
17 characteristics?

18 A. Well, you've already stated that they just --
19 they eat a banana a day. But normally you would look
20 at how many bananas are consumed, but if you're
21 assuming they are eating the bananas regularly, then
22 there might be specific vulnerabilities in your
23 population. You said one a day.

24 So normally in exposure assessment, you're
25 evaluating how many bananas at the high concentration

1 levels. But if -- if we're assuming everybody is
2 eating a banana a day, then the thing that would be
3 important is the vulnerabilities of the specific
4 individual in that population.

5 Q. So if we wanted to -- if you were asked to
6 tell, for example, Ms. Dyer whether or not her eating
7 one of these bananas with 132 micrograms per liter of
8 benzene per day for the duration of her time at Camp
9 Lejeune was something to be concerned about, what
10 characteristics would you look for, individual
11 characteristics would you look for to make your
12 determination?

13 MR. MICELI: Object to the form of the
14 question, foundation.

15 A. Well, I would look at the information and the
16 toxicity of benzene and what levels and epi studies
17 have been shown to cause adverse health effects. And
18 then I would say because benzene is a known carcinogen,
19 that exposure to benzene is automatically a health
20 concern.

21 Q. (BY MS. SILVERSTEIN) If you were asked to
22 tell Ms. Dyer whether a specific health effect that she
23 had was caused by her eating these bananas with
24 132 micrograms per liter of benzene, what information
25 would you need to determine whether it caused

1 Ms. Dyer's specific health effects?

2 MR. MICELI: Object to the form of the
3 question, excuse me, foundation.

4 A. I mean, I think that would be -- that would
5 be in the purview of her medical doctor to really
6 evaluate what her specific characteristics were, that
7 would drive her individual risk, increased risk. But
8 certainly exposure to benzene at any level being a
9 known carcinogen would be a concern from a risk
10 assessor's standpoint.

11 So but in terms of whether or not her health
12 effects are caused by eating those bananas with benzene
13 would be an evaluation from epi studies to show
14 causation and then probably her medical provider to
15 show her individual susceptibility to that.

16 Q. (BY MS. SILVERSTEIN) Would you want to know
17 what size Ms. Dyer was when she was eating the bananas?

18 A. No. That typically isn't a question that's
19 asked in epi studies or, you know, from a physician.
20 You know, that's normally a regulatory risk assessment
21 measurement.

22 Q. So it wouldn't matter to you if Ms. Dyer, you
23 know -- how much other volume of food Ms. Dyer ate
24 then, would it?

25 MR. MICELI: Object --

1 A. How much volume --

2 MR. MICELI: Excuse me, object to the form of
3 the question, foundation.

4 A. It would matter how much volume of food she
5 ate because the contaminants are in the banana. So a
6 higher volume of food could mean a higher volume of
7 bananas.

8 Q. (BY MS. SILVERSTEIN) Sure. I think that was
9 a bad question on my part.

10 A. Okay.

11 Q. Would it matter to you what else Ms. Dyer ate
12 in the day, how many cups of water she drank that, you
13 know, weren't contaminated, how much other food she ate
14 over the course of the day when she ate this -- this
15 one banana?

16 MR. MICELI: Object to the form, foundation.

17 A. I'm sorry, can you repeat that.

18 Q. (BY MS. SILVERSTEIN) Sure. Would it -- you
19 know, would you want to know -- let me -- let me ask
20 this a different way.

21 You'd agree that the amount of a chemical
22 in -- in media, if you have, you know, one microgram
23 per liter of benzene in a glass of water, and then you
24 take that glass of water and dump it into an
25 uncontaminated glass of water, that can dilute the

1 amount of benzene in the glass, right?

2 MR. MICELI: Object to the form of the
3 question.

4 A. If you take a glass of water that has a
5 concentration per volume of contaminant and you dump it
6 into a larger volume of water, you certainly would
7 dilute per unit volume. You would dilute the
8 contaminant.

9 Q. (BY MS. SILVERSTEIN) And similarly, if
10 you're expressing someone's exposure in terms of, you
11 know, micrograms or milligrams per kilogram per day
12 that a person's exposed to, if they drink one glass of
13 water that is contaminated, you'll have, you know, one
14 answer, right?

15 MR. MICELI: Object to the form, foundation.

16 Q. (BY MS. SILVERSTEIN) So I'll put it this
17 way. If -- you'd want to know whether a person, you
18 know, consuming a glass of water with a certain
19 concentration of benzene, if they were also to
20 determine how many milligrams per kilograms per day the
21 person was exposed to, you need to know if they were
22 drinking ten glasses of uncontaminated water, right?

23 MR. MICELI: Object to the form.

24 A. So you would look at -- you would look at
25 what the ingestion rate was of the water source that

1 was contaminated. So if you had been drinking a
2 portion of water that was contaminated from one source
3 and then a portion of water that was not contaminated
4 from another source, then you would do a proportional
5 adjustment so that you're considering their daily
6 reported water intake.

7 You're only considering the proportion that
8 was contaminated in your dose calculation. So you
9 would subtract out the portion of water they drank or
10 not consider the portion of water they drank that was
11 not contaminated.

12 Q. (BY MS. SILVERSTEIN) Right. Because the
13 portion of water that they drank that wasn't
14 contaminated would effectively dilute the amount that
15 they drank that was contaminated, right?

16 MR. MICELI: Object to the form.

17 A. I mean, dilution is a whole other term that
18 doesn't apply in the context that you're stating. So,
19 no, it doesn't dilute it -- um --

20 Q. (BY MS. SILVERSTEIN) Does it make the amount
21 of -- that they consumed in terms of milligram per
22 kilogram per day smaller?

23 MR. MICELI: Excuse me, her last comment was
24 "um," and then you asked another question. I don't
25 know that she was completely -- if she completed her

1 answer. I know at the beginning you set out the ground
2 rules. I would just ask you to give her the same
3 courtesy.

4 MS. SILVERSTEIN: Sure. Yeah.

5 Again, Dr. Reynolds, if I accidentally
6 interrupt you at any point, please let me know so you
7 can finish your answer.

8 And, Dave, I promise to let Dr. Reynolds
9 finish her answer. But I ask that under the deposition
10 protocol, we limit our objections to form and
11 foundation.

12 MR. MICELI: I understand, but there's no way
13 for me to communicate that to you if I don't bring it
14 up to you. And I apologize. I don't mean -- I'm not
15 instructing her. I'm just asking you to abide by the
16 rules that you asked her if they were reasonable this
17 morning.

18 MS. SILVERSTEIN: Sure.

19 And I'll say again, Dr. Reynolds, please, you
20 let me know if I interrupt you since you obviously have
21 the best idea of what your complete answer would be.
22 Fair?

23 THE DEPONENT: Fair.

24 Q. (BY MS. SILVERSTEIN) Okay. It would be fair
25 to say that the amount of water is -- the milligram per

1 kilogram per day is affected by the amount of
2 contaminated and uncontaminated water a person drinks,
3 right?

4 MR. MICELI: Object to the form of the
5 question.

6 A. I mean, it's not affected by it. It's that
7 you wouldn't consider uncontaminated water in your
8 calculation. So it's not that drinking uncontaminated
9 water along with contaminated water -- if one has an
10 effect on the other. It's just in your dose
11 calculation, you do a proportional value of what
12 portion of the water they drink in a day comes from the
13 contaminated source.

14 Q. (BY MS. SILVERSTEIN) You're aware that
15 cigarette smoking causes exposure to benzene, right?

16 A. In general, yes.

17 Q. Have you ever calculated someone's exposure
18 to benzene from smoking cigarettes?

19 A. I don't believe so.

20 Q. Are you aware that several of the plaintiffs
21 involved in the Camp Lejeune litigation and that you
22 did exposure assessments for have smoking histories?

23 A. I was not given any of that information to
24 review about their smoking history, so I'm not
25 specifically aware.

1 Q. Dr. Reynolds, you reviewed the plaintiffs'
2 depositions that were taken in the Camp Lejeune
3 litigation, right?

4 A. I reviewed portions related specifically to
5 training activities and ingestion, things related to
6 exposure assessment.

7 Q. And how did you determine which sections were
8 related to exposure assessment?

9 A. The information was provided to me by the
10 legal team.

11 Q. When you say it was provided to you, what do
12 you mean?

13 MR. MICELI: Do not mention anything you
14 discussed with any attorney working with you.

15 A. So then I don't think I can answer that
16 question.

17 Q. (BY MS. SILVERSTEIN) Were you directed to
18 specific portions of depositions?

19 MR. MICELI: You can answer that, but you
20 cannot discuss what was discussed with you.

21 A. I was directed to specific portions.

22 Q. (BY MS. SILVERSTEIN) Were you -- were you
23 provided the complete depositions?

24 A. Yes, I was provided the complete depositions.

25 Q. And what did you do to make sure that there

1 wasn't relevant information in the portions of the
2 depositions that you did not review?

3 A. I did a search for specific exposure terms in
4 the depositions, specifically related to training
5 activities, ingestion, exposures, anything related to
6 my exposure calculations.

7 Q. What search terms did you use for those
8 targeted searches?

9 A. I used drinking, water, canteens, coffee,
10 Kool-Aid, training, PT. That may not be an exhaustive
11 list, but those are the primary factors.

12 Q. Would it be fair to say that if you weren't
13 directed to a specific section and it didn't show up in
14 your search term, you wouldn't be aware of exposure
15 information in the deposition?

16 MR. MICELI: Object to the form.

17 A. It's fair to say there are sections I did not
18 review, but I believe my search terms and information
19 provided to me were complete.

20 Q. (BY MS. SILVERSTEIN) But you can't tell us
21 what was in those sections you didn't review, right?

22 A. I did not review in detail sections related
23 to anything other than my exposure assessments.

24 Q. And when you say you didn't review in detail,
25 do you mean you skimmed or quickly flipped through, or

1 do you mean you didn't look at the sections at all?

2 A. I skimmed.

3 Q. So if there are plaintiffs who testified in
4 their depositions to a smoking history, that's
5 information that you would have skimmed, right?

6 A. If that information was in their deposition,
7 I likely skimmed over it.

8 Q. Okay. And you didn't consider any exposure
9 that any individual plaintiff had to benzene from
10 cigarettes, did you?

11 A. No.

12 (Deposition Exhibit 8 was marked.)

13 Q. (BY MS. SILVERSTEIN) I'm handing you Exhibit
14 8.

15 Before I get to Exhibit 8, Dr. Reynolds, I
16 have a couple other questions. How would we know what
17 sections of the deposition you considered when
18 preparing your report?

19 A. I have compiled excerpts from the deposition
20 that were relevant to my report.

21 Q. And I know you also prepared some timelines
22 that show the different plaintiffs' time on base. Do
23 you recall those timelines?

24 A. I do, yes.

25 Q. Okay. And so then you recall that you

1 provided your source for the information in the
2 timeline as part of that document, right?

3 A. Yes.

4 Q. Did you review portions of depositions other
5 than those that you cited in your timeline?

6 A. Please repeat that.

7 Q. Sure. As part of the sources that you cited
8 in those timelines, do you recall that you cited some
9 specific pages of depositions?

10 A. Yes.

11 Q. If we looked at those timelines to see what
12 pages you're citing, would that include all of the
13 pages that you considered or only a subset of them?

14 MR. MICELI: Object to the form.

15 A. Can you just ask that again, please.

16 Q. (BY MS. SILVERSTEIN) Yeah, are all of the
17 pages that you considered in the depositions, are those
18 all cited in your timelines?

19 A. Well, I have information of timeline, and
20 then some of that was verified in deposition
21 statements. And some of the information in the
22 timeline is not in the deposition. It came
23 specifically from military documents. So if I'm
24 understanding your question, not all of the timeline
25 information is referenced in the deposition?

1 Q. Okay. Are all of the pages of the
2 depositions that you relied on included in the
3 timelines, or are there pages that you reviewed and
4 relied on that you didn't -- that were not part of the
5 timeline citations?

6 A. Could you ask that again.

7 Q. Yeah, I'll give you an example --

8 A. There's so many nuances to the --

9 Q. -- that might help. I know it's kind of a
10 confusing question. So let's say that in your timeline
11 for Ms. Dyer, you cite pages 2, 17 and 33 of her
12 deposition, hypothetically, not necessarily or
13 specifically.

14 A. Yes.

15 Q. Would that -- you know, the citations to the
16 pages of Ms. Dyer's deposition in the timeline, would
17 that include all of the pages that you relied on from
18 her deposition, or are there pages, for example, say
19 page 87, that you relied on but didn't cite in the
20 deposition?

21 MR. MICELI: Object to the form.

22 A. There are no -- no pages that I relied on
23 that are not listed.

24 Q. (BY MS. SILVERSTEIN) When you say "listed,"
25 do you mean in your materials considered list?

1 A. Well, materials considered list is inclusive
2 of the full deposition --

3 Q. Right.

4 A. -- the way it was stated. But in my -- in my
5 tracking and referencing specific sections of the
6 deposition, there's no information that I included that
7 wasn't tracked or referenced.

8 Q. Okay. And I will come back to that exhibit I
9 just handed you. But I think it might be easier for
10 both of us if I go ahead and hand you Exhibit --

11 MR. MICELI: Nine.

12 (Deposition Exhibit 9 was marked.)

13 MS. SILVERSTEIN: Nine. Thank you.

14 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, I just
15 handed you Exhibit 9, which I'll represent is the
16 timelines that were provided to us for four of the
17 bladder cancer plaintiffs and is marked with Bates
18 stamp beginning PLG-EXPERT_REYNOLDS_0000000001.

19 Did you prepare these timelines?

20 A. This does look like a document from my report
21 or from my prepared timelines.

22 Q. Right. And did you prepare these timelines
23 yourself?

24 A. No. They were prepared in part with legal
25 counsel.

1 Q. Were they prepared with legal counsel before
2 or after you determined what information -- what the
3 relevant time period was?

4 MR. MICELI: Object to the form.

5 Q. (BY MS. SILVERSTEIN) Will it be helpful if I
6 rephrase that?

7 A. Yes, please.

8 Q. So in other words, did you, you know, review
9 the documents that you were provided for Ms. Dyer and
10 form your, you know -- decide and form your opinion as
11 to what dates she was on base and then prepare this
12 with counsel? Or was this document provided to you so
13 that you knew what dates to use?

14 A. It was a bit of an iterative approach, but
15 primarily the dates and -- and references supporting
16 document locations were provided to me, and then I
17 spent time verifying that I agreed with that
18 information and then also searching for additional
19 information to further verify the dates. And as new
20 information became available, sometimes there was an
21 update, which was -- which was presented as an update
22 and corrected spreadsheets.

23 Q. Okay. Did you verify the dates that you
24 intended to use before submitting your report?

25 A. Yes.

1 Q. Okay. And is that with the exception of the
2 corrected appendices that were provided after your
3 report was submitted?

4 A. That's correct, yes.

5 Q. If you go ahead and turn to the page ending
6 in 034 [sic], Terry Dyer.

7 A. Where is that?

8 Q. In the same -- in this timeline. If you turn
9 to the page ending with the Bates stamp 03.

10 A. I see.

11 Q. Do you see that chart for Ms. Dyer?

12 A. Yes.

13 Q. If you look at this chart under the
14 supporting documents, there are deposition citations to
15 Ms. Dyer's deposition at pages 22, 23, 57 and 58.

16 Do you see that?

17 A. I'm not seeing --

18 Q. In the first green --

19 A. I see.

20 Q. In the first green column, there's a
21 reference to Dyer depo, and it has pages 22 and 23. Do
22 you see that?

23 A. Yes, I see that, yes.

24 Q. And then in the white column, it references
25 Dyer depo 57 through 58. Do you see that?

1 A. In the white row, yes.

2 Q. Yeah, thank you.

3 And there are no other Dyer deposition pages
4 listed on this -- in this chart, correct?

5 A. You're saying there's no other Dyer
6 deposition references, but there are in -- in some --
7 above those in some of the other columns.

8 Q. This is the only page that we were provided
9 for Ms. Dyer. Is it your testimony that there should
10 be additional pages or additional rows for Ms. Dyer?

11 A. No. I'm just looking at this chart, and I
12 see multiple references to her deposition in other
13 rows.

14 Q. What rows do you see references to her
15 deposition in?

16 A. Well, in the first row where it says, "Dyer
17 depo 22, 23."

18 Q. Okay.

19 A. And then in the third row, which you
20 mentioned, "Dyer depo." So those are two places.

21 Q. Okay. So there are no other places in this
22 chart that reference Ms. Dyer's deposition, right?

23 A. Correct.

24 Q. Did you review just pages 22, 23, 57, and 58
25 of Ms. Dyer's deposition, or are there other pages in

1 her deposition that you relied on?

2 MR. MICELI: Object to the form.

3 A. There are likely other pages, but I honed in
4 on the specific exposure information as the best
5 available information for my task.

6 Q. (BY MS. SILVERSTEIN) Okay. You can go ahead
7 and set that aside.

8 So you have with you there Exhibit 8. Which
9 is titled Exposures to Benzene and Other Volatile
10 Compounds from Active and Passive Smoking. And the
11 first author listed is Lance Wallace, PhD.

12 Do you see that?

13 A. Yes.

14 Q. And then if you turn to the -- to page 279,
15 which is the last page. Do you see in the bottom
16 left-hand corner it says, "September/October 1987"?

17 A. Yes.

18 Q. Have you ever reviewed this document before?

19 A. I don't recall reviewing this document.

20 Q. Looking at the first page, do you know any of
21 the authors of this article?

22 A. No.

23 Q. In the Abstract, one, two, three, four, five
24 lines down, there's a sentence that starts with
25 "Based."

1 Do you see that?

2 A. Yes.

3 Q. And it says, "Based on direct measurements of
4 benzene in mainstream cigarette smoke, it is calculated
5 that a typical smoker inhales 2 milligrams of benzene
6 daily compared to 0.2 milligrams per day for the
7 nonsmoker."

8 Did I read that correctly?

9 A. You read that correctly.

10 Q. Are you aware that Plaintiff Edward Raymond
11 had a 50-pack year smoking history, including during
12 his time at Camp Lejeune?

13 A. No.

14 Q. Would you agree that a 50-pack year smoking
15 history makes someone, at least, a typical smoker?

16 MR. MICELI: Object to the form.

17 A. I don't know the definition of a typical
18 smoker.

19 Q. (BY MS. SILVERSTEIN) Okay. You'd agree that
20 2 milligrams of benzene is equivalent to 2,000
21 micrograms of benzene?

22 A. Correct.

23 Q. And, you know, if we assumed that Mr. Raymond
24 was what this article describes as a typical smoker,
25 that would mean that he got 2,000 micrograms of benzene

1 exposure every day that he smoked, right?

2 MR. MICELI: Object to the form, foundation.

3 A. I mean, based on the information you've given
4 of his numbers of cigarettes per day, that calculation
5 seems correct, yes.

6 Q. (BY MS. SILVERSTEIN) To figure out what
7 someone's exposure to smoking was -- a typical smoker's
8 exposure to benzene was, you'd want to take that
9 2,000 micrograms of benzene times 365 days in one year
10 to determine their one-year exposure, right?

11 MR. MICELI: Object to the form, foundation.

12 A. You can do that, yes.

13 Q. (BY MS. SILVERSTEIN) And would you agree
14 that 2,000 micrograms per day times 365 days is
15 730,000 micrograms?

16 A. I mean, I haven't done the calculation, but
17 it sounds within the plausible realm.

18 Q. Understanding you haven't done the
19 specific --

20 A. I can't confirm it specifically, yes.

21 Q. Understanding you haven't done the specific
22 calculation, that sounds like it would be in the
23 ballpark, right?

24 A. Yeah. Yeah, yes.

25 Q. Were you aware that Plaintiff Jimmy Laramore

1 had a 30- to 60-pack year smoking history?

2 A. I'm not aware of that, no.

3 Q. Okay. Expos- -- before that, if someone --
4 if you had modeled someone as having about
5 3,500 micrograms of benzene exposure from their time at
6 Camp Lejeune, then that would mean that two days of a
7 typical smoker exposure would be more than their
8 exposure from Camp Lejeune, right?

9 MR. MICELI: Object to the form.

10 A. I'd have to really look at that. I suppose
11 if you define those characteristics of that number,
12 then certainly that could be an exposure source of the
13 benzene. But in risk assessment, we specifically focus
14 on the way it's set up for regulatory risk assessment.
15 It's focusing on single-routes exposure comparing that
16 to acceptable risk limits. And then if there are
17 additional exposures, they could be additive.

18 Q. (BY MS. SILVERSTEIN) You'd agree that if
19 someone was a typical smoker who had 2,000 micrograms
20 of benzene exposure per day, that would mean that in
21 two days, they had 4,000 micrograms --

22 MR. MICELI: Object --

23 Q. (BY MS. SILVERSTEIN) -- of benzene exposure,
24 right?

25 MR. MICELI: Excuse me. Object to the form,

1 foundation.

2 A. I mean, if the source was -- was present,
3 there would be a lot of factors you'd want to consider.
4 It's a completely different mechanism of exposure.
5 It's more inhalation than an ingestion exposure. So in
6 a risk assessment, traditional risk assessment, they
7 would be considered separately.

8 Q. (BY MS. SILVERSTEIN) Sure. I'm just asking
9 about benzene exposure from cigarette smoking.

10 If, you know, this article is correct and for
11 a typical smoker, one day of benzene exposure from
12 smoking is 2,000 micrograms per liter, would you agree
13 that two days of that typical smoker's exposure to
14 benzene from cigarette smoking is 4,000 micrograms of
15 benzene?

16 MR. MICELI: Object to the form.

17 A. I mean, it's not -- I haven't done any
18 evaluations on inhalation exposures here. So what I
19 evaluated for this exposure assessment was strictly
20 ingestion. But I think, you know, you could
21 potentially reference this paper who did those types of
22 evaluations.

23 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, would you
24 agree that 2,000 times 2 is 4,000?

25 A. I do agree with that, yes.

1 Q. And would you agree that 4,000 is more than
2 3,498?

3 A. It is, yes.

4 Q. Okay.

5 MS. SILVERSTEIN: Let's go ahead and take a
6 quick break.

7 MR. MICELI: Okay. It's 11:15. Have you
8 guys thought -- let's go off the record.

9 THE VIDEOGRAPHER: Time is 11:13. We're
10 going off record.

11 (Recess taken from 11:13 a.m. to 11:27 a.m.)

12 THE VIDEOGRAPHER: The time is 11:27 we're
13 back on record.

14 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, did you
15 talk to anybody about the substance of your testimony
16 during the break?

17 A. No.

18 Q. Dr. Reynolds, your calculation for benzene
19 exposure is based entirely on ingestion, right?

20 A. Correct.

21 Q. You'd agree that benzene exposure from
22 cigarette smoke -- from smoking cigarettes is from
23 inhalation, right?

24 A. I feel like there could be other routes from
25 that exposure. It's not my -- my expertise, but

1 inhalation is certainly one primary exposure with
2 smoking.

3 Q. Inhalation would be the primary exposure for
4 benzene from cigarettes, right?

5 A. Yes.

6 Q. You didn't account for any plaintiff's
7 inhalation exposure from any source, right?

8 A. Correct.

9 Q. Would it be fair to say that you have no
10 opinions about any plaintiff's inhalation exposure?

11 A. No, I could have opinions about inhalation
12 exposures.

13 (Deposition Exhibit 10 was marked.)

14 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, I am
15 handing you Exhibit 10.

16 MR. MICELI: And this is the full report?

17 MS. SILVERSTEIN: The full report.

18 MR. MICELI: The full 2-pounds, 3-ounce --

19 MS. SILVERSTEIN: Sorry.

20 MR. MICELI: I will pass it around that way.
21 You get your workout.

22 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, this is
23 your expert report titled Cumulative Exposure Expert
24 Report that you prepared for the Camp Lejeune
25 litigation, right?

1 A. Yes.

2 Q. It's dated February 7, 2025, correct?

3 A. Correct.

4 Q. And that's your signature on the first page?

5 A. Yes.

6 Q. Does this report -- aside from the three
7 corrected appendices, which I recognize are not
8 included in that stack of papers, are there any
9 opinions in this report that you disagree with?

10 A. No.

11 Q. Does this appear to be a fair and accurate
12 copy of your report?

13 A. It appears to be, yes.

14 Q. Does this report contain, aside from the
15 three corrected appendices, does this report contain
16 all of the opinions you intend to offer in this case?

17 A. Yes.

18 Q. Did anyone assist you in writing this report?

19 A. No.

20 Q. If you're called at trial, do you intend to
21 offer any opinions not included in this report or the
22 three corrected appendices?

23 MR. MICELI: Object to the form of the
24 question. You mean on direct?

25 Q. (BY MS. SILVERSTEIN) If called at trial, do

1 you intend to offer any opinions not included in this
2 report or the three corrected appendices?

3 MR. MICELI: Object to the form.

4 A. If there were questions about methodology or
5 exposure assessment, I could imagine they might not be
6 specifically included in this report but would be
7 foundational to my expertise that I could provide an
8 opinion on.

9 Q. (BY MS. SILVERSTEIN) Do you intend to offer
10 any opinions about any of the 25 plaintiffs that are
11 not included in this report or your three corrected
12 appendices?

13 A. No.

14 Q. You did not offer an opinion about whether or
15 not a plaintiff's exposure was substantial, correct?

16 A. Correct.

17 Q. You did not offer an opinion about whether
18 any plaintiff's exposure can cause kidney cancer,
19 bladder cancer, non-Hodgkin's lymphoma, leukemia or
20 Parkinson's disease, correct?

21 A. Correct.

22 Q. You did not offer any opinion about any
23 plaintiff's inhalation exposure, correct?

24 A. Correct.

25 Q. You do not offer any opinion about any

1 plaintiff's dermal exposure, correct?

2 A. Correct.

3 Q. And in your report, you did not analyze how
4 your cumulative consumption calculations compared to
5 any epidemiology study, correct?

6 A. Correct.

7 Q. Can you go ahead and turn to Appendix 1 for
8 Mr. Cagiano. Are you at Appendix 1?

9 A. Yes.

10 Q. And if you go ahead and turn to -- I believe
11 the last page of that sec- -- Appendix 1, there's a
12 chart that says, "Some variable totals."

13 A. Yes, I'm there.

14 Q. You calculated the plaintiffs' consumption in
15 terms of total micrograms, right?

16 A. Correct.

17 Q. You didn't convert the cumulative consumption
18 calculation to micrograms per liter, right?

19 A. Correct.

20 Q. And you didn't convert it to parts per
21 billion, right?

22 A. Correct.

23 Q. To compare your total cumulative consumption
24 values to parts per billion, you need to make sure the
25 units were the same, right?

1 A. Correct.

2 Q. Would you characterize your report as an
3 exposure assessment? Would that be accurate?

4 A. Yes.

5 Q. Would you agree that exposure is defined as
6 the amount of a substance present in the environment
7 that a person or organism comes into contact with?

8 MR. MICELI: Object to the form.

9 A. Yes, in general.

10 Q. (BY MS. SILVERSTEIN) Would you agree that
11 dose is the amount of a substance that's absorbed into
12 the body?

13 MR. MICELI: Object to the form.

14 A. Depends on the type of dose you're talking
15 about. So you can have exposure dose, absorbed dose,
16 excreted dose. There's a lot of different factors
17 related to dose.

18 Q. (BY MS. SILVERSTEIN) Would exposure dose be
19 the amount of a substance that's taken into the body?

20 MR. MICELI: Object to the form.

21 A. In general, yes, but you would want to
22 clarify, you could be -- you could be exposed to a dose
23 via some routes of exposure where it's not taken into
24 the body. But since we're talking about ingestion,
25 then the dose that I calculated was specific to what

1 was ingested.

2 Q. (BY MS. SILVERSTEIN) And the absorbed dose
3 is how much of the substance the person absorbs into
4 their body, right?

5 MR. MICELI: Object to the form.

6 A. Yes.

7 Q. (BY MS. SILVERSTEIN) You agree that the
8 typical -- and to clarify, you didn't calculate
9 absorbed dose --

10 A. No.

11 Q. -- right here, right?

12 A. No, this is ingested dose.

13 Q. And generally speaking, the exposed dose is
14 not equivalent to the absorbed dose, right?

15 A. That's really a question for the
16 toxicologist. It could be contaminant specific.

17 Q. Have you ever calculated the absorbed dose in
18 an exposure assessment?

19 A. Yes.

20 Q. And you said it's chemical specific. Did you
21 look into the difference between exposed dose and
22 absorbed dose for any of the four chemicals that you
23 modeled?

24 A. Not for this assessment, no.

25 Q. Okay. Have you ever looked into the exposed

1 dose versus absorbed dose for TCE, PCE, vinyl chloride
2 or benzene?

3 A. Not that I recall specifically, no.

4 Q. So you can't tell us whether or not the
5 exposed dose that -- the exposed dose is reflective of
6 the absorbed dose, can you?

7 A. It's not something I did as part of my
8 assessment, so I think, again, that's the purview of
9 the toxicologist.

10 Q. And sitting here today, you can't tell us
11 whether the exposed dose and the absorbed dose for TCE,
12 PCE, vinyl chloride or benzene are equivalent, correct?

13 A. Correct.

14 MR. MICELI: Object to the form, foundation.

15 A. Correct.

16 Q. (BY MS. SILVERSTEIN) There's a paradigm in
17 toxicology or exposure assessment that holds that for
18 noncancer adverse effects to occur, a dose must exceed
19 a certain threshold, right?

20 MR. MICELI: Object to the form, foundation.

21 A. Okay. So we're talking about noncancer.
22 Could you just repeat that.

23 Q. (BY MS. SILVERSTEIN) Sure. Would you agree
24 that for non-adverse health effects to occur as a
25 result of a -- an exposure, the dose must exceed a

1 certain threshold?

2 MR. MICELI: Object to the form, foundation.

3 A. If the contaminant has a threshold. So
4 that's -- that would be the first question to ask:
5 Does the contaminant have a threshold? And then you
6 can evaluate if through a regulatory risk perspective,
7 you would estimate health effects within the threshold
8 range.

9 Q. (BY MS. SILVERSTEIN) Would you agree that
10 when a chemical moves from one or more sources through
11 environmental media before becoming present in the
12 media people actually have contact with, determining
13 the concentration of the chemical in the media of
14 exposure can become difficult?

15 MR. MICELI: Object to the form, foundation.

16 A. Yeah, I mean the term "difficult," I don't
17 know how to, sort of, characterize that from a
18 scientific perspective. It's not a quantitative term,
19 where I could evaluate, you know, if somebody would
20 consider something difficult is more of an emotion
21 rather than a, you know, a scientific threshold.

22 Q. (BY MS. SILVERSTEIN) Would you agree that if
23 you know the chemical concentration at one source and
24 then that -- and say it's in water -- and then that
25 water moves through other sources before a person

1 becomes exposed to it, the amount of exposure could be
2 different at the source that the contact is made than
3 it was the original -- the original site?

4 MR. MICELI: Object to the form, foundation.

5 A. I mean, it could be, yeah.

6 Q. (BY MS. SILVERSTEIN) And to determine how
7 much someone is exposed to, you'd want to know what
8 their exposure was at the source that they consumed
9 the -- at the source of the exposure, right?

10 MR. MICELI: Object to the form, foundation.

11 A. It would be ideal to know exactly what was in
12 the concentration that they were drinking at that time,
13 but it's very common to model those -- those exposures.

14 Q. (BY MS. SILVERSTEIN) But to know if you're
15 trying to determine what someone's actual exposure is,
16 you'd want to know what the -- as close to the source
17 of exposure concentration was as possible, right?

18 MR. MICELI: Object to foundation.

19 A. Yeah. So as an exposure scientist, it would
20 be ideal to have information about what they exactly
21 consume. But if -- that information is often not
22 available, so you use the best available information to
23 get to that estimate.

24 Q. (BY MS. SILVERSTEIN) You'd agree that the
25 best available information that you might use to get to

1 that estimate may not be representative of the actual
2 exposure, right?

3 A. I mean, again, we're talking in generalities,
4 so it may or may not be. It may be or it may not be.
5 You know, it's going to be difficult to say.

6 Q. Dr. Reynolds, you relied on the ATSDR's water
7 model to determine the concentration of contaminants
8 that you used to calculate exposure, right?

9 A. Correct.

10 Q. And you relied on those models for both
11 Hadnot Point and Tarawa Terrace, right?

12 A. Correct.

13 Q. Did you do anything to determine whether
14 those modeled concentrations were reliable for
15 calculating a specific plaintiff's exposure?

16 A. Yes.

17 Q. What did you do?

18 A. I verified that they were peer-reviewed
19 research documents, they were published, they were
20 peer reviewed, widely used by other scientists.

21 Q. Have you ever used a model like the ATSDR
22 model for concentrations to determine a specific
23 individual's exposure before?

24 MR. MICELI: Object to the form.

25 A. Not in a specific application like this, but

1 we certainly -- I've been part of teams where that type
2 of modeling has been done before.

3 Q. (BY MS. SILVERSTEIN) You've never done that
4 type of modeling?

5 A. Not personally, no.

6 Q. When, in your report, you talk about the
7 cumulative exposure, is that referring to the -- the
8 total exposure for a particular individual to a
9 particular chemical over time?

10 A. Yes.

11 Q. And the time period that you used to
12 calculate an individual's exposure would be the entire
13 time that they were exposed to contaminated water based
14 on your review of the records, right?

15 A. Correct.

16 Q. What literature did you rely on to support
17 calculating a specific plaintiff's exposure that way?

18 A. So, first, I relied on the modeled
19 contaminant concentrations from ATSDR that were
20 published, and then I relied on deposition statements
21 of behaviors that the plaintiffs -- if they reported,
22 not everyone did -- what their consumption habits were
23 and the types of water-based fluids they would drink.

24 And then I also looked at the field manuals,
25 the military field manuals for suggested planning for

1 water volumes. And then I looked at, also, references
2 from both the EPA and ATSDR, which had some default --
3 we call them default parameters -- that would be used
4 more generally for specific categories of people,
5 whether it be children or Marines in training or
6 civilians.

7 Q. What scientific literature did you rely on
8 when making the decision to represent their exposure as
9 cumulative consumption?

10 A. So cumulative consumption is, kind of, a
11 baseline parameter that could easily be adjusted to
12 other units so -- but I'm relying on there have been
13 some epi studies that have looked at total mass of
14 exposure. Epi studies present the units in a wide
15 variety of ways.

16 So presenting -- doing my exposure assessment
17 and presenting the details of that and showing
18 cumulative exposure is a parameter that can easily be
19 adjusted to match other studies. But I was looking at
20 cumulative exposure to compare to studies where they've
21 looked at total mass exposure.

22 Q. Sitting here today, can you name any or
23 identify any literature that supports the principle
24 that you can represent a specific person's exposure in
25 terms of cumulative consumption?

1 MR. MICELI: Object to the form.

2 A. In the ATSDR report, I probably need to look
3 at the MCL list to see what the actual year was, but it
4 was the assessment of the evidence document. They list
5 a variety of different epi studies and some of those
6 epi studies looked at total mass.

7 Q. (BY MS. SILVERSTEIN) To the best of your
8 recollection, does -- did the ATSDR assessment of the
9 evidence say that an exposure assessment that
10 represents exposure in terms of cumulative consumption
11 was a reliable way to represent exposure?

12 MR. MICELI: Object to the form.

13 A. I would say yes, in that they included in
14 their assessment a list of epi studies that they felt
15 were scientifically validated and reliable.

16 Q. (BY MS. SILVERSTEIN) Okay. So your support
17 for this is that they provided a list of reliable epi
18 studies. Is that fair to say?

19 MR. MICELI: Object to the form.

20 A. And in their assessment, they specifically
21 talked about their criteria for quality studies. So,
22 yes, I'm relying on their assessment, if it was on that
23 list, that it was reliable in their opinion.

24 Q. (BY MS. SILVERSTEIN) Okay. But nowhere in
25 the assessment of the evidence do they say that an

1 exposure assessment for an -- for individuals that's
2 represented in terms of cumulative consumption is
3 reliable; is that right?

4 MR. MICELI: Object to the form.

5 A. I don't think that's correct because they do
6 say these are the -- these are the referenced studies,
7 the epi studies that we say are evidence for the
8 assessment.

9 Q. (BY MS. SILVERSTEIN) You'd agree that the
10 assessment of the evidence isn't looking at specific
11 individual's exposure, right?

12 A. It would be -- if it's epi based, it's
13 probably looking more at a cohort of multiple people.

14 Q. And you're aware that the assessment of the
15 evidence was a regulatory document, right?

16 MR. MICELI: Object to the form.

17 A. I mean, ATSDR is a regulatory agency. So
18 it's, you know, in cooperation with the EPA too. So I
19 mean, I would think anything they produce on some level
20 has some association with the regulatory compliance.
21 But this specific paper was looking at epi studies,
22 which is less about regulatory compliance and more
23 about health causation.

24 Q. (BY MS. SILVERSTEIN) Are you aware that the
25 ATSDR assessment of the evidence was designed to

1 determine VA health benefits?

2 MR. MICELI: Object to the form, foundation.

3 A. Not specifically, but I remember reading
4 something about how the assessment of the evidence was
5 important for that. But I'm not sure at what time
6 point that -- in the references that would occur.

7 Q. (BY MS. SILVERSTEIN) And outside the context
8 of the Camp Lejeune litigation, would you rely on the
9 assessment of the evidence to determine the appropriate
10 units to use when discussing a specific individual's
11 exposure?

12 MR. MICELI: Object to the form.

13 A. It would be important for whatever study you
14 were comparing these plaintiff-specific exposure
15 variables to would be in the same units.

16 Q. (BY MS. SILVERSTEIN) So I want to take out
17 the comparison, right? You didn't do a comparison
18 yourself?

19 A. No.

20 Q. Right?

21 A. No.

22 Q. Were you asked to represent the exposure in
23 terms of cumulative consumption?

24 MR. MICELI: Object to the form. I instruct
25 you not to divulge any conversations you had with

1 counsel.

2 A. So then I don't think I can answer that
3 question.

4 Q. (BY MS. SILVERSTEIN) Did you decide on your
5 own to use the unit of cumulative consumption?

6 A. Yes.

7 Q. Did you consider other units that you might
8 use to represent a plaintiff's exposure?

9 A. Not for an exposure assessment that I knew
10 was going to be used for epi studies. If you were
11 doing a regulatory risk assessment, possibly. But that
12 wasn't what I was assigned to do.

13 Q. When you were asked to do this, did you know
14 that your report was being used to make specific
15 causation determinations about specific individuals?

16 MR. MICELI: Object to the form of the
17 question, foundation.

18 A. I knew my exposure information, exposure
19 assessment information would be given to experts who
20 are experts in epidemiology and toxicology and
21 causation.

22 Q. (BY MS. SILVERSTEIN) And the only literature
23 source that you can identify sitting here today that
24 says that representing a specific individual's exposure
25 as cumulative consumption is reliable, is the ATSDR

1 assessment of the evidence; is that right?

2 MR. MICELI: Object to the form, foundation.

3 A. Of the documents I reviewed for this case,
4 yes.

5 Q. (BY MS. SILVERSTEIN) So I want to -- you
6 know, I'm asking about everything -- any literature
7 source that you're aware of. Are you aware of any
8 other literature source besides, you say the assessment
9 of the evidence, that states that you can -- it's
10 reliable to represent a specific individual's exposure
11 in terms of cumulative consumption?

12 A. Yes, you will see that -- that exercise where
13 you're looking at cumulative exposure.

14 Q. Please identify the specific sources that
15 you're relying on.

16 A. I would have to -- I would have to find those
17 sources, but I've seen it in the literature.

18 Q. But you can't name any sitting here today?

19 A. No. Other than the ones that are in the
20 ATSDR document.

21 Q. And the ones that are in the ATSDR document,
22 those are specific epidemiology studies, right?

23 A. Yes.

24 Q. So I want to go ahead and turn back to
25 Exhibit 5. Go ahead and look at Exhibit 5. Do you

1 have Exhibit 5 in front of you?

2 A. Is it the calculation summary, yes.

3 Q. It is, yes. And we can go ahead and just
4 look at the first page, which is Appendix 1 for
5 Mr. Cagiano.

6 You'd agree that your calculations -- your
7 equation for calculating cumulative consumption uses
8 the unit of micrograms per liter, right?

9 A. Well, the cumulative calculation is total
10 micrograms.

11 Q. Right. So if you look at the equation here
12 under -- for Chart 1 it says, "Total of the chemical in
13 microgram equals the number of exposure days times 1
14 liter per day times the chemical concentration in
15 micrograms per liter," right?

16 A. Correct.

17 Q. And then -- and you'd agree that in order to
18 convert units from micrograms per liter to micrograms,
19 you'd need to -- the units would need to cancel out,
20 right?

21 MR. MICELI: Object to the form.

22 A. Correct.

23 Q. (BY MS. SILVERSTEIN) So in other words, if,
24 you know, a value is 100 micrograms per liter, you
25 couldn't just say 100 micrograms, period, right?

1 A. Right. Right.

2 Q. Would you characterize your exposure
3 assessment that you did for -- for Camp Lejeune, would
4 you characterize that as a conservative assessment or a
5 realistic assessment?

6 A. I would characterize it as both because I
7 looked at a range of plausible values both from the
8 conservative side and on what I call plaintiff-specific
9 developed equations. And then I also looked at more on
10 the upper end, which would be -- well, the conservative
11 on the upper end and then conservative on the lower end
12 depending on how you define conservative. I looked at
13 a range of possibilities from lower plausible exposure
14 to higher and then in between.

15 Q. And when you say you looked at multiple --
16 multiple exposure levels, are you referring to Charts 2
17 and 3 and in some cases the additional charts? But for
18 Mr. Cagiano, Charts 2 and 3?

19 A. Yes, each of these charts had different input
20 variables, some of which were more conservative on the
21 lesser exposure and some are more conservative on the
22 higher end of exposure.

23 Q. So for Chart 2 for Mr. Cagiano, would that be
24 a realistic estimate of his actual exposure, or would
25 that be a low estimate or a high estimate?

1 MR. MICELI: Object to the form, foundation.

2 A. This was intended to be a realistic
3 assessment using information from the ATSDR documents
4 and also EPA exposure factor handbook documents of what
5 a Marine in training's activities might look like and
6 how that influenced different ingestion levels.

7 Q. (BY MS. SILVERSTEIN) For Chart 3, is Chart 3
8 designed to be a realistic estimate or a high estimate
9 or a low estimate?

10 MR. MICELI: Object to the form.

11 A. So it would be for this specific plaintiff,
12 this is considered a higher estimate.

13 Q. (BY MS. SILVERSTEIN) And when you say a
14 higher estimate, do you mean likely to be higher than
15 the exposure that we could actually expect if we
16 measured the -- his actual exposure?

17 MR. MICELI: Object to the form.

18 A. So I disagree with how you characterize that
19 because it's a realistic estimate of what might be
20 occurring in the field with Marines in terms of they
21 have a higher exposure, particularly considering their
22 climate and their activities. And it's just higher
23 than what ATSDR estimated in their estimates. And so
24 it may not be higher for a typical Marine like
25 Mr. Cagiano who has the kinds of behaviors in training

1 activities in the climate where he has it.

2 Q. (BY MS. SILVERSTEIN) So I guess what I'm
3 trying to understand is, is it your opinion that Chart
4 3 for Mr. Cagiano is reflective of what we could expect
5 his actual ingestion and exposure from ingestion to be?

6 MR. MICELI: Object to the form.

7 A. Because this specific plaintiff did not
8 provide information about his consumption behaviors, I
9 had to use default estimates. And so two plausible
10 default estimates are the ATSDR and the field manuals,
11 so that's what I used.

12 Q. (BY MS. SILVERSTEIN) Okay. But for Chart 3,
13 in your opinion, are the field manual estimates, are
14 those in your expert opinion likely to be realistic
15 representations of Mr. Cagiano's consumption or high
16 estimates of Mr. Cagiano's consumption?

17 MR. MICELI: Object to the form, foundation.

18 A. They are plausible, realistic values given
19 information that was available to me about what -- what
20 activities, behaviors and climate characterized this
21 specific site.

22 Q. (BY MS. SILVERSTEIN) Okay. So then if I
23 said that in your opinion, Chart 3 for Mr. Cagiano is a
24 realistic representation of his actual exposure while
25 he was at Camp Lejeune, would that be describing that

1 accurately?

2 MR. MICELI: Object to the form, foundation.

3 A. I think it's plausible that his exposures
4 could have been at that level.

5 Q. (BY MS. SILVERSTEIN) Okay. When you say,
6 "it's plausible," what do you mean?

7 A. I mean, you use the term "realistic," but
8 scientifically we would -- we would lean more towards
9 saying it's plausible because there's -- there's
10 evidence in -- there's information in the documents
11 that I reviewed that said these exposures or these
12 ingestion levels are -- should be planned for. So to
13 me that means it's plausible that somebody's drinking
14 the water at this level.

15 Q. But do you have an opinion as to whether or
16 not Mr. Cagiano was likely drinking water at that
17 level?

18 MR. MICELI: Object to form.

19 A. Given that he was described as a Marine in
20 training and at Camp Lejeune within the temperature
21 ranges that were recommended for this level of exposure
22 and ingestion at this site, yes.

23 Q. (BY MS. SILVERSTEIN) In your opinion, should
24 the intake values in the field manual that you used
25 apply in both the summer and the winter?

1 A. In the context of the field manuals, I would
2 say yes, because that is the lowest value they
3 presented for planning for what would be ingested. So
4 they didn't provide recommended volumes for
5 temperatures less than that. So if they're planning
6 for that level of ingestion, then I think that would be
7 something that's plausible that could be a consumption
8 level throughout the year.

9 Q. When you say "plausible," do you mean that
10 someone could have consumed that much water or do you
11 mean that someone probably likely did consume that much
12 water?

13 MR. MICELI: Object to the form.

14 A. I can't know if they likely did. I can only
15 know what the site characteristics are and what default
16 estimates are and what planning documents tell me. So
17 in my professional opinion, I have to consider if we're
18 planning for this level of consumption year-round that
19 that's a possible level of consumption. Whether or not
20 it's likely is really, you know, in my opinion, it's
21 likely or they wouldn't plan for it.

22 Q. (BY MS. SILVERSTEIN) Go ahead and turn back
23 to your report, which is Exhibit 10. And turn to
24 Appendix 1 for Mr. Cagiano.

25 MR. MICELI: Are we bouncing back to 5 again?

1 MS. SILVERSTEIN: We may be.

2 MR. MICELI: Okay.

3 MS. SILVERSTEIN: I'm sure it will come up
4 again at some point today.

5 Okay. Are you ready with Exhibit 1 or
6 Appendix 1? Excuse me.

7 THE DEPONENT: Yes.

8 Q. (BY MS. SILVERSTEIN) Go ahead and turn to
9 the first chart that you have there. That has -- start
10 with exposure dates. Do you see that?

11 A. Yes.

12 Q. In Appendix 1 you -- for July 1976 for
13 Mr. Cagiano, you modeled one total day of exposure,
14 correct?

15 A. I cannot read this. There's a lot of white
16 space on this page. I think it needs to be blown-up if
17 I need to really comment on specific numbers.

18 MS. SILVERSTEIN: Can we go ahead and go off
19 the record, please.

20 THE VIDEOGRAPHER: Time is 12:02. We're
21 going off record.

22 (Recess taken from 12:02 p.m. to 12:05 p.m.)

23 (The following is written on the stenographic
24 record only:)

25 MS. SILVERSTEIN: Dave, I'm going to go ahead

1 and defer to you on how you want to handle this. This
2 is the report that you provided us, and we can't use an
3 altered exhibit for the deposition.

4 I totally appreciate that it's really small.
5 I have trouble reading it too. But I -- I'm going to
6 defer to you on how you guys want to handle this. We
7 do need to be able to ask about the appendices.

8 MR. MICELI: Sure, I understand.

9 MS. SILVERSTEIN: I need there to not be
10 authenticity issues with the exhibit.

11 MR. MICELI: Yep. We provided these to you
12 in PDF, and at least the PDF system that I use has a
13 little micro- -- or the video -- are we on the record?

14 THE REPORTER: Yes.

15 MR. MICELI: I don't need to be on the video.

16 Because I want to make sure that if you come
17 back and ask the Court for relief, that the Court is
18 familiar with the fact that you showed up to the
19 deposition without an exhibit that you controlled.

20 MS. SILVERSTEIN: We'll go ahead and take a
21 longer break now then. We can blow up the pages that
22 we need.

23 And I'll note for the record that you're not
24 objecting to us altering the exhibit to make it more
25 visible as the copy that you provided to us --

1 MR. MICELI: That's fine.

2 MR. SNIDOW: Of course not.

3 MS. SILVERSTEIN: -- is not legible to --

4 MR. BAIN: Can we put a screen in front of
5 her and just, like, magnify it and all agree that this
6 -- we're talking about the same thing? I mean, this is
7 kind of --

8 MR. MICELI: I would prefer that we make them
9 exhibits.

10 MR. BAIN: Okay.

11 MR. MICELI: But, you know, part of this is
12 controlled by -- we've enlarged other things and we've
13 taken portions of published articles, like tables, and
14 made them standalone exhibits that have been enlarged.
15 Nobody, that I'm aware of, has objected based on the
16 fact that somebody's altering what's in a document. So
17 if you'd like to ask them if they're willing to enlarge
18 these and reprint for you.

19 MS. SILVERSTEIN: Yeah. We're going to need
20 to have a solution for this, because, you know, we --
21 we're relying on the documents as is. I can read them.
22 I totally appreciate they're small and don't blame
23 Dr. Reynolds at all for not being able to read them.
24 They are small. They are legible to us.

25 MR. MICELI: Younger eyes are better. I'll

1 give you that. You don't even wear glasses.

2 MS. SILVERSTEIN: I've got contacts in. I'm
3 blind as a bat.

4 MR. BAIN: We can go to CVS and get a
5 magnifying glass.

6 MR. MICELI: I told you they're going to
7 bring a magnifying glass.

8 MS. ELLISON: So do we want them to have one
9 blown-up version for Dr. Reynolds -- I guess, what's
10 the solution.

11 MR. MICELI: I would ask -- however many you
12 want to blow up, ask them if they can do it.

13 MS. SILVERSTEIN: Okay.

14 MR. MICELI: Do you want to take a break
15 right now?

16 MS. SILVERSTEIN: Yeah, we'll have to take a
17 break and get these blown up, or we'll need -- you
18 know, we're happy to provide Dr. Reynolds with a screen
19 that she can zoom in, but, you know, it's her report
20 so...

21 MR. MICELI: We're going to have to have them
22 for the Court, so I would prefer that they -- they be
23 exhibits to the deposition.

24 MS. SILVERSTEIN: Okay.

25 MR. MICELI: Because I'm guessing, I'm not

1 going to say for certain, but I'm guessing you're going
2 to file a motion at some point where some of these
3 exhibits may be exhibits to a file.

4 MS. ELLISON: Do we want to take an extended
5 lunch then, or do we want to take two separate breaks?

6 MR. MICELI: You tell me. I'll do whatever.

7 MS. SILVERSTEIN: Let's go ahead and take a
8 longer break now.

9 MR. MICELI: Okay. All right. What time do
10 you want us to come back?

11 MS. ELLISON: It's 12:06.

12 MS. SILVERSTEIN: Let's go with one o'clock.

13 MR. MICELI: Until one o'clock.

14 MS. SILVERSTEIN: Yep.

15 MR. MICELI: Will that give you guys enough
16 time to grab something?

17 MR. BAIN: Let's say 1:15 maybe.

18 MR. MICELI: Okay. 1:15, I want to be fair
19 to you guys and give you time. Okay.

20 (Recess taken from 12:08 p.m. to 1:17 p.m.)

21 THE VIDEOGRAPHER: The time is 1:17. We're
22 back on record.

23 Q. (BY MS. SILVERSTEIN) Hi, again,
24 Dr. Reynolds.

25 A. Hello.

1 Q. Did you talk to anybody about the substance
2 of your testimony during the lunch break?

3 A. No.

4 Q. Hopefully you were able to find some lunch
5 around here?

6 A. Sorry? Oh, yes, yes, we did, thank you.

7 Q. Great. When you were modeling a specific
8 individual's exposure, there were some months that you
9 considered part of or a subset of the month but not the
10 entire month; is that right?

11 A. That's correct.

12 Q. And the contaminant concentration that you
13 used for that subset of the month is based on the ATSDR
14 water modeling, right?

15 A. Correct.

16 Q. And to determine what the concentration that
17 an individual is exposed to on, you know, for the one
18 week, say, that they were on base, you used the mean
19 monthly concentration from ATSDR; is that right?

20 A. Correct.

21 Q. And you assumed that that mean monthly
22 concentration was representative of each day that the
23 person was on base; is that right?

24 A. It's an average representation for each day,
25 yes.

1 Q. And you assumed that that was the average
2 representation for the, say, seven days that a person
3 was on base if they weren't there the whole month.
4 Would that be fair?

5 MR. MICELI: Object to the form of the
6 question.

7 A. I assumed -- so when the concentrations were
8 given by month, I assumed that that was the average
9 concentration for that entire month.

10 Q. (BY MS. SILVERSTEIN) And then to determine,
11 let's say if it's, you know, August, 1976 and you
12 modeled an individual as on base for 15 days that
13 month. You assumed that that mean monthly
14 concentration -- you used that to represent each of
15 those 15 days they were on base, right?

16 A. Correct.

17 Q. And you did that throughout the appendices
18 whenever a plaintiff was on base for just a part of a
19 month; is that right?

20 A. Correct, yes.

21 (Deposition Exhibit 11 was marked.)

22 Q. (BY MS. SILVERSTEIN) I am handing you
23 Exhibit 11, I think.

24 THE REPORTER: Yes.

25 MS. SILVERSTEIN: Perfect, thank you.

1 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, you were
2 just handed Exhibit 11, which is titled Analyses and
3 Historical Reconstruction of Groundwater Flow,
4 Contaminant Fate and Transport, and Distribution of
5 Drinking Water Within the Service Areas of the Hadnot
6 Point and Holcomb Boulevard Water Treatment Plants and
7 Vicinities, U.S. Marine Corps Base Camp Lejeune, North
8 Carolina, Chapter A: Summary of Findings.

9 Do you see that?

10 A. I do, yes.

11 Q. And do you see the Bates number at the bottom
12 right-hand side corner on the first page, which is
13 CLJA_WATERMODELING_01-0000942579?

14 A. Yes, I see that.

15 Q. And this chapter includes the appendix of
16 water modeling concentration values that you used for
17 Hadnot Point exposure in your reports, correct?

18 A. Correct.

19 Q. Did you read the entire chapter?

20 A. Yes.

21 Q. Can you go ahead and turn to page A181.

22 MR. MICELI: A181?

23 MS. SILVERSTEIN: Yeah.

24 Q. (BY MS. SILVERSTEIN) It's way towards the
25 back.

1 MR. MICELI: Thank you for that.

2 Q. (BY MS. SILVERSTEIN) And it's the Bates
3 number ending in 783 if that's helpful.

4 A. Yes.

5 Q. Are you on page 181?

6 A. I am, yes.

7 Q. Okay. Perfect.

8 The second question on page A181 is, "Can
9 ATSDR water modeling results be used to determine the
10 concentration of VOCs that my family and I were exposed
11 to on a daily basis?"

12 Did I read that correctly?

13 A. Yes.

14 Q. And the response begins, "No. The available
15 data are not specific enough to accurately estimate
16 daily levels of VOCs; (PCE, TCE, 1,2 Trans DCE, VCE and
17 benzene) in the Hadnot Point-Holcomb Boulevard study
18 area."

19 Did I read that correctly?

20 A. Yes.

21 Q. When you're modeling a part or subset of a
22 month, you don't know if the mean concentration you're
23 using is representative of those specific days, right?

24 A. It is. So it's a representation of obviously
25 the average of the values that were estimated. So I

1 think it's well communicated that it is an average and
2 an average by definition has a higher and lower
3 standard deviation associated with it.

4 Q. So if you're modeling 15 days of a month, you
5 don't know if the mean monthly concentration -- if that
6 concentration was present on each of those specific
7 days. Is that fair?

8 A. I only know what the mean is.

9 Q. And the mean is for the whole month, right?

10 A. Yes.

11 Q. And the mean for, you know, 15 days of the
12 month could be different than the mean of 30 days of
13 the month, right?

14 A. Possibly, yes. It could be.

15 Q. So if you modeled five days from a specific
16 month, the concentration on those specific days could
17 be lower than the mean monthly concentration, right?

18 MR. MICELI: Object to the form of the
19 question.

20 A. It could be lower or higher because by
21 definition the mean has a standard deviation that's
22 higher or lower, so we don't know exactly what the
23 concentration was on any particular day. But if you
24 look at the totality of the month and the numbers that
25 were put into it, there's a mean and a higher/lower

1 standard deviation around the mean.

2 Q. (BY MS. SILVERSTEIN) But as you said, that
3 mean could change depending on whether you use the full
4 30 days, certain 15 days or 4 days, right?

5 A. It's possible, yes. The standard deviation
6 can give you some guidance on how much the variance is
7 around the mean.

8 Q. You don't account for the uncertainty in the
9 daily levels of your exposure, do you?

10 MR. MICELI: Object to the form, foundation.

11 A. No. I used the mean values that the ATSDR
12 published.

13 Q. (BY MS. SILVERSTEIN) You used the mean
14 monthly values to estimate the daily value, right?

15 A. Correct, yes.

16 Q. Even though ATSDR has said that they don't
17 have enough detail to determine daily exposure, right?

18 MR. MICELI: Object to the form.

19 A. I don't think that's what this is saying. So
20 I don't know that ATR -- ATSDR says that specifically
21 because this is saying the actual level that a person
22 may have been exposed to could have been lower or
23 higher than the estimated average. So that could be
24 driven by the range of standard deviation around the
25 average, or it could be driven by that person's

1 behaviors.

2 Q. (BY MS. SILVERSTEIN) It also says the
3 available data are not specific enough to accurately
4 estimate daily levels of VOCs, correct?

5 MR. MICELI: Object to the form.

6 A. Can you just read that again, please, say
7 that again, please.

8 Q. (BY MS. SILVERSTEIN) It says, "The available
9 data are not specific enough to accurately estimate
10 daily levels of VOCs at the Hadnot Point/Holcomb
11 Boulevard study area," correct?

12 MR. MICELI: Same objection.

13 A. Again, that could be because the question was
14 about are these results specific to my family? And
15 they're saying the results are not specific enough
16 towards your family. I mean, in the context of the
17 question, I read this as being more about my family and
18 my specific family's habits.

19 Q. (BY MS. SILVERSTEIN) You'd agree that you
20 modeled a specific individual's daily exposure, right?

21 A. Yes.

22 Q. And is it your opinion that the monthly mean
23 concentration is reliable to measure a specific
24 individual's daily exposure?

25 A. Yes.

1 Q. And what is that based on?

2 A. Based on that being the best available
3 information. If you were to take a more conservative
4 approach, you would estimate the high end, which is
5 pretty standard in risk assessment to look at the
6 higher end, more conservative in terms of -- defining
7 more conservative as being in leaning towards higher
8 exposures. So it's not uncommon to not use means but
9 to use 95th confidential level, which would be even
10 higher estimates. But we use the mean estimates, which
11 are more conservative towards less exposure.

12 Q. Are you aware that ATSDR water modelers have
13 said that their results are biased high?

14 MR. MICELI: Object to the form, foundation.

15 A. I'm not aware of that.

16 Q. (BY MS. SILVERSTEIN) I'm going to hand you
17 Exhibit 12.

18 MR. MICELI: Are we done with 11, or are you
19 coming back to it?

20 MS. SILVERSTEIN: You can set it aside.

21 (Deposition Exhibit 12 was marked.)

22 Q. (BY MS. SILVERSTEIN) And, Dr. Reynolds, you
23 were just handed Exhibit 12, which is titled Analyses
24 of Groundwater Flow, Contaminant Fate and Transport,
25 and Distribution of Drinking Water at Tarawa Terrace

1 and Vicinity, U.S. Marine Corps Base Camp Lejeune,
2 North Carolina: Historical Reconstruction and
3 Present-Day Conditions, Response to the Department of
4 the Navy's Letter on: Assessment of ATSDR Water
5 Modeling for Tarawa Terrace.

6 Do you see that?

7 A. I do, yes.

8 Q. And do you see the Bates stamp in the bottom
9 right-hand corner CLJA_2019ATSDR04-0000000449?

10 A. Yes.

11 Q. Have you reviewed this document before?

12 A. I don't think this document is one that I
13 reviewed.

14 Q. Okay.

15 A. There's other information here, slideshows
16 and attachments. But, no, the totality of this
17 document, I have not reviewed.

18 Q. Can you go ahead and turn to the page ending
19 with the Bates 455. Do you see the heading 7.1 DON
20 Comment/Statement?

21 A. Yes.

22 Q. The Navy stated, "However, all comparisons
23 did not fall within the calibration range. At the WTP,
24 12 percent of the simulated PCE concentrations failed
25 the calibration standard. At the water supply wells, a

1 majority 53 percent of the simulated concentrations
2 fell outside the calibrated standard."

3 Did I read that correctly?

4 A. You read it correctly, yes.

5 Q. Go ahead and turn to the next page.

6 And I'm going to direct you to the last
7 paragraph that starts on the page ending in 456. It
8 starts, "To address."

9 A. Yes.

10 Q. Do you see that?

11 A. I do.

12 Q. And it says -- ATSDR responded that: "To
13 address the issue of the intended use of the water
14 modeling results by the current ATSDR epidemiological
15 study, the DON should be advised that a successful
16 epidemiological study places little emphasis on the
17 actual absolute estimate of concentration and rather
18 emphasizes the relative level of exposure. That is,
19 exposed individuals are, in effect, ranked by exposure
20 level and maintain their rank order of exposure level
21 regardless of how far off the true -- the estimated" --
22 excuse me, "regardless of how far off the estimated
23 concentration is to the true measured PCE
24 concentration."

25 Did I read that correctly?

1 A. You did.

2 Q. So for the ATSDR epidemiological study, the
3 estimates didn't need to be true in -- didn't need to
4 be accurate in terms of absolute value, just relative
5 level of exposure, right?

6 MR. MICELI: Object to the form, foundation.

7 A. I wasn't involved in the epi study, so I
8 don't think I can speak to this in a brief context like
9 this. But there are multiple epi studies, some that
10 used relative levels of exposure. But there were other
11 metrics evaluated, too, that were different than that.
12 So I'm not sure what this is in context specifically
13 to, but I would need to know more to offer an opinion
14 on this.

15 Q. (BY MS. SILVERSTEIN) If the values in the
16 ATSDR water modeling -- if the ATSDR water modeling
17 results are not accurate in terms of absolute value but
18 just in terms of relative concentration, does that
19 change your results?

20 MR. MICELI: Object to the form.

21 A. No. I mean, these are modeled results from
22 observations that were observed. So I think I need you
23 to repeat the question about the accuracy of those
24 results.

25 Q. (BY MS. SILVERSTEIN) If results are only

1 accurate in terms of relative exposure and not in terms
2 of absolute exposure, that would mean that the total
3 cumulative consumption that you calculated also may not
4 be true in terms of the actual value of exposure,
5 right?

6 MR. MICELI: Object to the form, foundation.

7 A. No, I would disagree with that. So from the
8 modeled results, the way those values were incorporated
9 into the exposure assessment, I would say is accurate
10 given the information that's available.

11 Q. (BY MS. SILVERSTEIN) And by that, do you
12 mean it's accurate assuming the ATSDR values are
13 accurate?

14 A. Assuming the modeled values, yes, that ATSDR
15 published in peer-reviewed journals is accurate, yes.

16 Q. So if ATSDR is saying that they're only
17 accurate in terms of relative level of exposure, then
18 that would mean that your exposure assessment is also
19 only accurate in terms of relative exposure, right?

20 MR. MICELI: Object to the form, foundation.

21 A. I'm not seeing that this indicates that.
22 That's not what I would say, no.

23 Q. (BY MS. SILVERSTEIN) So is it your opinion,
24 then, that ATSDR values represent the actual
25 concentration levels in the water?

1 MR. MICELI: Object to the form, foundation.

2 A. It's my opinion that they represent the
3 modeled estimate concentrations.

4 Q. (BY MS. SILVERSTEIN) Right. So I think my
5 question's a little bit different. Is it your opinion
6 that those modeled concentrations represent the actual
7 amount of contaminant in the water?

8 MR. MICELI: Object to the form, foundation.

9 A. I mean, modeled values are not observations,
10 so they're exactly that, they're modeled. So they're
11 estimates of the actual values.

12 Q. (BY MS. SILVERSTEIN) And you don't know how
13 far off those estimates are from the actual values,
14 right?

15 MR. MICELI: Object to the form.

16 A. I think that's a question for the water
17 modelers, not me.

18 Q. (BY MS. SILVERSTEIN) You relied on the
19 water --

20 A. Peer-reviewed -- I relied on the published
21 peer-reviewed information, yeah.

22 Q. Is your exposure assessment, is it comparing
23 plaintiffs' exposure in terms of relative exposure?

24 A. It's comparing plaintiffs' exposure with
25 their specific exposure information. So it's -- it's

1 focused on looking at the monthly mean concentrations
2 and then adjusting those to either the default or the
3 reported ingestion levels that they consumed and then
4 considering when they were at work or when they were at
5 home and where those residences were. So we had a lot
6 of proportional exposure adjustments based on their
7 reported activities or default activities.

8 Q. So, Dr. Reynolds, if you say, for example,
9 I'll represent that for Ms. Amsler, you calculated the
10 high end of her TCE exposure to be 13,786 micrograms.
11 I recognize that you haven't looked at the document,
12 but I'll represent that that's the number in your
13 report. Is that saying that you estimate that she was
14 actually exposed to 13,700-and-some-odd micrograms of
15 TCE?

16 A. Yes.

17 Q. And so what you're not doing then is you're
18 not saying she was a high, medium or low exposure
19 compared to other plaintiffs, right?

20 A. Correct.

21 Q. You're giving us an actual concrete number to
22 look at; is that fair?

23 MR. MICELI: Object to the form, foundation.

24 A. Well, it's a calculated modeled number using
25 the input parameters that I listed.

1 Q. (BY MS. SILVERSTEIN) Okay. And you're
2 providing us a specific number as a result of that,
3 right?

4 MR. MICELI: Object to the form.

5 A. I'm providing a number based on those
6 calculations what her exposure would have been.

7 Q. (BY MS. SILVERSTEIN) Okay. Dr. Reynolds,
8 when -- and you can go ahead and set that document
9 aside.

10 A. Okay.

11 Q. Dr. Reynolds, when an individual was living
12 at Camp Johnson, you didn't model them as exposed to
13 contaminated water; is that right?

14 A. I believe so, but I would need -- can you
15 show me where you're reading that in the report.

16 Q. Do you -- you didn't have any
17 concentrations -- any water concentrations to model
18 someone as exposed at Camp Johnson. Is that fair?

19 A. I understood --

20 MR. MICELI: Object -- excuse me. Object to
21 the form.

22 A. So the documents that I had as a reference
23 for contaminant concentrations I don't believe included
24 Camp Johnson.

25 Q. (BY MS. SILVERSTEIN) You said earlier that

1 the contaminant concentrations that you had were for
2 Tarawa Terrace and Hadnot Point; is that right?

3 A. Correct. There were -- there were other
4 areas on base, however, that at different times would
5 receive water from the water source at Hadnot Point.

6 Q. Sure.

7 A. So that's why I'm not positive if Camp
8 Johnson was a part of that. As I sit here, I don't
9 recall. But there were other sites that received water
10 from Hadnot Point that were not Hadnot Point.

11 Q. If -- apologies.

12 And you don't recall what locations you
13 modeled as contaminated versus uncontaminated?

14 A. I recall some of them, but I would want to
15 just look at some of the numbers to make sure that I'm
16 not missing something or forgetting something.

17 Q. When you say you want to look at the numbers,
18 what in your report would indicate...

19 A. The monthly concentrations from ATSDR that
20 was my reference for where contaminants were.

21 Q. Okay. If you go ahead and turn to Appendix
22 20.

23 MR. MICELI: Are we going to her report.

24 MS. SILVERSTEIN: Sure.

25 A. You said Appendix 20?

1 Q. (BY MS. SILVERSTEIN) Yep. This is
2 Exhibit 10.

3 A. Okay. I'm at Exhibit 20.

4 Q. Appendix 20?

5 A. Yeah, thank you, appendix.

6 (At this time Mr. Snidow exited the room.)

7 Q. (BY MS. SILVERSTEIN) This is your appendix
8 of exposure calculations for Plaintiff Jose Antonio
9 Vidana, right?

10 A. Correct.

11 Q. I want you to go ahead and turn to your Chart
12 1, which is on page 2 of Mr. Vidana's calculation.

13 A. Yes.

14 Q. You modeled Mr. Vidana as having visits to
15 Hadnot Point, right?

16 A. Correct, yes.

17 Q. You don't model Mr. Vidana as exposed when he
18 was in his living or working environment, right?

19 A. Correct.

20 Q. And if you go ahead and, at least, mark that
21 page or keep track of that, however is best for you.
22 We'll go ahead --

23 MR. MICELI: I'm handing her a sticky note.

24 THE DEPONENT: Thank you.

25 Q. (BY MS. SILVERSTEIN) Just so you're able to

1 find that page.

2 A. Okay. Sure.

3 Q. I'm going to hand you a new document.

4 (Deposition Exhibit 13 was marked.)

5 Q. (BY MS. SILVERSTEIN) You were just handed
6 Exhibit 13, which is the videotaped deposition of Jose
7 Antonio Vidana dated Tuesday, March 12, 2024, correct?

8 MR. MICELI: This is Exhibit --

9 MS. SILVERSTEIN: 13.

10 A. Yes.

11 Q. (BY MS. SILVERSTEIN) And this is one of the
12 depositions that you reviewed for your report, right?

13 A. Correct.

14 Q. Okay. So if you -- I guess first, what does
15 "visits to HP per week 1.5" mean?

16 A. So typically, when there's not a whole
17 number, the plaintiff would have said, "I would visit
18 Hadnot Point regularly for one to two days per week."
19 And so I would average those not knowing if it was one
20 or two. I used 1.5 as the estimate.

21 Q. And when you did that, did you model them,
22 Mr. Vidana at Hadnot Point for the entire first day and
23 half of a second day?

24 A. No. Typically, I would need to look at the
25 calculations summary. But typically it would be

1 one-third dose happened in the workplace and then
2 two-thirds at home. So that's generally how I did my
3 calculations. Unless the plaintiff reported, "I stayed
4 overnight or I had so many overnight stays in a month"
5 or something like that, I did a proportional adjustment
6 to that one-third/two-thirds foundational ratio.

7 Q. Go ahead and turn to page 99 of the report --
8 or of Mr. Vidana's deposition, which is page 26 of the
9 document.

10 A. Thank you, yes.

11 Q. And do you see page 99?

12 A. Yes.

13 Q. I want to direct you to line 20. It says,
14 "QUESTION: So I understand, so you lived in the
15 barracks on Camp Johnson, right?" And the answer,
16 "Correct, correct."

17 Did I read that correctly?

18 A. I'm sorry -- oh, yes, I see that at the
19 bottom. Uh-hum. You did read that correctly.

20 (At this time, Mr. Snidow reentered the
21 room.)

22 Q. (BY MS. SILVERSTEIN) Okay. And you didn't
23 model Mr. Vidana exposed to contaminated water when he
24 was at home, right?

25 A. Correct.

1 Q. So would you agree, then, that you didn't
2 model individuals as exposed when they were drinking
3 water from Camp Johnson?

4 A. Correct.

5 Q. Did you model individuals as exposed when
6 they were living at Camp Geiger?

7 A. I honestly don't remember which sites were
8 known to be contaminated sites. So I know in the ATSDR
9 summary appendices it says, you know, Holcomb Boulevard
10 and other sites that would have been modeled. So I
11 would need to verify that to see if Camp Geiger was one
12 of those sites or check one of the plaintiffs that was
13 at Camp Geiger to see if that was a site that had
14 reported values.

15 Q. Would it be fair to say that if a location
16 was not on either the Tarawa Terrace or Hadnot Point
17 water system, then you didn't model it as contaminated?

18 A. That would be correct, yes.

19 Q. So I if represent that Camp Geiger was not
20 included in the Hadnot Point or Tarawa Terrace water
21 system, you wouldn't have modeled it as contaminated,
22 right?

23 A. That's correct.

24 Q. And we'll come back to Mr. Vidana's
25 deposition, but you can go ahead and set it aside for

1 now.

2 Are you familiar with the concept of
3 volatilization?

4 A. I'm familiar with it, yes.

5 Q. And you'd agree that, you know, a physical
6 characteristic of chemicals that exposure scientists
7 should understand is their capacity to move from a
8 liquid to a gaseous state, right?

9 MR. MICELI: Object to the form.

10 A. I don't think that's necessarily an expertise
11 an exposure scientist would have, maybe more of a
12 physical chemist.

13 Q. (BY MS. SILVERSTEIN) Do you think that it's
14 something that exposure scientists need to be aware of;
15 that chemicals can volatilize?

16 A. I think that's something certainly to be
17 aware of, yes.

18 Q. You didn't account for the potential
19 volatilization of the VOCs that you modeled, right?

20 A. Correct.

21 Q. Did you review the expert report of
22 Mr. Morris Maslia?

23 A. Yes.

24 Q. Did you review his rebuttal report?

25 A. I don't think so.

1 Q. I am handing you Exhibit 14.

2 (Deposition Exhibit 14 was marked.)

3 MR. MICELI: Is this the report or the
4 rebuttal report?

5 MS. SILVERSTEIN: The rebuttal report.

6 MR. MICELI: Yeah.

7 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, I just
8 handed you Exhibit 14, which is titled Rebuttal
9 Response to: Reports of Alexandros Spiliotopoulos,
10 Remy J.-C. Hennet & Jay Brigham.

11 Do you see that?

12 A. I do, yes.

13 Q. And do you see in the bottom left-hand corner
14 that it says, "Prepared by Morris L. Maslia"?

15 A. Yes.

16 Q. Do you see at the bottom that it's dated
17 January 14, 2025?

18 A. Yes.

19 Q. You'd agree that January 14, 2025, is -- was
20 before February 7, 2025, right?

21 A. Yes.

22 Q. Go ahead and turn to page 31. In that first
23 full paragraph about two-thirds of the way down,
24 there's a sentence that starts, "The consensus was."
25 Let me know when you see that. It's one, two, three,

1 four -- it's six lines up from the bottom of that
2 paragraph.

3 A. I'm sorry, which paragraph was it? The
4 first -- the second one --

5 Q. The first full --

6 A. -- the first full, okay.

7 Q. The one that starts, "Additionally."

8 A. Okay. Yes, "The consensus was."

9 Q. Okay. Mr. Maslia says, "The consensus was
10 that there was negligible volatilization; at most,
11 10 percent of the spiractors. In light of the
12 conclusions of AH Environmental consultants (2004) and
13 the recommendations of its expert panels, ATSDR made
14 the decision to consider any potential VOC losses from
15 storage, treatment and distribution as negligible."

16 Did I read that correctly?

17 A. Yes.

18 Q. So Mr. Maslia is saying that ATSDR didn't
19 factor in volatilization to their calculated mean
20 monthly concentrations, right?

21 MR. MICELI: Object to the form, foundation.

22 A. I don't know whether they incorporated that
23 or not. I just know what numbers were published as the
24 mean concentration values.

25 Q. (BY MS. SILVERSTEIN) And you didn't deduct

1 any percentage from the numbers ATSDR modeled to
2 account for volatilization, right?

3 A. No. And in particular, they say it was
4 negligible, so it wouldn't drive that action.

5 Q. Were you made aware of the expert report of
6 Dr. Remy Hennet?

7 A. No.

8 Q. So are you aware of his opinion that
9 depending on the chemical, between 15 and 32 percent of
10 the contaminants at Camp Lejeune were lost through
11 water treatment?

12 MR. MICELI: Object to the form, foundation.

13 A. I did not review his report.

14 Q. (BY MS. SILVERSTEIN) Okay. You were aware
15 that the individuals at Camp Lejeune were exposed to
16 water after the water treatment process, right?

17 A. I know after the water distribution process.

18 Q. In other words, they weren't drinking water
19 straight out of the well, it went through the system
20 until it was ultimately delivered to their home or work
21 location, right?

22 A. Yes, so you have the raw water and then the
23 treated water, which is the finished water, and then
24 distributed water.

25 Q. And they were exposed to the distributed

1 water, right?

2 A. To my knowledge, but I -- I'm not -- it
3 depends on if their exposure's from the water buffalos
4 where -- where those water buffalos were filled up
5 because then they -- those were taken to the field and
6 the plaintiffs would be filling up their canteens from
7 water buffalos. So I don't know where the water
8 buffalos were filled if that was at -- after a
9 distribution point or at a treatment plant.

10 Q. You actually don't know whether the water
11 buffalos were even filled from the Hadnot Point or
12 Tarawa Terrace water systems, do you?

13 MR. MICELI: Object to the form.

14 A. The best available information that was
15 available to me consistently stated that they were.

16 Q. (BY MS. SILVERSTEIN) Are you referring to
17 plaintiff depositions?

18 A. Let me think where I've seen that. Yes, I
19 believe plaintiff depositions is where that information
20 came from.

21 Q. And are you relying on any other source to --
22 for your opinion as to where water buffalos were
23 filled?

24 A. I can't think of another source that I
25 reviewed.

1 Q. And you said since you don't know where in
2 the water distribution process the water buffalos were
3 filled, are you suggesting that the field water in the
4 water buffalos may have been from untreated water?

5 MR. MICELI: Object to the form.

6 A. Could you repeat that, please.

7 Q. (BY MS. SILVERSTEIN) You said a few minutes
8 ago that you don't know where the water buffalos --
9 where in the distribution process they were filled,
10 right?

11 A. Right.

12 Q. Are you suggesting that they may have been
13 filled with untreated water?

14 A. I'm not suggesting that, no.

15 Q. Okay. Do you have any reason to believe that
16 they wouldn't have gone through the water distribution
17 and treatment process?

18 A. That's not something I have information on to
19 form an opinion. I don't know.

20 Q. And do you have any reason to believe that
21 they were filled at a different point in the
22 distribution system than water individuals consumed at
23 home?

24 A. I don't have any reason to believe that, no.

25 Q. Okay. You can go ahead and set aside

1 Exhibit 14.

2 (Deposition Exhibit 15 was marked.)

3 Q. (BY MS. SILVERSTEIN) I am handing you
4 Exhibit 15.

5 Dr. Reynolds, I just handed you Exhibit 15,
6 which is titled Expert Rebuttal Report of David
7 Sabatini PhD, PE, BCEE. Do you see that?

8 A. Yes.

9 Q. Have you reviewed the rebuttal report of
10 Dr. Sabatini before?

11 A. No.

12 Q. Are you aware that he's a plaintiffs' expert
13 in this litigation?

14 A. No.

15 Q. Do you see that it's dated January 14, 2025?

16 A. I do, yes.

17 Q. And do you see at the bottom left-hand corner
18 it says, "Prepared by David Sabatini PhD, PE, BCEE"?

19 A. Yes.

20 Q. You can go ahead and turn to page 16. Excuse
21 me, page 14. My apologies.

22 A. Would this be in the CV where you're --

23 MR. MICELI: Keep going.

24 Q. (BY MS. SILVERSTEIN) Page 14. It's 14 pages
25 in from the front.

1 A. Okay. I was in the document, not the CV.
2 Okay. Is this the page you were referring to?

3 MR. MICELI: There we go.

4 THE DEPONENT: Thank you, David.

5 MS. SILVERSTEIN: Thank you, David. I
6 appreciate it.

7 MR. MICELI: Yep.

8 Q. (BY MS. SILVERSTEIN) Are you on page 14?

9 A. Yes.

10 Q. And do you see Table 5.3?

11 A. I do.

12 Q. Table 5.3 is titled Summary of VOC Loss
13 Estimates For Spiractor, Storage Tanks, and Other
14 Losses For Camp Lejeune, Tarawa Terrace, and Hadnot
15 Point Water Treatment Systems, correct?

16 A. Yes.

17 Q. You'd agree that Table 5.3 for my es- --
18 where it says -- the fourth row says, "My estimate
19 overall losses," right?

20 A. Can you direct me to that line again, please.

21 Q. Sure. In Table 5.3 in the first column.

22 A. I do see it now.

23 Q. Four rows down it says, "My estimate overall
24 losses."

25 Do you see that?

1 A. Yes, I do.

2 Q. And you'd agree that Dr. Sabatini's estimate
3 for overall losses for TCE is 7.2 percent, right?

4 MR. MICELI: Object to the form.

5 A. It says less than 7.2.

6 Q. (BY MS. SILVERSTEIN) Up to 7.2 percent?

7 MR. MICELI: Object to the form.

8 MS. SILVERSTEIN: Sorry. What's the form
9 objection for that?

10 MR. MICELI: You're misrepresenting what's in
11 there.

12 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, you'd
13 agree that for my estimate overall losses under the
14 Column TCE Percentage, it says less than 7.2 percent,
15 right?

16 A. It says less than 7.2, yes.

17 Q. And for PCE my estimate overall losses, it
18 says less than 8.2 percent, right?

19 A. That's what it says, yes.

20 Q. For VC, it says less than 11.9 percent,
21 right?

22 A. Correct.

23 Q. For benzene, it says less than 6.3 percent,
24 right?

25 A. That's what it says.

1 Q. Would you agree that a loss of up to
2 11.9 percent is negligible when determining a person's
3 exposure?

4 A. This table says less than, which suggests
5 that they reached their detection limit, which would be
6 closer to potentially zero than 11.9.

7 Q. You'd agree that it could be up to -- that
8 he's saying that it could be up to 11.9 percent, right?

9 MR. MICELI: Object to the form.

10 A. In scientific terms that's not what that
11 number would mean, no.

12 Q. (BY MS. SILVERSTEIN) It says less than
13 11.9 percent, right?

14 A. Yes.

15 Q. Which means that he can't say whether it's
16 11.8 percent or less; is that fair?

17 A. That number could indicate they hit a
18 detection limit, which means in most cases it's zero or
19 a protein zero. So at some point, their methodology
20 couldn't detect a value less than 11.9 percent.

21 Q. So is it your opinion, then, that
22 Dr. Sabatini is saying -- well, let's instead use the
23 spiractor numbers. Do you see that row, Spiractor
24 Section 5.1.1?

25 A. Yes.

1 Q. That says that he estimates a 5.2 percent
2 loss for TCE, correct?

3 A. It looks like that's what he's saying, yes.

4 Q. And for PCE, he estimates a 6.2 percent loss?

5 A. Yes.

6 Q. For vinyl chloride, he estimates a
7 9.9 percent loss?

8 A. Yes.

9 Q. And for benzene, he estimates a 4.3 percent
10 loss, right?

11 A. Yes.

12 Q. Would you agree that a loss of 9.9 percent is
13 negligible?

14 A. I'm not an expert on this. I don't know
15 about the validity of the method used or the
16 assumptions made. So I would need a lot more
17 information to give an opinion on whether or not I
18 think -- I thought that was relevant.

19 Q. If you were told that a plaintiff's exposure
20 was 9.9 percent less than the number that you
21 calculated, would that be something you'd want to
22 consider?

23 MR. MICELI: Object to the form.

24 A. It would -- it would vary depending on the
25 context. I mean, that could be a negligible number in

1 -- in the equation or the calculation.

2 Q. (BY MS. SILVERSTEIN) You would agree that it
3 could also be a much larger number, right?

4 A. I would not agree to that because I would
5 have to really look at the context of it.

6 Q. All right. Let's go ahead and go back to --
7 actually, I'm going to go ahead and hand you --

8 MS. SILVERSTEIN: Exhibit 17?

9 THE REPORTER: Sixteen.

10 Q. (BY MS. SILVERSTEIN) Exhibit 16. Thank you.
11 (Deposition Exhibit 16 was marked.)

12 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, you were
13 just handed Exhibit 16, which is the Corrected Appendix
14 12 for Vivian Connard for the Estate of Stephen Matthew
15 Connard, right?

16 A. Yes.

17 Q. So Exhibit 12 -- excuse me, Exhibit 16 is
18 showing the -- your estimated exposure for Plaintiff
19 Stephen Matthew Connard, right?

20 A. Correct.

21 Q. I want you to go ahead and turn to the next
22 page, which is the summed variable tables. Do you see
23 the summed variable totals?

24 A. Yes.

25 Q. For Mr. Connard, in your summed variable

1 totals Chart 3, which is based on the field manuals,
2 you modeled him as having 2,097 -- excuse me,
3 2,097,376 micrograms of TCE exposure, correct?

4 A. Correct.

5 Q. So based on the number that Dr. Sabatini
6 provided in his report of 5.2 percent, in your opinion,
7 is 5 percent -- 5.2 percent loss of the
8 2,097,376 micrograms you modeled Mr. Connard as exposed
9 to, is that substantial?

10 MR. MICELI: Object to the form.

11 A. Well, the first point is that the reduction
12 would not be on this number, it would be on the
13 original concentration numbers, which were calculated
14 through a more complex model to come up with these
15 cumulative consumption values. But the second point is
16 that's not something I evaluated. I didn't compare
17 these numbers with any epi studies or animal toxicology
18 studies, so that would need to be done by another
19 expert.

20 Q. (BY MS. SILVERSTEIN) Would you consider
21 109,000 micrograms of TCE exposure negligible?

22 MR. MICELI: Object to the form.

23 A. It depends on the context.

24 Q. (BY MS. SILVERSTEIN) On what context?

25 A. Again, comparison to epi studies that have

1 evaluated those levels of exposure.

2 Q. If you knew that Mr. Connard's exposure was
3 109,000 micrograms less, is that something that you
4 would have accounted for in your chart?

5 A. I would --

6 MR. MICELI: Excuse me, object to the form,
7 foundation.

8 A. This chart would not necessarily change. It
9 would require going back to if the best available
10 information was that the concentrations should be
11 reduced, then I would want to use the best available
12 information to do my calculations.

13 Q. (BY MS. SILVERSTEIN) And that would include
14 reducing the calculations, right?

15 MR. MICELI: Object to the form, foundation.

16 A. I don't know that to be true because, again,
17 I would need to know the validity of those values which
18 I don't at this time.

19 Q. (BY MS. SILVERSTEIN) Are you able to
20 calculate those volatilization numbers yourself?

21 MR. MICELI: Object to the form.

22 A. I mean, it would be a fairly simple
23 mathematical calculation. But the modeled results and
24 the data from the volatilization studies are not my
25 data. But if somebody said that they were validated

1 and, you know, should -- it's peer reviewed that these
2 are appropriate ways to look at these values, it's
3 something -- anyone with the basic knowledge of the
4 equations could do.

5 Q. (BY MS. SILVERSTEIN) And you'd agree that
6 plaintiffs did not provide you with Dr. Sabatini's
7 report, correct?

8 A. I have not read that report, no.

9 Q. Even though he is their own retained expert,
10 right?

11 MR. MICELI: Object to the form.

12 A. I have not read that report.

13 Q. (BY MS. SILVERSTEIN) And since they didn't
14 provide you with the report, you can't tell us whether
15 or not you think Dr. Sabatini's report is reliable, can
16 you?

17 MR. MICELI: Object to the form, foundation.

18 A. I haven't read it, so I don't have an opinion
19 on it.

20 Q. (BY MS. SILVERSTEIN) If we were to assume
21 for a minute that Dr. Sabatini's report is reliable and
22 the VOC loss from spiractors was 5.2 percent, is that
23 something that you would want to consider in your
24 report?

25 MR. MICELI: Object to the form.

1 A. I would not make that adjustment because I
2 would want -- I would rely on people who did the water
3 modeling and who did the volatilization measurements to
4 provide that information to me. And I think it would
5 need to go through a lot of vetting about methodology,
6 particularly when you have a table that shows multiple
7 methods measuring volatilization and the majority of
8 them were below the detection limit from what it
9 appears that table is communicating.

10 Q. (BY MS. SILVERSTEIN) So even if you were
11 presented with this report from the plaintiffs' expert
12 that said there was a 5.2 percent loss from the
13 spiractors, you wouldn't consider that in determining
14 your exposure calculations; is that fair?

15 MR. MICELI: Object to the form.

16 A. As I sit here right now, I would need more
17 information to make those adjustments.

18 Q. (BY MS. SILVERSTEIN) What information would
19 you need?

20 A. The validity and general agreement that the
21 numbers are correct.

22 Q. General agreement from who?

23 A. Ideally, peer-reviewed peers in peer-reviewed
24 journals so...

25 Or, you know, most -- very little gets really

1 approved unless it's peer reviewed or unless there's,
2 you know, committees. You know, it's never just one
3 person's opinion. Maybe I shouldn't say never, but
4 it's rarely just one person's opinion that the
5 scientific community would change methodology around.
6 It would require vetting, validating, potentially
7 replicating.

8 Q. Did you review the AH Environmental report?

9 A. I'm sorry, could you tell me which report
10 that is.

11 Q. Did you review a report by -- dated in 2004
12 by AH Environmental?

13 A. AH Environmental. I don't think so, no.

14 Q. And you didn't consider any reduction to the
15 ATSDR numbers to account for volatilization, right?

16 MR. MICELI: Object to the form.

17 A. Thinking of the ATSDR rebuttal that said it
18 was negligible, there would have been no reason for me
19 to consider that.

20 Q. (BY MS. SILVERSTEIN) In that report,
21 Mr. Maslia says up to 10 percent, right?

22 A. Can we look at that again?

23 Q. Sure. Let me rephrase. I guess I'm trying
24 to understand -- first, you didn't review Mr. Maslia's
25 rebuttal report prior to doing your --

1 A. I didn't, no.

2 Q. So you couldn't have considered it when
3 forming your opinions, right?

4 A. Correct. When forming my opinions, I used
5 the ATSDR mean monthly concentrations.

6 Q. And so you couldn't have known, then, that
7 Mr. Maslia said that the volatilization was negligible,
8 right?

9 MR. MICELI: Object to the form.

10 A. I'm forming that opinion based on what I was
11 shown here today and in consideration of whether or not
12 it would change my calculations, and the answer's still
13 no.

14 Q. (BY MS. SILVERSTEIN) And that opinion is
15 true even though Mr. Maslia's rebuttal report hasn't
16 been peer reviewed, right?

17 MR. MICELI: Object to the form.

18 A. Yes. Because the data that was peer reviewed
19 is what I used.

20 Q. (BY MS. SILVERSTEIN) Okay. And you're
21 opting to form your opinion -- to follow Mr. Maslia's
22 opinion that it was negligible versus Dr. Sabatini's
23 work showing the potential loss percentage; is that
24 fair?

25 MR. MICELI: Same. Object to the form,

1 foundation.

2 A. Could you repeat that.

3 Q. (BY MS. SILVERSTEIN) I showed you today two
4 expert rebuttal reports from the plaintiffs' experts,
5 right?

6 A. Correct.

7 MR. MICELI: Excuse me. Object to the form.
8 You've shown -- shown her three sentences from two
9 reports.

10 MS. SILVERSTEIN: Sure. You didn't provide
11 them to her.

12 Q. (BY MS. SILVERSTEIN) But you reviewed, you
13 know, your -- you've decided that Mr. Maslia's opinion
14 that the loss was negligible is the one you should
15 follow versus Dr. Sabatini's opinion, right?

16 A. No, I --

17 MR. MICELI: Excuse me, object to the form,
18 foundation.

19 Go ahead.

20 A. That's not what I said at all. I just said
21 the numbers I used -- I've been shown no indication
22 whether by Dr. Maslia or Dr. Sabatini that would tell
23 me I need to change my numbers because the numbers I
24 used have been vetted in peer-reviewed articles. So
25 there may be other opinions from different people, none

1 of that changes my opinion. So what I was presented is
2 two people with different opinions, and I'm still
3 sticking with the values I used because they were peer
4 reviewed.

5 Q. (BY MS. SILVERSTEIN) And you'd agree that
6 the numbers that you used didn't account for
7 volatilization, right?

8 MR. MICELI: Object to the form.

9 A. The numbers I used were from the
10 peer-reviewed literature.

11 Q. (BY MS. SILVERSTEIN) Okay. And you didn't
12 adjust them in any way to account for volatilization,
13 right?

14 MR. MICELI: Same objection.

15 A. I did not adjust any numbers from the
16 peer-reviewed literature.

17 Q. (BY MS. SILVERSTEIN) You'd agree that losses
18 from model numbers -- detection limit -- a detection
19 limit shouldn't be an issue for that, right?

20 MR. MICELI: Object to the form, foundation.

21 A. I mean, detection limits, there's always a
22 detection limit in any measured value. So usually
23 that's standard reporting when you report your -- any
24 values, you report what the detection limit is as well.

25 Q. (BY MS. SILVERSTEIN) You said in measured

1 values, right?

2 A. Correct.

3 Q. Measured values is the -- they're measured
4 with, like, a test, right? And would it be fair to say
5 the detection limit refers to what the test is able to
6 detect?

7 A. Yes.

8 MR. MICELI: Object to the form.

9 Q. (BY MS. SILVERSTEIN) Okay. And you'd agree
10 that a detection limit isn't -- isn't a concern with
11 modeled values, right?

12 A. No. The input parameters to the model have
13 their own detection limits, and the model itself has
14 limitations in terms of uncertainty.

15 Q. You'd agree that ATSDR's modeled values went
16 down to sometimes .1 micrograms per liter -- or parts
17 per billion, I think, is what they used, right?

18 A. I have seen that some of the values ranged to
19 very low levels. I don't know exactly what the value
20 was because, again, I looked at the mean concentrations
21 were primarily what I used.

22 Q. And what was the detection limit for the
23 model?

24 A. I'm not the modeler. I don't know.

25 Q. Okay. So you don't know if there was a

1 detection limit for the model, do you?

2 A. I mean, what I was shown was values on the
3 spiractor reading. So I -- I wasn't talking about the
4 detection limit in the model. And in modeling we talk
5 more about uncertainty analysis and sensitivity
6 analysis so not detection limits.

7 Q. You said you were shown the values on the
8 spiractor. Is that what you just said?

9 A. Whatever -- the table you just showed me,
10 where you showed some values about volatilization.

11 Q. Sure. I'm asking about the ATSDR model.

12 A. Yes.

13 Q. The ATSDR modeled mean monthly concentrations
14 in parts per billion, right?

15 A. The model reported mean monthly
16 concentrations, yes.

17 Q. Okay. And is it your opinion that there was
18 some detection limit for the numbers that the model was
19 able to calculate?

20 A. I wouldn't call them detection limits, no.

21 Q. Okay. Because there wasn't a detection limit
22 in the modeled values, right?

23 MR. MICELI: Object to the form.

24 A. I used the mean modeled concentrations, so
25 I'm not an expert on the water modeling. I haven't

1 looked at the details of what limits were in their
2 models, so I just used the published peer-reviewed
3 values that were mean monthly concentrations.

4 Q. (BY MS. SILVERSTEIN) You'd agree that the
5 volatilization estimates were based on the modeled
6 values, right?

7 A. I'm not familiar with the volatilization
8 measurements or calculations or models.

9 Q. So you're not familiar with what ATSDR was
10 talking about when they said the volatilization was
11 negligible?

12 MR. MICELI: Excuse me. Object to the form
13 and foundation. I didn't hear what you said on the end
14 of your question.

15 Q. (BY MS. SILVERSTEIN) I'll repeat the
16 question.

17 You're not familiar with what ATSDR was
18 referring to when they said that the volatilization
19 amount was negligible, right?

20 MR. MICELI: Object to the form, foundation.

21 A. I'm familiar with the bit of the report that
22 you shared with me.

23 Q. (BY MS. SILVERSTEIN) Is it your opinion that
24 detection limits in volatilization -- the
25 volatilization estimates based on the modeled mean

1 monthly concentrations have detection limits?

2 A. I mean, you're -- you're inferring --
3 you're -- in my opinion, the way you're speaking of
4 these values, you're mixing modeled values with
5 observed values. So with observed values, we talk
6 about detection limits. And with modeled values, it's
7 more about uncertainty of the model.

8 Q. Dr. Reynolds, a few minutes ago when we were
9 looking at Dr. Sabatini's report at Table 5.3, you said
10 that, you know, the less than 6.3 percent, that's just
11 the detection limit. So it could be zero. Is that --
12 am I recalling that correctly?

13 MR. MICELI: Object to the form, foundation.

14 A. I said that that -- and I haven't read that
15 full report. I'm just going off of the table. So, I
16 mean, I'm not an expert in their volatilization study,
17 and I haven't even read that full report. But in a
18 table where you see less-than values, it indicates that
19 there was a detection limit. But I don't know if
20 that's how they presented it in their full paper. I
21 haven't read it.

22 Q. (BY MS. SILVERSTEIN) Would there be a
23 detection limit if those values were based on the ATSDR
24 modeled mean monthly concentrations?

25 A. Depends on the context. I really don't know

1 the context you're speaking of.

2 Q. What context?

3 A. That's my question. I don't know the context
4 of how those values were measured.

5 Q. Okay. So you're just assuming that there was
6 a detection limit issue; is that right?

7 MR. MICELI: Object to the form. You know,
8 and I am going to make a speaking objection. You're
9 referring to a report that she has said several times
10 she has not read, and you're inferring that she somehow
11 relied upon it in her opinion. And that is not the
12 case. And this is a huge waste of time. I'm sorry,
13 but take me to the Court if you want to.

14 MS. SILVERSTEIN: It's my deposition, so I
15 can decide if it's a waste of time or not.

16 MR. MICELI: It is.

17 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, you'd
18 agree that you did not consider any of the
19 volatilization numbers in Dr. Sabatini's report, right?

20 MR. MICELI: Object to the form.

21 A. I have not reviewed Dr. Sabatini's report.

22 Q. (BY MS. SILVERSTEIN) Which means you didn't
23 consider his volatilization values; is that right?

24 A. Correct.

25 Q. Okay. And you did not adjust the ATSDR mean

1 monthly concentration numbers to account for any
2 volatilization, right?

3 A. No, correct.

4 Q. If you were presented with peer-reviewed
5 literature saying that the chemicals did volatilize in
6 providing a percentage, would you want to consider that
7 in your report?

8 A. I would need to consider the context of those
9 values. Is it a closed system? You know, there's a
10 lot of factors that could go into it, and I don't know
11 if the peer-reviewed article would necessarily meet the
12 context of Camp Lejeune.

13 Q. Would it be something that you would want to
14 look at and know about before forming your opinion?

15 MR. MICELI: Object to the form.

16 A. I would rely on the water modeling experts
17 and the volatilization experts to give me that
18 information for the exposure model. It's not my
19 expertise.

20 Q. (BY MS. SILVERSTEIN) And when you say to
21 give you that information, would you be relying on them
22 to give you the adjusted concentrations, or would you
23 just want to know their opinion on the adjustment that
24 needed to be made?

25 MR. MICELI: Object to the form, foundation.

1 A. I would want it applied to all of the numbers
2 and have it be peer reviewed, yeah.

3 Q. (BY MS. SILVERSTEIN) So you would expect to
4 be given the concentrations from the water modeling
5 experts; is that fair?

6 MR. MICELI: Object to the form, foundation.

7 A. Not necessarily. Depends on the context, and
8 you know, if there was a specific rate that could be
9 given that would be broadly applied to every value of
10 every monthly concentration, that might be a different
11 context.

12 Q. (BY MS. SILVERSTEIN) Would you agree that
13 when you -- when you heat up a liquid, VOCs can
14 volatilize?

15 MR. MICELI: Object to the form.

16 A. So my role in this was about exposure
17 assessment. I did not look at any volatilization
18 calculations, so it's not something I'm comfortable
19 speaking about. I'm not a physical chemist. This is
20 not my expertise.

21 Q. (BY MS. SILVERSTEIN) So you don't know
22 whether or not the VOCs can volatilize when heated up?

23 MR. MICELI: Object to the form, foundation.

24 MR. SNIDOW: Asked and answered, like, 13
25 times at this point.

1 A. By definition, VOCs can volatilize. Usually
2 in an open system.

3 Q. (BY MS. SILVERSTEIN) And you didn't consider
4 whether -- when a substance was heated up for a drink,
5 for coffee or tea, you didn't consider whether any of
6 the chemicals volatized in that, did they -- did you?

7 MR. MICELI: Object to the form.

8 A. I didn't consider volatilization, no. I used
9 the mean monthly concentration values.

10 Q. (BY MS. SILVERSTEIN) Do you have your report
11 with you, Exhibit 10? I think it's right next to you
12 there.

13 Go ahead and turn to page 5 of your report.

14 A. Okay.

15 Q. Do you see the last full paragraph on page 5?

16 A. Yes.

17 Q. The third sentence down begins, "In
18 addition."

19 Do you see that?

20 MR. MICELI: I'm sorry, which -- which
21 paragraph are we looking at?

22 MS. SILVERSTEIN: The last full paragraph on
23 page 5.

24 MR. MICELI: Thank you, thank you.

25 A. Yes, I see that.

1 Q. (BY MS. SILVERSTEIN) It says, "In addition,
2 if consumption data was given, for example, recall of
3 refilling and drinking a specific number of canteens
4 estimated to hold 32 ounces each during training or a
5 specific amount of coffee or tea, 5- to 10-ounce cups,
6 bug juice, or glasses of water, 12 ounces or other
7 beverages made from the contaminated water sources,
8 deposition informed ingestion data was used in the
9 exposure assessment chart scenarios"; is that correct?

10 A. Correct.

11 (Deposition Exhibit 17 was marked.)

12 Q. (BY MS. SILVERSTEIN) I am handing you
13 Exhibit 17.

14 Dr. Reynolds, this is the videotaped
15 deposition of Jimmy Laramore dated April 2, 2024,
16 correct?

17 A. Correct.

18 Q. And you reviewed Mr. Laramore's deposition
19 for your report, right?

20 A. Correct.

21 Q. And Chart 3 for Mr. Laramore reflects the --
22 what you read in Mr. Laramore's deposition; is that
23 right?

24 A. Okay. You're referring back to -- let's see.

25 Q. So if you look -- go ahead and look at

1 Exhibit 5.

2 MR. MICELI: Exhibit 5 is the --

3 MS. SILVERSTEIN: The calculations.

4 MR. MICELI: That was for Cagiano.

5 MS. SILVERSTEIN: No, Exhibit 5 is the
6 March 28, 2025, calculations.

7 MR. MICELI: Thank you, yep.

8 Q. (BY MS. SILVERSTEIN) If you look at
9 Exhibit 4 or excuse me, Appendix 4. Do you see
10 Appendix 4 of the calculations?

11 A. Thank you. Yes.

12 Q. It says deposition-informed daily water
13 intake, right, for Chart 3?

14 A. Correct.

15 Q. Okay. So Chart 3 includes the amount and
16 volume of the drinks that you observed in
17 Mr. Laramore's deposition; is that fair?

18 A. Yes.

19 Q. And here, you assume that his water
20 consumption -- whether he was drinking from 32-ounce
21 containers for water, right?

22 A. Yes.

23 Q. And 12-ounce containers for coffee, right?

24 A. Yes.

25 Q. If you turn to his deposition to page 69.

1 A. Okay.

2 Q. On page 69, line 23, it says, "Did you drink
3 coffee?"

4 Do you see that?

5 A. Yes.

6 Q. And then he says, "Yes," right?

7 A. Yes.

8 Q. And then the next question is, "Where did
9 that coffee come from that you drank?"

10 And the answer is, "Chow hall.

11 "Was there, like, a coffee machine or, like,
12 a tub of coffee?

13 "ANSWER: Tub of coffee."

14 A. Hold on, I lost the page. So 69 -- mine
15 seems to go from 69 to 62.

16 MR. MICELI: Let me show you.

17 Q. (BY MS. SILVERSTEIN) I'm referring to the
18 pages of the deposition.

19 A. Yeah.

20 Q. There's four pages.

21 MR. MICELI: You go 69, 70, 75.

22 THE DEPONENT: Seventy's on the other side.
23 Okay. Gotcha. Okay. Okay.

24 Q. (BY MS. SILVERSTEIN) So on page 69 --

25 A. Yes.

1 Q. -- line 23 it says, "QUESTION: Did you drink
2 coffee?

3 "ANSWER: Yes.

4 "QUESTION: Where did the coffee come from
5 that you drank?

6 "ANSWER: Chow hall.

7 "QUESTION: Was there, like, a coffee machine
8 or, like, a tub of coffee?

9 "ANSWER: Tub of coffee."

10 Mr. Laramore doesn't say how big his cups of
11 coffee were, right?

12 A. That's correct, yes.

13 Q. So it could have been an 8-ounce cup of
14 coffee, right?

15 A. It could have been a smaller cup of coffee,
16 yes.

17 Q. You assumed that it was 12 ounces?

18 A. I did. It's kind of a standard size. Like a
19 can of soda is 12 ounces.

20 Q. But he also doesn't say how many cups of
21 coffee he drank per day, does he?

22 A. I'm not seeing it in this section but because
23 I have the No. 2, I think there's probably a reference
24 somewhere that indicates he drank more than one cup. I
25 don't see any indication of numbers of coffee in that

1 section, but I would need to search to see if it's
2 somewhere else.

3 MS. SILVERSTEIN: We've been going a little
4 over an hour. I think this is a good time for a break.

5 THE VIDEOGRAPHER: Time is 2:28. We're going
6 off record.

7 (Recess taken from 2:28 p.m. to 2:40 p.m.)

8 THE VIDEOGRAPHER: The time is 2:40. We're
9 back on record.

10 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, did you
11 talk to anybody about the substance of your testimony
12 during your break?

13 A. No.

14 Q. Do you have your report with you?

15 A. Yes.

16 Q. Perfect. Can you go ahead and turn to
17 page 4. You're on page 4?

18 A. Yes.

19 Q. And do you see that first full paragraph that
20 says, "In several cases"?

21 A. Yes.

22 Q. About five lines down, you say, "As part of
23 my methodology, I followed U.S. EPA recommendations for
24 an 8-hour occupational exposure day and a 16-hour
25 residential exposure day, attributing 33 percent of

1 consumption levels at their employment and 67 percent
2 at their residence," right?

3 A. Correct.

4 Q. And you'd agree that on days that you
5 considered non-retrain -- or the physical training
6 days, you reversed the consumption and attributed
7 67 percent of the workday -- or of the day to work and
8 33 percent to home, right?

9 A. Correct.

10 Q. You don't have any records that were created
11 during the time period that the plaintiffs were at Camp
12 Lejeune describing how long a typical training --
13 physical training or formal military training day is,
14 right?

15 A. Some of them indicated that the field
16 training days were overnight days. Others indicated
17 that they were longer days, but it was an assumption to
18 consider the one-third, two-thirds split and then
19 reverse it.

20 Q. When you say "some of them said," you're
21 referring to the plaintiffs, right?

22 A. Yes, correct.

23 Q. And those statements are made in their
24 depositions?

25 A. Correct.

1 Q. You agree the depositions were made a few
2 decades after their time at Camp Lejeune, right?

3 A. They were, yes.

4 Q. Do you have any documents that were created
5 or records that were created during the time period
6 plaintiffs were on base, so 1953 to 1987, discussing
7 the length of time for the workdays?

8 A. I did not review any of those documents, no.

9 Q. And in your report, you don't describe what
10 formal military training in the field entails, do you?

11 A. I don't describe that in my report, no.

12 Q. Formal military training in the field could
13 include radio operation, weapons cleaning, and
14 maintenance, rifle range training, or combat medical
15 training, right?

16 MR. MICELI: Object to the form of the
17 question, foundation.

18 A. So I did not define it in that way for people
19 who weren't -- who didn't report doing, maybe, physical
20 activities during training. Their physical activities
21 they reported such as, like, running regularly every
22 day or, you know, spending time in the field training,
23 I would consider those training activities.

24 Q. (BY MS. SILVERSTEIN) When you talk about
25 formal military training, you don't describe the

1 activities that you were considering for that, do you?

2 A. I don't describe them. They're described in
3 some of the military field manuals that I had access
4 to.

5 Q. And the plaintiffs don't always describe what
6 activities they were doing in the field, do they?

7 A. It wasn't described for every plaintiff.
8 Everyone was really a specific assessment.

9 Q. So for plaintiffs that don't describe what
10 activity they were doing in the field, you don't know
11 whether they were doing something like radio operation
12 versus forced marches, right?

13 MR. MICELI: Object to the form of the
14 question, foundation.

15 A. Many plaintiffs did define that they were
16 doing forced marches or regular running or physical
17 activity. And in those cases I defined them as a
18 Marine in training. If they stated that their
19 operations were not physical, then I assigned them
20 light activity and did not consider them as a Marine in
21 training but more of a civilian characterization.

22 Q. (BY MS. SILVERSTEIN) Is it your recollection
23 that every plaintiff described the type of activity
24 they were doing in the field?

25 A. Not every plaintiff described their

1 activities in the field and for most of those, I
2 used -- I would say for all of those, if I had no other
3 information to go on, I used the ATSDR defaults for
4 Marine in training or the field manual minimum
5 evaluations of ingestion.

6 Q. How did you decide whether to use the ATSDR
7 defaults or the field manual numbers?

8 A. I believe in almost every instance, I used
9 both. So I prevented -- I presented a range of values
10 with each of those -- those assumptions separately.

11 Q. At the end of this paragraph, you say, "For
12 those days attributed to overnight field training, I
13 counted no home water consumption resulting in
14 100 percent consumption proportion"; is that right?

15 A. That's correct.

16 Q. And you said that that was for field
17 training, right?

18 A. If they reported being overnight in the field
19 then, yes, that was considered a hundred percent
20 consumption proportion that occurred at that location
21 in the field.

22 Q. So then would it be correct to say that only
23 if a plaintiff specified it was overnight field
24 training, you attributed a hundred percent of the day
25 to work. But if they didn't specify either way, you

1 would use the two-thirds assumption?

2 A. In terms of proportionate values consumed,
3 yes. And then there's another proportion related to
4 activity that could be different here.

5 Q. You don't know how many days any specific
6 Marine spent doing overnight training, right?

7 MR. MICELI: Object to the form.

8 A. The information I used came from their
9 depositions.

10 Q. (BY MS. SILVERSTEIN) You didn't review any
11 records stating that Mr. Laramore spent "X" number of
12 days doing overnight training, right?

13 MR. MICELI: Object to the form, foundation.

14 A. I only had their deposition statements to go
15 on. That wasn't in the military field records, how
16 many nights they stayed in the field.

17 Q. (BY MS. SILVERSTEIN) You reviewed -- okay.
18 When you say it wasn't in the military field records,
19 are you referring to the field manuals?

20 A. Oh, no, sorry. I'm referring to the dates
21 when they, maybe, were deployed or on base or deployed
22 or on leave so those -- those military records did not
23 have specifics about how many nights -- when they were
24 in active duty, how many nights were in the field
25 versus not.

1 Q. So instead you relied on plaintiffs' memories
2 from about 40 to 80 years ago; is that right?

3 MR. MICELI: Object to the form of the
4 question.

5 A. Yes. I relied on their deposition statements
6 and their recollection of their activities, or I used
7 ATSDR defaults if they did not have a recollection.

8 Q. (BY MS. SILVERSTEIN) Which ATSDR defaults
9 are you referring to?

10 A. Where they assumed a Marine in training would
11 consume 6 liters a day, three days a week and
12 3.1 liters a day, four days a week.

13 Q. Okay. So if a plaintiff said that they did
14 overnight field training but didn't say how many days
15 they did overnight field training, how would you
16 determine which days that would be?

17 A. So if they -- if they said they did overnight
18 field training, I used a proportion of how much time
19 that would be in the field versus not in the field. So
20 it's not specific to which day in that month. It's --
21 it's averaged over their time. So if they said, "I
22 spent two days a year in the field," I would use a
23 proportion of 2 divided by 365 days if they were in the
24 field every day -- or if they were on base every day,
25 365 days for the year.

1 Q. You don't know which days they were on --
2 they were doing overnight field training, right?

3 A. I don't know which days in a given month that
4 they were in the field, no.

5 Q. And you don't even necessarily know which
6 month they were doing overnight field training, right?

7 MR. MICELI: Object to the form, foundation.

8 A. Some of the plaintiffs said it was a monthly
9 routine or some other frequency of routine. And so at
10 that point, I could safely assume that it could be
11 averaged over every month. Others might have said, "It
12 was two days my entire time there," but we didn't know
13 which month that occurred, and so I averaged that over
14 the entire time as well.

15 Q. (BY MS. SILVERSTEIN) When a Marine was doing
16 field training, you don't have any records indicating
17 where -- where on base they received water from, right?

18 A. In the depositions when they said they were
19 drinking water in the field, my recollection is that it
20 was from water buffalos that they filled their canteens
21 with. So they were drinking out of canteens primarily.

22 Q. Sure. For those water buffalos, you didn't
23 review any records specifying where the water buffalos
24 were filled up, right?

25 MR. MICELI: Object to the form.

1 A. I don't recall information on where those
2 were -- were filled, specifically what site they were
3 filled from, no.

4 Q. (BY MS. SILVERSTEIN) For your calculations,
5 you assumed that the water they were drinking in the
6 field came from a contaminated water source, right?

7 A. I know that it was inferred in the
8 depositions that the water came from the Hadnot Point
9 system, and so that remained my assumption too.

10 Q. So you assumed that it was from a
11 contaminated --

12 A. And it may have lost --

13 MR. MICELI: Excuse me. Object to the form,
14 foundation.

15 We've got make sure we're not talking over
16 each other.

17 THE DEPONENT: Thank you.

18 Could you ask that again. I'm sorry.

19 Q. (BY MS. SILVERSTEIN) You assumed then that
20 they were receiving water from a Hadnot Point
21 contaminated water source, right?

22 A. Information that I recall was that the water
23 buffalos were assumed to be filled from a contaminated
24 water source at Hadnot Point. And I don't recall if
25 that came from the ATSDR report or exactly where I had

1 that information.

2 But in my report, if they drank water in the
3 field, it was assumed to be from the Hadnot Point
4 source.

5 Q. You said a few minutes ago that there were
6 instances where you or a plaintiff may say they had two
7 overnight field trainings the entire time they were at
8 Camp Lejeune. Do you remember that?

9 A. Yes.

10 Q. And you said that you -- if they didn't
11 specify -- if you didn't know what month it was in, you
12 averaged that over the entire time that they were on
13 base, right?

14 A. Correct.

15 Q. What plaintiffs did you make that assumption
16 for?

17 A. I think I recall it was somebody -- for one,
18 it was somebody that was on base 322 days. And they
19 had, I think, two overnight days. I'd have to scan
20 population summary to find that one.

21 There's one, that's Appendix 2. In Chart 2
22 it has workday, routine workday exposures, and -- at
23 Hadnot Point, and then it also has the small number
24 .0025 Hadnot Point overnight days. So that's one
25 example of a proportion where they had a small number

1 of overnight days, and I used the small proportion to
2 add to their Hadnot Point exposures that would be
3 proportional between work and residence time. I added
4 the additional overnight days and time.

5 Q. And that's what the .0025 HP overnight days
6 stands for?

7 A. Correct.

8 Q. And how many days were you assuming that
9 Mr. Criswell was doing overnight training?

10 A. I would need to look at the more detailed
11 spreadsheet to see what that actual calculation was,
12 but this is -- if he reported two nights and then his
13 total time -- at some point during his entire stay and
14 then he had 300 days that he stayed, then it would be
15 two divided by 300. But I would need to look at the
16 exact numbers in the charts.

17 Q. You'd agree that based on the calculation you
18 provided for Chart 2, that doesn't tell us how many
19 days you assumed that he was doing overnight field
20 training, right?

21 A. It should be in the chart in the report, but
22 in the calculations summary, it gives the actual
23 proportionate value.

24 Q. Right. It doesn't -- it doesn't tell us,
25 like, how many days out of the total days there, right?

1 That's not in your calculation?

2 MR. MICELI: Object to the form.

3 A. In the calculation summary I give the results
4 in the detailed spreadsheets that would have the
5 numbers.

6 Q. (BY MS. SILVERSTEIN) Are you aware that six
7 of the eight water systems at Camp Lejeune have not
8 been modeled to have contamination?

9 A. I remember reading -- I remember reading
10 information, but I don't have the details committed to
11 memory, about when different wells were brought on and
12 when different wells were taken off. So I know over
13 time, but I don't know what the time stamps are when
14 that happened.

15 Q. Are you aware that there are eight water
16 system systems at Camp Lejeune?

17 A. I wouldn't know the exact number, but I know
18 there were multiple other than the ones that we're
19 talking about, yes.

20 Q. And you don't know how many of those water
21 systems were modeled to ever have contamination; is
22 that right?

23 A. I was not provided any data that other water
24 systems other than the ones we're talking about here at
25 Tarawa Terrace and Hadnot Point and Holcomb Boulevard.

1 I'm not aware of other modeled data.

2 Q. If the water used for a plaintiff's field
3 training or overnight field training came from a water
4 system that wasn't contaminated, that would result in a
5 lower exposure estimate for that plaintiff, right?

6 MR. MICELI: Object to the form, foundation.

7 A. If they were drinking water that wasn't
8 contaminated as part of their daily ingested water
9 level, then, yes, the exposure concentrations would be
10 lower.

11 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, you
12 relied on the EPA's exposure factors handbook to
13 determine the CTE and RME values for civilian workers
14 and adult residents; is that right?

15 A. Correct.

16 MR. MICELI: Are you done with 10 for now? I
17 know we'll go back to it.

18 MS. SILVERSTEIN: Yeah, for now. That's
19 fine.

20 Q. (BY MS. SILVERSTEIN) And based on the EPA
21 exposure factors handbook, you used the values of
22 3.092 liters per day and 1.227 liters per day for
23 civilian workers and adult residents; is that right?

24 A. Can you just repeat that really quickly.

25 Q. Sure. Based on the EPA exposure factors

1 handbook.

2 A. Yes.

3 Q. You used the values of 3.092 liters per day
4 and 1.227 liters per day?

5 A. Correct.

6 (Deposition Exhibit 18 was marked.)

7 Q. (BY MS. SILVERSTEIN) I am handing you
8 Exhibit 18.

9 I just handed you an ATSDR document,
10 Estimating Site Specific Ingestion and Dermal Exposure
11 Doses. Do you see that?

12 A. Yes.

13 Q. And have you reviewed this document before.

14 A. Yes.

15 Q. Did you rely on this document in forming your
16 conclusions?

17 A. I don't know if this is the exact one listed
18 in my materials considered list, but it definitely has
19 similar information. Do you see it on my materials
20 considered list? Could I see that?

21 Q. Sure, you don't -- you have reviewed this,
22 but you don't recall whether it's the one you listed on
23 your materials considered list; is that fair?

24 A. That's fair, yeah.

25 Q. Okay. This is part of the ATSDR Public

1 Health Assessment Guidance Manual, right?

2 A. Yes. I don't know if I read this exact
3 document. This information is in a variety of places,
4 but I don't think I read this exact document.

5 Q. You're not sure if you read this exact
6 document; is that right?

7 A. Right.

8 Q. If you turn to -- do you see at the bottom
9 right-hand corner how it has the dates -- or the page
10 numbers, excuse me.

11 A. Yes.

12 Q. Turn to page 9 of 19.

13 A. Yes.

14 Q. On the page before that, there's a heading,
15 Drinking Water Exposure Dose Example?

16 A. Yes.

17 Q. And then it's got this big long chart. Do
18 you see that?

19 A. Yes.

20 Q. Okay. In this chart for the Army intake rate
21 in liters per day, they show that 3.092 liters per day
22 value that you used as the Army, right?

23 A. Yes.

24 Q. And for the CTE intake rate, it includes that
25 value of 1.227 liters per day; is that right?

1 A. Yes.

2 Q. For both of those values, the exposure group
3 is adult, right?

4 A. Yes.

5 Q. And the body weight is 80 kilograms; is that
6 right?

7 A. Yes.

8 Q. The row above adult is 16 to less than
9 21 years, correct?

10 A. Yes.

11 Q. Did you review the plaintiffs' ages when you
12 were working on your calculations?

13 A. Only if they were a child versus an adult.

14 Q. Are you aware that several of the plaintiffs
15 were present at Camp Lejeune between the ages of 18 and
16 21?

17 A. My recollection is the ages were up to 16 for
18 the two children that I evaluated.

19 Q. For the adult plaintiffs, are you aware that
20 some of the plaintiffs were under the age of 21 when
21 they were stationed there as Marines?

22 MR. MICELI: Object to the form, foundation.

23 A. No, I don't believe I had information on
24 their actual ages.

25 Q. (BY MS. SILVERSTEIN) Were you provided

1 information about their birth date?

2 A. No.

3 Q. If a plaintiff was 18 to 20 years and
4 11 months, would you have used the CTE and RME intake
5 rate for the 16 to less than 21 years?

6 A. I would have considered that as one option as
7 a potential low end of the range.

8 Q. If you used a lower daily ingestion rate of
9 0.77 liters per day or 2.444 liters per day instead
10 of -- well, let me ask that more simply. If for the
11 CTE intake rate for a plaintiff who was 18 while they
12 were at Camp Lejeune, if you used the consumption rate
13 of 0.770 liters per day, instead of 1.227 liters per
14 day, that would result in a lower cumulative
15 consumption, correct?

16 A. If you use a lower consumption volume then
17 yes, it would correlate with a lower concentration --
18 cumulative concentration in dose.

19 Q. And that's true for the Army intake value --
20 intake rate too, right? If you use 2.444 versus 3.092
21 liters per day, that would result in a lower cumulative
22 consumption, right?

23 A. Yes. Changing that RME intake rate would
24 result in a lower cumulative consumption, and these
25 values are defaults for civilians, not Marines in

1 training.

2 Q. You'd agree that the adult values are the
3 same values that you used, right?

4 A. Correct.

5 Q. Are you familiar with the -- and you can go
6 ahead and set that document aside.

7 A. Okay.

8 Q. Are you familiar with the ATSDR Exposure Dose
9 Guidance For Water Ingestion?

10 A. Yes.

11 Q. And that's one of the documents you relied
12 on?

13 A. Correct.

14 (Deposition Exhibit 19 was marked.)

15 Q. (BY MS. SILVERSTEIN) I am handing you
16 Exhibit --

17 THE REPORTER: Nineteen.

18 MS. SILVERSTEIN: I forget every time.

19 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, you were
20 just handed Exhibit 19, which is the ATSDR Exposure
21 Dose Guidance For Water Ingestion, right?

22 A. Correct, yes.

23 Q. It's dated January 31, 2023, right?

24 A. Yes.

25 Q. And this is the document you relied on?

1 A. It is, yes.

2 Q. Turn to page 3.

3 A. Did you say 2?

4 Q. Page 3, excuse me. Do you see the definition
5 on page 3 for reasonable maximum exposure or RME?

6 A. Yes.

7 Q. It says, "RME refers to persons who are at
8 the upper end of the exposure distribution,
9 approximately the 95th percentile. The RME scenario
10 assesses exposures that are higher than average but
11 still within realistic exposure range."

12 Did I read that correctly?

13 A. You did, yes.

14 Q. When you did your Chart 3, you used the RME
15 ingestion rate, right?

16 A. Chart 3 is not the same input values for
17 every plaintiff.

18 Q. So go ahead and take a look at Appendix 1 for
19 Mr. Cagiano.

20 A. Okay.

21 Q. For Mr. Cagiano you used the RME intake rate,
22 right?

23 MR. MICELI: Are we looking at the chart in
24 Exhibit 10?

25 MS. SILVERSTEIN: I am looking at Exhibit 5.

1 MR. MICELI: Okay.

2 A. So for Appendix 1, Cagiano -- are you talking
3 about Chart 2 or 3? I'm sorry.

4 Q. (BY MS. SILVERSTEIN) In Chart 2.

5 A. In Chart 2, that's the ATSDR defaults for
6 Marine in training.

7 Q. And one of those defaults that you used is
8 the RME, correct?

9 A. The 6 liters per day, yeah, would be the
10 upper end. So those -- those defaults average out to
11 4.33.

12 Q. You made the assumption that on training
13 days, Mr. Cagiano was consuming the RME amount of
14 water, correct?

15 A. Well, I utilized ATSDR's assumption.

16 Q. You utilized ATSDR's assumption that he was
17 consuming the RME or the reasonable maximum exposure
18 value for water, right?

19 A. Correct.

20 Q. And you did this for multiple other
21 plaintiffs, right?

22 A. Correct.

23 Q. If you look at the calculations in appendix
24 nine, this is -- these are your calculations for
25 plaintiff Jacqueline Jordan Tukes, correct?

1 A. Correct.

2 Q. And if you look at Chart 3, that is the ATSDR
3 RME calculation, right?

4 A. Yes, for civilians, that's the RME, yes.

5 Q. Is it your opinion, then, that Ms. Tukes
6 likely ingested more water than 95 percent of the
7 population?

8 MR. MICELI: Object to the form.

9 A. I provided a range of possible values. So I
10 used the CTE in Chart 2 and I used the RME in Chart 3
11 so it provides context of that range. It's possible
12 she is in the 95th percentile given the site-specific
13 characteristics, the climate and different things to
14 that regard. So -- but I couldn't be sure because
15 there was not information to clarify that, so I gave
16 both values as a plausible approach.

17 Q. (BY MS. SILVERSTEIN) You're aware that
18 Ms. Tukes was a civilian at Camp Lejeune, correct?

19 A. Yes.

20 Q. And that she was there as the spouse of a
21 Marine, right?

22 A. Correct, yes.

23 Q. Is it still your opinion that she may have
24 consumed more water than 95 percent of the population?

25 MR. MICELI: Object to the form, foundation.

1 A. This is the upper end of the civilian
2 population so, yeah, it's plausible that she was at the
3 upper end of these estimates.

4 Q. (BY MS. SILVERSTEIN) And by "upper end," you
5 mean in the --

6 A. The RME.

7 Q. -- the more than -- the higher than 95th
8 percentile?

9 MR. MICELI: Object to the form.

10 A. The Army is the 95th percentile.

11 Q. (BY MS. SILVERSTEIN) Which would mean she --
12 that she, then, consumed more water than 95 percent of
13 the population, right?

14 MR. MICELI: Object to the form, foundation.

15 A. Or at 95 percent of the population.

16 Q. (BY MS. SILVERSTEIN) So 94.9 percent of the
17 population consumed less water than her based on the
18 RME --

19 A. Well, the confidence level is 95. So can we
20 just say 95?

21 Q. Sure.

22 A. Okay.

23 Q. So she consumed as much water as 95 percent
24 or more of the population; is that right?

25 A. She was at the upper end of the estimates for

1 an entire population, yes.

2 Q. What information in Ms. Tukes's documents
3 provided you with a basis to determine that she was at
4 the 95th percentile?

5 MR. MICELI: Object to the form.

6 A. I evaluated her at the CTE and at the RME.
7 So it's giving -- it's giving a range of values. So
8 the context could be better clarified in comparison
9 with an epi study to see if both those values put her
10 over where causation might be occurring or neither. So
11 to provide this range is common in risk assessment.
12 When you don't know the exact value, you use these
13 plausible inputs. And it's plausible anywhere between
14 the CTE and the 95th percentile RME that could have
15 been her exposure.

16 Q. (BY MS. SILVERSTEIN) The CTE is the average
17 water intake, right?

18 A. Correct.

19 Q. Which means that if it's the average that
20 approximately 50 percent of the population consumes
21 less water than the CTE?

22 A. Well, the context of these calculations are
23 used in regulatory risk assessment. So it's a default
24 to consider more conservative values. So the
25 definition of a mean is that that's where the 50th

1 percentile lies, but in the context of regulatory risk
2 assessment, we tend to default towards more
3 conservative values.

4 Q. You didn't do a risk assessment, right?

5 A. No.

6 Q. Instead, you provided potential values that a
7 plaintiff at Camp Lejeune may have been exposed to,
8 right?

9 A. Correct.

10 Q. And what is the basis for determining that
11 Ms. Tukes may have been exposed to the average -- she
12 may have been drinking the average amount of water?
13 What is that based on?

14 A. It's based on a plausible range of the values
15 given. So the assumptions in the EPA and ATSDR
16 ingestion rates, she falls within that plausible range.

17 Q. You'd agree that Ms. Tukes could have been in
18 the, roughly, half the population that drinks less than
19 the central tendency exposure, right?

20 A. I'm looking at her deposition-informed
21 values, and they range closer to the RME than the CTE.
22 So based on her deposition, I would say she ranges
23 closer to the RME.

24 Q. You also used the RME values to model the
25 children that you modeled on base, right?

1 A. Can we look at those specifically?

2 Q. Go ahead and look at Appendix 11.

3 A. Okay, yes, I'm looking at Appendix 11,
4 Amsler. I also used a CTE and an RME value as possible
5 ranges.

6 Q. But for Ms. Amsler, you don't have a
7 deposition-informed value, correct?

8 A. Correct. I don't see one.

9 Q. Is it possible that Ms. Amsler consumed less
10 than the CTE of water per day?

11 A. It's unknown how much she consumed so the
12 default for in risk assessment is to use the CTEs and
13 RME values.

14 Q. When you applied risk assessment principles
15 to your exposure assessment, is that what you're
16 saying?

17 A. Exposure assessment is a step in risk
18 assessment. It's one of the steps.

19 Q. You'd agree that you don't know how much
20 water Ms. Amsler may have been drinking, right?

21 A. I don't know specifically how much water she
22 drank, no.

23 Q. And since you don't know, that means it could
24 be less than the CTE value, correct?

25 MR. MICELI: Object to the form.

1 A. The assumptions you would make in risk
2 modeling would be at the CTE or RME, which is why those
3 are the values that have been used in risk assessments
4 and that are represented in the ATSDR and in the
5 exposure factors handbook. So it's standard
6 methodology to use the CTE and RME.

7 Q. (BY MS. SILVERSTEIN) Sure. I understand
8 that it's standard methodology. My question's a little
9 bit different.

10 Just because the standard methodology is to
11 use the CTE or RME, doesn't mean that you actually know
12 whether a specific plaintiff consumed more or less than
13 the CTE, right?

14 MR. MICELI: Object to the form --

15 A. I don't know how much --

16 MR. MICELI: Excuse me. Object to the form
17 and foundation.

18 MR. SNIDOW: And asked and answered a few
19 times.

20 MS. SILVERSTEIN: I'll just note for the
21 record, the deposition protocol first limits you to
22 having one attorney speaking on the record. So I'd ask
23 that Mr. Miceli be the attorney speaking.

24 And second, there's not a prohibition that
25 prevents asking a question for clarification.

1 MR. SNIDOW: Well, that's --

2 MR. MICELI: Okay. Let the record reflect, I
3 join in Mr. Snidow's comment that this has been asked
4 and answered frequently.

5 MR. SNIDOW: Just for the record,
6 Mr. Miceli's been behaving appropriately and following
7 the deposition protocol. But this deposition has been
8 roughly 80 percent off topic from the disclosed topics
9 and highly repetitive. So just in case there's any
10 dispute about the content of this depo, I want that on
11 the record.

12 MS. SILVERSTEIN: I'm happy to go off the
13 record. But, Mr. Snidow, I'll ask you to refrain from
14 commenting on the record as it is in violation of the
15 parties' agreed upon deposition protocol.

16 If you'd like to discuss further. I'm happy
17 to go off the record and step out into the hallway but,
18 otherwise, I'll assume that your comments will be saved
19 for when we are not on the record.

20 MR. MICELI: Well, they are what they are.

21 MR. SNIDOW: Okay.

22 Q. (BY MS. SILVERSTEIN) You'd agree that this
23 exposure assessment that you did isn't being used for a
24 risk assessment, right?

25 A. Correct.

1 Q. It's being used to determine whether a
2 specific plaintiff's exposure to certain contaminants
3 caused their disease, right?

4 A. It's --

5 MR. MICELI: Object to the -- excuse me.
6 Object to the form, foundation.

7 A. Could you ask that again, please.

8 Q. (BY MS. SILVERSTEIN) Sure, this specific
9 exposure assessment that you did for Camp Lejeune is
10 being used as one of the steps to determine whether a
11 specific plaintiff was exposed to a certain disease,
12 right?

13 MR. MICELI: Object to the form.

14 A. My exposure assessment was to consider
15 plaintiffs' specific characteristics when available and
16 provide it to experts in epidemiology, and toxicology
17 so that they can make assessments about helping
18 causation. So my role was to do the exposure
19 assessment and provide that information on total
20 cumulative exposure.

21 Q. (BY MS. SILVERSTEIN) So you took your risk
22 assessment, and it was then provided to additional
23 experts, right?

24 MR. MICELI: Object to the form.

25 A. Well, I provided it to the lawyers, and I was

1 making the assumption they provided it to other experts
2 so...

3 MR. MICELI: Kailey, do you mean exposure
4 assessment or risk assessment?

5 MS. SILVERSTEIN: Exposure assessment.

6 MR. MICELI: You -- thank you. I just want
7 to --

8 MS. SILVERSTEIN: Did I say risk assessment?

9 MR. MICELI: I think you did, and I just want
10 to make sure you're clear.

11 Q. (BY MS. SILVERSTEIN) You're aware that your
12 exposure assessment was provided to other experts,
13 right?

14 A. That's my understanding, yes.

15 Q. And you're aware that those other experts
16 made determinations about whether a specific
17 individual's exposure caused a certain disease, right?

18 A. I haven't reviewed any other expert reports,
19 so I don't know that for certain, no.

20 Q. You spoke to some of the other experts?

21 A. I did in terms of clarification in my report,
22 and I think that was before they wrote their reports.
23 I don't know.

24 Q. I'll represent to you that this exposure
25 assessment went to other experts who then made or

1 formed opinions about a specific -- whether a specific
2 plaintiff's exposure caused their disease. Is that
3 fair? Do you understand that I'm representing that to
4 you?

5 A. Sure.

6 Q. Okay. Do you agree that that is a different
7 purpose for an exposure assessment than for risk
8 assessment?

9 A. Different purpose for exposure assessment? I
10 mean, exposure assessment is what it is. It's the
11 calculation of the concentrations in the environment,
12 the -- the ingested volumes, the exposure duration, the
13 exposure frequency. It would be the same type of
14 exposure assessment that would be done for risk
15 assessments as would be provided in the units I
16 provided for epidemiological studies.

17 Q. When you say for epidemiological studies, do
18 you mean, like, for cohort studies?

19 A. I mean, possibly. It would be any study that
20 would want to compare those concentration values in a
21 population that might be similar.

22 Q. In your opinion, is an exposure assessment
23 done for risk assessment -- are all of the same
24 parameters appropriate, than, if the exposure
25 assessment is being done to determine a specific

1 person's causation based on exposure?

2 MR. MICELI: Object to the form, foundation.

3 A. Exposure assessment is part of the risk
4 assessment calculation, but the risk assessment
5 involves other -- other input factors in the equation.

6 Q. (BY MS. SILVERSTEIN) So if a person was
7 making a determination based off an exposure assessment
8 about causation, and they're trying to determine actual
9 causation, not possible risk or the highest level of
10 risk there could be, but actual causation, would you
11 use all of the same parameters in doing your exposure
12 assessment?

13 MR. MICELI: Object to the form.

14 A. That depends on context. So there are a wide
15 variety of ways to do epi studies and animal toxicology
16 studies. So evaluating the units of measurement for
17 how dose was represented would be important to make
18 sure you're comparing across the same -- same units of
19 measurement.

20 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, have you
21 ever done an exposure assessment for litigation before?

22 A. No.

23 Q. Have you ever done an exposure assessment
24 where you're trying to determine whether a specific
25 individual suffered specific health outcomes based on

1 their exposure?

2 MR. MICELI: Object to the form, foundation.

3 A. No.

4 Q. (BY MS. SILVERSTEIN) An exposure assessment
5 might make conservative assumptions for when it's being
6 used for a risk assessment, right?

7 A. Yes.

8 MR. MICELI: Can you repeat that question and
9 answer. I want to make sure I heard it properly, if
10 you don't mind, Kailey.

11 MS. SILVERSTEIN: I said an exposure
12 assessment might make conservative assumptions that's
13 being used for a risk assessment. And I believe the
14 answer was yes.

15 MR. MICELI: Okay.

16 A. Yes.

17 Q. (BY MS. SILVERSTEIN) You can go ahead and
18 set both of those documents aside for now. I'm sure
19 we'll come back to them but -- well, we won't come back
20 to the ATSDR document most likely --

21 A. Okay.

22 Q. -- but your report and the calculations, I'm
23 sure we will.

24 THE DEPONENT: I think my pile is out of
25 order.

1 MR. MICELI: No. The shame.

2 Q. (BY MS. SILVERSTEIN) You said earlier that
3 you relied on the exposure factors handbook, right?

4 A. Yes.

5 (Deposition Exhibit 20 was marked.)

6 Q. (BY MS. SILVERSTEIN) I will go ahead and
7 mark 20.

8 MR. MICELI: Kailey, at this rate, you're
9 going to break Hannah's records for most exhibits in a
10 deposition, she had 34.

11 MS. SILVERSTEIN: I always strive to be
12 breaking records, Dave, maybe not that specific one.

13 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, you were
14 just handed Exhibit 20, which is -- at the top says,
15 "Exposure Factors Handbook, Chapter 2: Variety and
16 Uncertainty," right?

17 A. Yes.

18 Q. And this is dated September 2011, correct?

19 A. Yes.

20 Q. And you reviewed and considered this document
21 in preparing your reports; is that fair?

22 A. Yes.

23 Q. Can you turn to page 2-1. Are you on
24 page 2-1?

25 A. I am, yes.

1 Q. You'd agree that accounting for variability
2 and uncertainty is fundamental to exposure assessment
3 and risk analysis, right?

4 MR. MICELI: Object to the form.

5 A. I would agree that it's inherent in risk
6 assessment.

7 Q. (BY MS. SILVERSTEIN) When you say it's
8 inherent, do you mean there's inherently variability
9 and uncertainty?

10 A. Yes.

11 Q. And it's important for the exposure assessor
12 or risk assessor to know that, right?

13 A. I mean, it's inherent in the methodology.

14 Q. Would you agree that it's important for
15 someone interpreting a risk assessment or an exposure
16 assessment to know that that's inherent in the
17 methodology?

18 MR. MICELI: Object to the form.

19 A. It wouldn't necessarily change the input
20 parameters if you knew that or not. But it's a
21 foundational part of risk assessment.

22 Q. (BY MS. SILVERSTEIN) If someone were looking
23 at a risk assessment or exposure assessment that you
24 do, and applying your exposure assessment or risk
25 assessment to make policy or make decisions, do you

1 think it would be important for them to know that there
2 may be some uncertainty or variability that's inherent
3 in that methodology?

4 MR. MICELI: Object to the form.

5 A. I will say you don't have to know that to run
6 the risk assessment.

7 Q. (BY MS. SILVERSTEIN) So not quite asking
8 about running the risk assessment. If someone were
9 looking at your exposure assessment, you'd agree that
10 inherent in the methodology of exposure assessment
11 there's uncertainty and variability, right?

12 A. Yes.

13 Q. And so I want you to assume for a minute that
14 instead of being an attorney, I'm someone looking at
15 your exposure assessment to make decisions based on it.
16 Does that make sense?

17 A. Yes.

18 Q. Would you think it -- do you think it would
19 be important for me to know when I'm making decisions
20 based on your exposure assessment that there is some
21 variability and uncertainty involved in an exposure
22 assessment?

23 MR. MICELI: Excuse me, object to the form,
24 foundation.

25 A. Again, I don't think you have to be an expert

1 on that, that there's variability and uncertainty in
2 exposure assessment to form opinions about what the
3 information might mean if you're comparing it to other
4 studies or applying -- I mean, I'll leave it at that,
5 yeah.

6 Q. (BY MS. SILVERSTEIN) Go ahead to page 2-2.
7 The bottom left-hand corner on page 2-2, it provides
8 four different categories of variability, right?

9 A. Um-hum.

10 Q. I'm sorry, is that yes?

11 A. Oh, sorry, yes, it does.

12 Q. See, I told you there would be times it just
13 comes out like conversation.

14 A. I made it pretty far without doing it.

15 Q. You did, I'm impressed.

16 Those four types of variability are spatial
17 variability, temporal variability, intra-individual
18 variability and inter-individual variability, right?

19 A. Correct.

20 Q. I want to focus on inter-individual
21 variability. And if you look at the right-hand column
22 on page 2-2, about two-thirds of the way down, do you
23 see the bolded inter-individual variability?

24 A. Yes.

25 Q. It says, "Inter-Individual variability refers

1 to variation across individuals, three broad categories
2 include the following: Individual characteristics such
3 as sex, age, race, height or body weight including any
4 obesity, phenotypic genetic expression, and
5 pathophysiological conditions.

6 "Number two, individuals' behaviors such as
7 activity patterns and ingestion rates.

8 "And, three, susceptibility due to such
9 things as life stage or genetic predisposition."

10 Did I read that correctly?

11 A. Yes.

12 Q. In your report, you don't discuss
13 inter-individual variability, correct?

14 A. The -- it wasn't necessary for my -- what I
15 was doing.

16 Q. You'd agree that individual characteristics
17 of the 25 individuals you modeled could vary, right?

18 A. Certainly characteristics varied across each
19 individual, but that's why we evaluated individual's
20 specific input variables.

21 Q. It could also vary what their ingestion
22 rates -- the ingestion rate between individuals for
23 activity patterns could vary, right?

24 MR. MICELI: Object to the form.

25 A. Well, if you look at their individual

1 depositions, we know they varied. Some had higher
2 exposures than others, yes.

3 Q. (BY MS. SILVERSTEIN) Go ahead and turn to
4 page 2-3.

5 There's a heading that says, "2.4 types of
6 uncertainty."

7 Do you see that?

8 A. Let's see. Yes.

9 Q. The first sentence under heading 2.4 Types of
10 Uncertainty, it says that, "Uncertainty in exposure
11 analysis is related to the lack of knowledge concerning
12 one or more components of the assessment process,"
13 right?

14 A. Yes.

15 Q. It then says, "The U.S. EPA 1992 has
16 classified uncertainty and exposure assessment into
17 three broad categories: Scenario uncertainty -- one,
18 scenario uncertainty; two, parameter uncertainty; and,
19 three, model uncertainty," correct?

20 A. Correct.

21 Q. Would you agree that the -- your exposure
22 assessment has uncertainty built into it?

23 A. Well, what this is referring to is the
24 default values in the exposure factors handbook. So
25 that's the context of that statement. So what this

1 statement would drive is doing a site assessment, a
2 specific assessment of an individual would -- would
3 be -- would have reduced uncertainty potentially
4 because you're not using the population defaults that's
5 in the exposure factors handbook. You're using the
6 actual information you get from your plaintiff, your
7 individual.

8 Q. But, Dr. Reynolds, you did use the default
9 values in the exposure factors handbook for some of
10 your calculations, didn't you?

11 A. So when I didn't have specific
12 deposition-informed information, the best available
13 information available to me to do an exposure
14 assessment were the default values.

15 Q. And those default values have uncertainty
16 built into them, don't they?

17 A. They do.

18 Q. Can you turn to page 2-5. In the left-hand
19 column, the first full paragraph begins with "A
20 sensitivity."

21 Do you see that?

22 A. I'm on page 2-5. Oh, "A sensitivity
23 analysis," is that what you're looking at?

24 Q. Yes. It's says, "A sensitivity analysis can
25 be used to determine which parameters and exposure have

1 the most impact on an exposure assessment," correct?

2 A. Yes.

3 Q. You didn't do a sensitivity analysis for your
4 calculations, did you?

5 A. So a sensitivity analysis -- let me think
6 about doing one on a single individual. The answer is
7 no, I did not do a sensitivity analysis.

8 Q. You can go ahead and set that one aside.

9 A. Okay.

10 Q. Dr. Reynolds, would you agree that -- you'd
11 agree that the methods for evaluating current and past
12 exposures are essentially identical, right?

13 MR. MICELI: Object to the form.

14 A. Could you repeat that.

15 Q. (BY MS. SILVERSTEIN) Sure. In exposure
16 assessment, you can be evaluating a current or a
17 present time exposure or a past exposure, right?

18 A. Yes, you can do an exposure assessment on
19 current or past events.

20 Q. And the methods for evaluating current events
21 and past events for exposure assessment are basically
22 the same, right?

23 A. Not necessarily, depends on the context.

24 Q. So if you're modeling the same location and
25 the same individual, is the method the same for those

1 two exposure assessments?

2 A. It depends on what information is available
3 to you if the method would be the same.

4 Q. When you say "what information is available
5 to you," are you talking about the information you
6 would use for your parameters?

7 A. So you're talking about doing an exposure
8 assessment if -- if the same data was given to me in
9 terms of modeled water concentrations or ingestion
10 rates, frequency duration, the methods would be the
11 same.

12 Q. You'd agree that the data that you need to
13 evaluate a past exposure, there's often less data
14 available than a current exposure, right?

15 A. Not always. It depends on what information
16 was collected.

17 Q. Sure. And I appreciate that you said not
18 always but often when you're looking -- doing an
19 exposure assessment of a historical event, you may have
20 less data than if you're doing an exposure assessment
21 of something going on currently, right?

22 MR. MICELI: Object to the form.

23 A. I mean, it depends. It depends on what data
24 was available and what data was collected at that time.
25 So something could have happened recently and the right

1 data not be collected in terms of knowing more
2 information. Something could have happened a long time
3 ago, but that data was collected so you have a really
4 accurate record.

5 Q. (BY MS. SILVERSTEIN) You're limited to
6 whatever data -- for a past exposure assessment you're
7 limited to whatever data was collected at the time,
8 right?

9 A. Not necessarily, I mean, it could be data
10 that is modeled or it could be data that was, you know,
11 through, kind of, expert experience is likely or
12 plausible. So you're not just limited to what was
13 collected to do your exposure assessment.

14 Q. You can't go back and get the actual values
15 that a person was exposed to 20 years ago if it wasn't
16 collected, right?

17 A. Only through their testimony on what they
18 recall.

19 Q. For a current ongoing exposure if data is
20 missing, additional data can be collected, right?

21 A. Yes.

22 Q. When you were making -- when you were working
23 on your exposure assessment, you weren't provided with
24 journal entries or logbooks about how much a specific
25 person ingested at a specific time, correct?

1 MR. MICELI: Object to the form, foundation.

2 A. Correct. I have not seen diaries of anyone's
3 record of what they drank, no.

4 Q. (BY MS. SILVERSTEIN) And that's not included
5 in the military records, right?

6 MR. MICELI: Unless you're withholding
7 something from us.

8 A. No, I haven't seen that in the military
9 records.

10 Q. (BY MS. SILVERSTEIN) Would you agree that a
11 lack of contemporaneous documentation can lead to
12 uncertainty?

13 MR. MICELI: Object to the form.

14 A. There's always uncertainty inherent in
15 science. It's part of the process. So I suppose if
16 you don't have -- the more data you have, the less
17 uncertainty you have as a foundational concept in
18 research.

19 MS. SILVERSTEIN: We've been going about an
20 hour. I think this is a good time to take a short
21 break.

22 MR. MICELI: Okay.

23 THE VIDEOGRAPHER: The time is 3:39. We're
24 going off record.

25 (Recess taken from 3:39 p.m. to 3:53 p.m.)

1 THE VIDEOGRAPHER: The time is 3:53. We're
2 back on record.

3 Q. (BY MS. SILVERSTEIN) And, Dr. Reynolds, I
4 want to talk about the calculations that you did for a
5 couple of the plaintiffs. If you go ahead and turn to
6 Appendix 1 for Mr. Cagiano.

7 MR. MICELI: Is this in Exhibit 5 or in the
8 report?

9 MS. SILVERSTEIN: This is in the report.

10 MR. MICELI: Okay.

11 Q. (BY MS. SILVERSTEIN) Are you at Appendix 1?

12 A. Yes, I am.

13 Q. And you said earlier that the charts for
14 Mr. Cagiano were too small for you to be able to read,
15 right?

16 A. Yes.

17 Q. Then I'll go ahead and hand you Exhibit 21.
18 (Deposition Exhibit 21 was marked.)

19 MR. MICELI: These have been altered.

20 Q. (BY MS. SILVERSTEIN) And I'll represent to
21 you that this is a blown-up copy of the charts that you
22 prepared for Mr. Cagiano.

23 A. Yes.

24 Q. And are you able to read these charts better?

25 A. Yes, thank you.

1 MR. MICELI: And thank you for having it
2 done.

3 Q. (BY MS. SILVERSTEIN) Now, I want you to keep
4 these charts handy. But also go ahead and pull out
5 Exhibit 5, your calculations.

6 A. Yes.

7 MR. MICELI: For the folks on the record,
8 Kailey -- Ms. Silverstein has just identified Exhibit
9 Number 21, which is a blown-up version of the Cagiano
10 charts, which are Appendix 1 to Dr. Reynolds's record
11 and we -- that's all that has been done off the
12 record -- or on the record.

13 MS. SILVERSTEIN: I think we're on the
14 record.

15 MR. MICELI: Excuse me, on the record, and we
16 just realized we hadn't turned the microphone back on,
17 so you are now up to date.

18 Q. (BY MS. SILVERSTEIN) And, Dr. Reynolds, you
19 have Exhibit 5, your calculations, for -- in front of
20 you?

21 A. I do, yes.

22 Q. And are you looking at Appendix 1 for
23 Mr. Cagiano?

24 A. Yes, yes.

25 Q. I want to talk about, specifically, about the

1 equation you provided for Mr. Cagiano for Chart 3.

2 A. Okay.

3 Q. Do you see that equation?

4 A. Yes.

5 Q. And that equation says that the total
6 chemical in micrograms per liter equals the number of
7 training days times 8.52 liters per day times the
8 chemical concentration in micrograms per liter, plus
9 the routine days times 5.21 liters per day times the
10 chemical concentration in micrograms per liter; is that
11 right?

12 A. Yes.

13 Q. And for Chart 3, you used three training days
14 and four routine days, correct?

15 A. Correct.

16 Q. So if we plug that into your equation, then
17 the total chemical cons- -- the total chemicals in
18 micrograms per liter should be 3 days times 8.52 liters
19 per day, times the chemical concentration plus 4 times
20 5.21 liters per day times the chemical concentration,
21 correct?

22 A. Yes.

23 Q. So I want to make sure that you have Chart 3
24 in front of you. Do you have Chart 3?

25 A. I do, yes, and Chart 3 actually says

1 deposition-informed days, so it was not the ATSDR
2 default -- oh, no, it is using the ATSDR default. No,
3 it's correct.

4 Q. And so then to determine what the cumulative
5 consumption and -- in the third column is -- so in Row
6 1 where you have one workday for TCE, the micrograms
7 per liter a month is 348. And to determine what we get
8 in the third column, which says 2,306, we should be
9 able to apply the calculation that you provided, right?

10 A. Correct.

11 Q. Okay. And so that would be 3 training days
12 times 8.52 liters per day times 248 micrograms per
13 liter plus 4 routine days times 5.21 liters per day
14 times 348 micrograms per liter, right?

15 A. Correct.

16 Q. I assume that that's not mental math that you
17 can do, right?

18 A. Right.

19 Q. Okay. So I will then represent to you that
20 the first half of that equation, 3 times 8.52 liters
21 per day times 348 micrograms per liter is 8,894. Is
22 that a fair representation to make to you,
23 understanding you haven't done the math for yourself
24 today?

25 A. Yeah, so if you're telling me you did that

1 math, and that's what you're getting, then I understand
2 you're saying that, yes.

3 Q. Okay. And then the second half of that
4 equation is 4 days times 5.21 liters per day times 348,
5 right?

6 A. Yes.

7 Q. And I'll represent to you that that is 7,252.
8 Do you understand I'm representing that value to you?

9 A. Yes.

10 Q. So then to determine what the total chemical
11 concentration in micrograms is, we would want to add
12 the first half of that equation to the second half of
13 the equation, right?

14 A. Yes.

15 Q. Okay. So based on the numbers that I'm
16 representing to you, that would be 8,894 micrograms
17 plus 7,252 micrograms. And I assume that that's mental
18 math, adding those two numbers together, it's not
19 something you're comfortable doing, right?

20 A. Right, for the exact value.

21 Q. Sure.

22 A. Yeah.

23 Q. I'll represent that adding those two numbers
24 together comes out to 16,146 micrograms. Do you
25 understand that I'm making that representation?

1 A. Yes.

2 Q. And you'd agree that the cumulative
3 consumption in micrograms reflected in your chart is
4 2,306, right?

5 A. Well, that was for just one-day exposure.

6 Q. So --

7 A. Yeah, my chart says 2,306.

8 Q. And you'd agree that 2,306 and 16,146 are not
9 the same number, right?

10 A. Correct.

11 Q. And you'd agree we went through and we
12 applied -- we applied the equation as it was written on
13 that -- in Exhibit 5, right?

14 A. It appears to be, but I have a note saying
15 this was deposition-informed data, so I'd like to
16 clarify -- I'd like to be able to check my calculations
17 and clarify what the deposition-informed data was.

18 Q. Would you agree that, you know, we went
19 through the equation together?

20 A. As written here, yes.

21 Q. Right. And you said earlier that these are
22 the equations that you applied to your chart, right?

23 A. In general, yes.

24 Q. You said "in general." Are there instances
25 where you calculated the cumulative consumption in

1 your -- in your appendices using the equations that are
2 not reflected in Exhibit 5?

3 A. No. It's just that where it's saying,
4 "deposition-informed values were used," there might
5 have been some proportionate exposure that is part of
6 training days that may not be fully represented here.
7 I don't know but just because you're pointing out a
8 discrepancy in your calculation and mine warrants me to
9 double-check where that discrepancy is.

10 Q. You'd agree that the calculation as written
11 produces a different result than the one in your chart,
12 right?

13 MR. MICELI: Objection, excuse me, object to
14 the form, foundation. And I don't want to say anything
15 else but go ahead. I may have to clear this up later
16 but...

17 A. Could you ask that question again, please.

18 Q. (BY MS. SILVERSTEIN) You'd agree that the
19 calculation written in Exhibit 5 for Chart 3 is a
20 different -- is a different -- results in a different
21 number than what's reflected in your chart, correct?

22 MR. MICELI: Same objection.

23 A. I think there may be missing a
24 deposition-informed variable that is part of training
25 days and routine days that isn't reflected in this

1 generalized calculation.

2 Q. (BY MS. SILVERSTEIN) So you'd agree that
3 this -- so then are you saying that this calculation
4 may not be the -- may not represent all of the
5 variables that you included in the calculation that you
6 used for Mr. Cagiano?

7 MR. MICELI: Same objection -- object to the
8 form.

9 A. No, I mean, it represents the same variables
10 but there may have been a proportionate adjustment in
11 that based on a deposition.

12 Q. (BY MS. SILVERSTEIN) You'd agree that
13 there's not a proportionate adjustment identified in
14 your chart for Mr. Cagiano's calculations, right?

15 MR. MICELI: Object to the form.

16 A. It's not clear looking at this what the
17 proportionate adjustment was.

18 Q. (BY MS. SILVERSTEIN) I want to go ahead and
19 turn to Appendix 6 of your report, which is not -- it's
20 included in the Exhibit 10. So the document you're
21 flipping through right now is just Mr. Cagiano, so you
22 can go ahead and set that aside right now.

23 A. Okay. Back to Exhibit 10. And you said 6.

24 Q. Yes, Appendix 6 for David Downs.

25 A. Okay.

1 Q. If you can take a quick look through the
2 charts you provided for Mr. Downs. Are you able to
3 sufficiently see the information in those charts, or do
4 you need a larger copy?

5 A. I need a larger copy, please.

6 Q. And I will hand you Exhibit 22.

7 (Deposition Exhibit 22 was marked.)

8 Q. (BY MS. SILVERSTEIN) Are you able to better
9 see the charts for --

10 A. Yes, thank you.

11 Q. -- Mr. Downs?

12 A. We'll give it a try.

13 Q. All right. And if you go ahead and look in
14 Exhibit 5 just your calculations, also turn to Appendix
15 6 for Mr. Downs.

16 A. Remind me which appendix that was.

17 Q. Appendix 6.

18 A. Six, got it.

19 Q. Are you at Appendix 6 for Mr. Downs?

20 A. Yes.

21 Q. And you did -- you modeled four charts for
22 Mr. Downs, right?

23 A. Correct.

24 Q. And just like with the calculations you did
25 for Mr. Cagiano, these represent the full calculation

1 that you did for Mr. Downs, right?

2 A. This is the calculation summary for
3 Mr. Downs, yes.

4 Q. And if someone wanted to know how you got the
5 values in your report for Mr. Downs, they should be
6 able to follow this equation and get your result,
7 right?

8 A. Yes.

9 Q. Take a look at Chart 2, which starts at the
10 bottom of the second page. And do you see the Chart 2
11 equation in Exhibit 5?

12 A. Yes.

13 Q. Okay. So for Chart 2, you have two
14 equations, the first is a split equation, right?

15 A. Yes.

16 Q. What does split mean?

17 A. So we have a number of factors here. One is
18 that there were workplace exposures, and then the
19 second one there was residential exposures. And they
20 were in two different areas with two different water
21 sources with different monthly mean concentrations.

22 Q. Looking at Chart 2 for Mr. Downs, in that
23 very first row for February 16, 1960, to February 29,
24 1960. Do you see that row?

25 A. Yes.

1 Q. It says, "Total days at work location: 14."
2 And then the next column is, "Total days at residential
3 location: 14," right?

4 A. Correct.

5 Q. And so then the split equation would be the
6 appropriate equation to apply to that row, right?

7 A. Yeah, so in the equation it's -- the exposure
8 was split between the workplace exposure at Hadnot
9 Point and then the residential exposure at Tarawa
10 Terrace, and each of those might be 14.

11 Q. When you say "each of those might be 14,"
12 that time period, February 16th to February 29th,
13 that's 14 days, right?

14 A. Yes.

15 Q. So, then, is this row saying that Mr. Downs
16 consumed water at both Hadnot Point and Tarawa Terrace
17 on each of those 14 days?

18 A. Correct.

19 Q. So of the two equations that you provided for
20 Chart 2, the appropriate equation would be the split
21 equation, right?

22 A. For this particular row where he had
23 exposures both at Hadnot Point and Tarawa Terrace, yes.

24 Q. Sure. And the questions I'm asking right now
25 are limited to this Row 1.

1 A. Okay.

2 Q. And if I ask about any other row, I will -- I
3 will let you know that I'm asking about --

4 A. Okay.

5 MR. MICELI: Just so we're clear, Table 2,
6 Row 1?

7 MS. SILVERSTEIN: Yes.

8 MR. MICELI: Okay.

9 Q. (BY MS. SILVERSTEIN) Okay. So I want to
10 walk through that equation with you. So the split
11 equation says, "The total chemicals in micrograms is
12 the number of work days times 3.092 liters per day
13 times the chemical concentration at the work location
14 in micrograms per liter times .333 proportion plus the
15 number of residential days times 3.092 liters per day
16 times the chemical concentration at the residential
17 location in micrograms per liter times 0.667
18 proportional adjustment," right?

19 A. Correct.

20 Q. So I'm going try and go slow so that you can
21 follow what I'm saying, but I want to walk through what
22 the inputs we will put into that equation would be.

23 A. Okay.

24 Q. So to determine the total exposure for TCE in
25 Chart 2, we would do the number of workdays, which is

1 14, times 3.092 liters per day times the work chemical
2 concentration of 11 in micrograms per liter times .33
3 for that first half of the equation, right?

4 A. Correct.

5 Q. Then the second half of that equation would
6 be 14 residential days times 3.092 liters per day times
7 the residential chemical concentration of one microgram
8 per liter times 0.667 proportional adjustment, right?

9 A. Yes.

10 Q. That first half of the equation, 14 times
11 3.092, times 11.333, I assume that's not something you
12 can do as mental math, right?

13 A. Right.

14 Q. I will represent that that comes out to be
15 158.564.

16 MR. MICELI: Did you say 11.333 or just .333.

17 MS. SILVERSTEIN: Eleven times .333.

18 MR. MICELI: Okay.

19 Q. (BY MS. SILVERSTEIN) Do you understand that
20 I'm representing that that comes out to be 158.564?

21 A. I understand that's what you're saying, yes.

22 Q. Okay. And that second half of the equation,
23 then, is 14 times 3.092 times one times .667 proportion
24 adjustment, right?

25 A. Yes.

1 Q. And I will represent that that comes out to
2 be 28.873. Do you understand that I'm making that
3 representation?

4 A. Yes.

5 Q. So then to determine the total cumulative
6 consumption, assuming my numbers are right, you would
7 add 158.564 and 28.873, right?

8 A. Yes.

9 Q. And I will represent that that works out to
10 be 187 micrograms. Do you understand that
11 representation?

12 A. Yes.

13 Q. In your Chart 2 -- for Mr. Downs, your
14 cumulative consumption for Tarawa Terrace and Hadnot
15 Point is 201, correct?

16 A. Yes.

17 Q. And you'd agree that 187 and 201 are not the
18 same number, right?

19 A. Correct.

20 Q. To the best of your knowledge, is there
21 information missing from your equation in Chart 2?

22 A. There's not, to the best of my knowledge,
23 information missing, but I would need to verify where
24 the discrepancy is.

25 Q. So if my numbers are right and they don't

1 match yours, would you agree that the equation provided
2 in Chart 2 does not produce the result in Chart 2?

3 MR. MICELI: Object to the form.

4 A. I would need to verify where the discrepancy
5 is. I don't know if there's something missing in your
6 calculation or mine.

7 Q. (BY MS. SILVERSTEIN) Sure. If you assume
8 that the number I represented from that equation is
9 correct, would you agree that there's some discrepancy
10 between the equation you and I just walked through and
11 the value that you included in your chart?

12 A. If we --

13 MR. MICELI: Object to the form.

14 A. If we have different numbers, there's a
15 discrepancy that needs to be evaluated.

16 Q. (BY MS. SILVERSTEIN) Okay. Would you agree
17 that model developers and users should subject their
18 model to a credible and objective peer review?

19 MR. MICELI: Object to the form.

20 A. Please repeat.

21 Q. (BY MS. SILVERSTEIN) Would you agree that
22 model developers and users should subject their model
23 to a credible and objective peer review?

24 MR. MICELI: Same objection.

25 A. Depends on context and what the model is

1 being used for.

2 Q. (BY MS. SILVERSTEIN) And I'll just note for
3 the record that we'll follow up through counsel about
4 the discrepancies in -- between the calculations you
5 provided in --

6 A. Okay.

7 Q. -- your charts. We will follow up with the
8 plaintiffs' counsel directly.

9 So if the context matters, are there
10 instances where a model doesn't need to be subjected to
11 a credible and objective peer review?

12 A. It depends on the context. I mean, I -- I
13 teach a course in risk assessment. My students create
14 models all the time, and they may even present them to
15 community members, but they haven't necessarily been
16 peer reviewed. So it's an exercise sometimes.

17 Q. And that's in a classroom environment, right?

18 A. In -- in the classroom and outside of the
19 classroom, yes.

20 Q. And you said these are your students doing
21 these models, right?

22 A. That was one example, yes.

23 Q. What other examples can you think of where a
24 model doesn't need to be subjected to a credible and
25 objective peer review?

1 MR. MICELI: Object to the form.

2 A. The word "doesn't" need to is causing me some
3 uncertainty in how to answer that because we don't
4 always -- you don't always have models going through
5 peer review, and yet they say still can be utilized for
6 decisions.

7 Q. (BY MS. SILVERSTEIN) In what circumstances
8 would you rely on or use a model that has not been peer
9 reviewed?

10 MR. MICELI: Object to the form, foundation.

11 A. I mean, any -- a model could be available and
12 not peer reviewed and still useful.

13 Q. (BY MS. SILVERSTEIN) Have you used models
14 that haven't been peer reviewed in your professional
15 work?

16 A. Yes.

17 Q. In what circumstances?

18 A. We've done -- we've done site assessments for
19 decision-making in emergency situations is one example
20 where you don't wait for a peer review and a
21 publication to inform the community that there's a risk
22 that needs to be managed.

23 Q. So I think maybe I need to clarify, right?

24 A. Okay.

25 Q. There's a model, right, the develop -- the

1 software or device that you use to do exposure
2 assessment. And then there's the modeled results,
3 right? Do you understand the difference between those
4 two things I'm describing?

5 A. So you're describing the model as the
6 software and then the result is the output of the
7 software.

8 Q. Yes.

9 A. Okay.

10 Q. Does that make sense, that distinction?

11 A. I think so.

12 Q. When you're talking about using a model in an
13 emergency situation to make decisions, are you talking
14 about using a software -- like a modeling software that
15 hasn't been peer reviewed, or are you talking about not
16 peer reviewing the results?

17 MR. MICELI: Object to the form.

18 A. Well, there's a framework for what you're
19 calling the model software, which isn't necessarily a
20 software. It's just you have a collection of input
21 variables, and those might not always be peer reviewed.
22 You might not have the time or the capacity to have
23 your input variables peer reviewed. So it's the input
24 variables that go into the software that produces the
25 output result.

1 Q. (BY MS. SILVERSTEIN) Sure. And the software
2 is like the device that you can use to run the
3 calculations, right?

4 A. I'm definitely not understanding what you
5 mean by "device to run the calculations."

6 Q. So if we take a look at any one of these
7 calculations, right, you'd agree that there's a
8 calculation. And then the next step would be you have
9 to determine what parameters -- so, for example, what
10 work days and what chemical concentration to plug into
11 the equation --

12 A. Yes.

13 Q. -- and then it produces a result, right?

14 A. Yes.

15 Q. Okay. So if we think of -- if you're doing
16 emergency planning and you're, you know, using modeling
17 to help inform decision-making, you have the equation
18 that an exposure assessor would use, right?

19 A. Yes.

20 Q. Okay. And then you have the parameters that
21 you plug into that equation, right?

22 A. Yes.

23 Q. And then you have the results of that
24 equation, right?

25 A. Yes.

1 Q. Okay. So, you know, the equation itself or
2 the principle itself, right? So before you get to the
3 plugging in parameters point, in your opinion, does --
4 does that need to be peer reviewed or widely accepted
5 in science?

6 A. Are you talking about the equation or the
7 input?

8 Q. The equation. So before you even get to the
9 putting in your parameter stuff.

10 A. Right. Yes, so we're talking about a risk
11 assessment framework. That would be something that
12 would be peer reviewed. So it's -- it's, you know, the
13 framework itself would be foundationally what we would
14 all be using that would be consistent. So that's why
15 we have guidance and public health assessments on how
16 to consistently do it the same.

17 Q. Are you familiar with the National Research
18 Council?

19 A. Yes.

20 Q. Do you consider the National Research Council
21 to be a generally reputable organization?

22 MR. MICELI: Object to the form.

23 A. I think it depends on the context.

24 Q. (BY MS. SILVERSTEIN) In exposure science, is
25 the National Research Council's work generally

1 considered to be reliable or have a good reputation?

2 MR. MICELI: Object to the form.

3 A. Depends on the context. I'm not -- not
4 willing to make a blanket statement that everything
5 they do is credible or valid or --

6 Q. (BY MS. SILVERSTEIN) Sure, and I'm not --

7 A. -- respected.

8 Q. I'm not asking for a blanket statement about
9 everything they do. But if someone said, like, "Oh,
10 I'll send you an NRC publication or what NRC thinks
11 about this," would you generally think, "Oh, that's
12 probably reliable." If you have to read it, of course,
13 but probably a reliable source. Or would you think,
14 "Oh, that that's not a reliable source," or -- yeah.

15 MR. MICELI: Object to the form.

16 A. I would need to see specifically what we were
17 talking about and what other agencies might be saying
18 about the same topic. I mean, it would be a broader
19 evaluation than just saying, "The NRC did it. That's
20 something that I'm going to assume is credible."

21 Q. (BY MS. SILVERSTEIN) Do you consider the
22 ATSDR a generally reputable source?

23 A. Similarly, I would look at specifics on what
24 they are producing and what other opinions might be
25 from other experts. I mean, a lot of things when they

1 get published and go through peer review, especially
2 for federal agencies, they put up reports and they
3 allow time for public comment. So, you know, that adds
4 to the credibility when you see what other experts
5 might be saying about the same content.

6 Q. Are you aware that the National Research
7 Council is the operating arm of the National Academies
8 of Sciences?

9 A. Yes, generally.

10 (Deposition Exhibit 23 was marked.)

11 Q. (BY MS. SILVERSTEIN) I am handing you
12 Exhibit 23.

13 A. Thank you.

14 Q. I handed you Exhibit 23, which is a
15 publication from the National Academies of Sciences,
16 Engineering, and Medicine titled Exposure Science in
17 the 21st Century: A Vision and a Strategy (2012).

18 Have you reviewed this document before?

19 A. No.

20 Q. Go ahead and turn to page 52. Are you on
21 page 52?

22 A. I am, yes.

23 Q. And the last paragraph on page 52, it starts
24 with the word "Environmental."

25 Do you see that?

1 A. Yes.

2 Q. It says, "Environmental exposures typically
3 occur over extended periods of time at varying
4 intensities, requiring a shift in thinking from simple
5 exposure-response to exposure-time-response
6 relationships," right?

7 A. That's what it says, yes.

8 Q. Do you agree with that statement?

9 A. Well, I need to see more context because how
10 they're defining "extended periods of time," if they're
11 talking about exposures -- typically vary in a matter
12 of minutes versus a matter of years. That's
13 a very different time period, right?

14 Q. Do you agree that in conducting an exposure
15 assessment, one should take into account the
16 relationship between -- the amount of time that a
17 person was exposed?

18 A. Exposure duration is a fundamental part of
19 exposure assessment, yes.

20 Q. The next sentence there says, "These can be
21 quite complex, involving modifying effects of
22 age-at-exposure, time-sense-exposure,
23 duration-of-exposure and other time-related factors,"
24 right?

25 A. That's what it says, yes.

1 Q. Do you agree that age-at-exposure is
2 something that should be modified in an exposure
3 assessment?

4 A. It can be, in particular when you're talking
5 about children.

6 Q. And when you say "children," do you mean
7 under the age of 18?

8 A. Generally, under the age of 16 and even in
9 younger time frames. And it depends on the context,
10 again, because different contaminants, different
11 exposures have different impacts at different ages, so.

12 Q. When determining -- I'm sorry, did you finish
13 your answer?

14 A. No, that's fine, yeah.

15 Q. When determining what parameters to modify
16 for your report for this litigation, did you consider,
17 for example, how TCE affects people of different ages?

18 MR. MICELI: Object to the form.

19 A. That was not part of my exposure assessment
20 no.

21 Q. (BY MS. SILVERSTEIN) Okay. You can go ahead
22 and set that document aside.

23 MR. MICELI: I'm going to have to buy one of
24 your boxes from you to carry all this home.

25 Q. (BY MS. SILVERSTEIN) I want to talk about

1 Ms. Dyer, which is Corrected Appendix 3, correct?

2 MR. MICELI: Did we already identify that
3 one?

4 MS. SILVERSTEIN: Yes, it's Exhibit 7.

5 MR. MICELI: Okay.

6 Q. (BY MS. SILVERSTEIN) Do you have Exhibit 7
7 in front of you?

8 A. I do.

9 Q. All right. And this is a corrected appendix
10 you did for Ms. Dyer, right?

11 A. Yes.

12 Q. Would you agree that you modeled Ms. Dyer --
13 Ms. Dyer's exposure beginning when she was about six
14 years old?

15 A. My recollection is the age category was five
16 to seven. I don't know that I knew exactly.

17 Q. Okay. You used an age category?

18 A. Yes, I did. Yes.

19 Q. So that means that if Ms. Dyer was five, six,
20 or seven, the parameters you would have selected would
21 be the same; is that correct?

22 A. Yes.

23 Q. And go ahead and turn to, in Exhibit 5 in
24 your calculations, Appendix 3. Are you at Appendix 3?

25 A. I am, yes.

1 Q. For Chart 4 for Ms. Dyer, it's titled Days on
2 Base and Cumulative Contaminant Exposure
3 Concentrations, ATSDR Reasonable Maximum Exposure RME
4 Intake Less Than Six Years, Deposition-Informed Intake
5 Over -- More Than Or Equal to Six Years, right?

6 A. Correct.

7 Q. And for Ms. Dyer's consumption, you modeled
8 her as drinking two 12-ounce cups of tea, right?

9 A. Yes.

10 Q. And you modeled her as drinking ten 12-ounce
11 cups of water, correct?

12 A. Correct.

13 Q. There are different standard glass sizes,
14 right?

15 A. I don't know that I would say there are
16 different standard glass sizes. There are different
17 glass sizes.

18 Q. You'd agree that some mugs may be -- mugs of
19 tea may be 8 ounces, right?

20 A. Yes.

21 Q. Or they could be 10 ounces, correct?

22 A. They could be -- they could be smaller than
23 12 ounces, yes.

24 Q. Okay. When recommendations for how much
25 water to drink are made by physicians to -- to

1 civilians, you're aware that those are often made in
2 terms of how many 8-ounce glasses of water to drink,
3 right?

4 MR. MICELI: Object to the form.

5 A. No. And in particular, her reference was not
6 to a cup of tea. It was to, I believe, sweet tea. It
7 was to an iced tea is what my recollection is. So
8 those -- those would be -- I would assume those from my
9 experience to be larger glasses, potentially using ice.
10 Not like a cup of tea, which I generally assumed and I
11 did in my other assumptions when people mentioned
12 drinking a cup of coffee or tea that was brewed at
13 home, I looked at the size of a teapot and the number
14 of cups in a teapot or a coffee pot. And I assumed a
15 lower ounce for that. But in her deposition the
16 inference was that it was iced tea.

17 Q. (BY MS. SILVERSTEIN) So I think my question
18 was a little bit different. It's not about where you
19 got the number for Ms. Dyer.

20 A. Um-hum.

21 Q. You'd agree that there are medical or
22 regulatory agencies that make recommendations to the
23 general public about how much water to drink, right?

24 MR. MICELI: Object to the form, foundation.

25 A. I have seen recommendations for how much

1 water people should drink a day, yes.

2 Q. (BY MS. SILVERSTEIN) And have you seen those
3 represented as a number of 8-ounce glasses --

4 MR. MICELI: Object to --

5 Q. (BY MS. SILVERSTEIN) -- that an individual
6 should consume?

7 MR. MICELI: Excuse me. Object to the form
8 of the question.

9 A. No, not specifically. More so the volume of
10 water that people should be drinking and then maybe
11 speaking of it in the context of measurements. But I'm
12 not aware that they specifically say how many ounces --

13 Q. (BY MS. SILVERSTEIN) And when you say
14 speaking --

15 A. -- per glass. Sorry.

16 Q. -- in terms of measurements, you have never
17 seen someone say, you know, you should drink "X" number
18 of 8-ounce glasses per day?

19 A. No.

20 Q. You'd agree that a 12-ounce glass is larger
21 than an 8-ounce glass, right?

22 A. Yes.

23 MR. MICELI: We'll stipulate to that.

24 Q. (BY MS. SILVERSTEIN) And you'd agree that
25 Chart 4 you modeled Ms. Dyer as consuming 12, 12 -- so

1 12, 12-ounce cups of fluid, right?

2 A. Correct.

3 Q. Would you agree that 12, 12-ounce cups of
4 fluid is 144 ounces?

5 A. Yes.

6 Q. If you divide 144 ounces by 8-ounce cups, it
7 would be 18 8-ounce glasses; is that right?

8 A. I'll take your word for that.

9 Q. So then based off of the values that you used
10 in Chart 4, is it your opinion that Ms. Dyer consumed
11 the equivalent -- or consumed 144 ounces of fluid per
12 day?

13 A. Based on her deposition statements and the
14 context of that, how she was saying she drank a lot of
15 water, yes, I think that's a plausible value as an RME.
16 I also provide CTE values for a more conservative
17 estimate of exposure. But a 4.25-liter per day
18 consumption for that portion of -- of what she reported
19 in her deposition, I think is plausible, yes.

20 Q. And you calculated that out to be
21 4.259 liters per day, right?

22 A. Yes.

23 Q. The ATSDR RME that you used for civilian
24 workers was 3.092 liters per day, right?

25 A. Yes.

1 Q. So you modeled Ms. Dyer as -- I guess I
2 should first clarify that civilian worker RME of 3.092
3 is for adult civilian workers, right?

4 A. Yes.

5 Q. You modeled Ms. Dyer as drinking more water
6 per day as a child than the ATSDR RME for civilian
7 workers, right?

8 A. Yes.

9 Q. The ATSDR value for Marines in training is
10 4.334 liters per day, right?

11 A. Yes.

12 Q. Is it your opinion, then, that for Ms. Dyer's
13 time at Camp Lejeune as a child, she consumed almost
14 the same amount of water as an adult Marine in
15 training?

16 MR. MICELI: Object to the form of the
17 question.

18 A. It's in her deposition that it was, and so
19 that's a value I should have considered, and I did.

20 Q. (BY MS. SILVERSTEIN) Do you think that's a
21 reasonable amount for a child to drink?

22 MR. MICELI: Object to the form, foundation.

23 A. I think it is a reasonable maximum exposure
24 value, yes.

25 Q. (BY MS. SILVERSTEIN) You can go ahead and

1 set Ms. Dyer aside. I want to turn now to Appendix 20
2 for Mr. Vidana. And if you could turn to that in your
3 report, and let me know if you're able to read those
4 charts.

5 A. Okay. Yes, I can read these charts.

6 Q. Okay. Great. You modeled Mr. Vidana as at
7 Camp Lejeune from May 8, 1983, to June 30, 1983, right?

8 A. Correct.

9 Q. And you listed -- you modeled Mr. Vidana as
10 having 1.5 visits to Hadnot Point per week, correct?

11 A. Correct.

12 Q. I want to take a look at the calculations
13 that you did for Mr. Vidana in Exhibit 5, if you can
14 turn to the Appendix 20 in Exhibit 5.

15 A. Yes.

16 Q. You got it, Appendix 20 in Exhibit 5?

17 A. Yes.

18 Q. So I want to look at Chart 2, which is the
19 RME. In your equation for Chart 2, you have exposure
20 days times 1.5 visits per week and then the rest of the
21 equation there, right?

22 A. Um-hum.

23 Q. I'm sorry, is that a yes?

24 A. Yes, yes, that's a yes.

25 Q. So then if someone was trying to replicate

1 your equation, would they do times the value of 1.5 for
2 that part of the equation?

3 A. So they would take the number of days
4 exposed. Should be number of days exposed divided by 7
5 days in a week times 1.5 visits per week times the
6 volume.

7 Q. What does 1.5 visits per week mean?

8 A. As I recall, he reported 1 to 2 days per week
9 working at Hadnot Point. And so I took the average of
10 those, not knowing if it was 1 or 2. I used 1.5.

11 Q. So when you say 1.5 visits per week --

12 A. Correct.

13 Q. -- you're modeling him as having a full
14 day-and-a-half of exposure at Hadnot Point; is that
15 right?

16 A. I modeled him at a two-thirds proportion day.

17 Q. Okay. So you would do the calculation for --
18 as if he were there 1.5 visits per day and then adjust
19 it by two-thirds; is that right?

20 A. 1.5 visits per week.

21 Q. Excuse me, 1.5 visits per week.

22 A. And then adjusted that it was -- on his
23 Hadnot Point visit days it was two-thirds of his
24 intake. He reported long days when he was on base.

25 Q. Okay. So two-thirds of his water intake for

1 1.5 days of the week would be at -- from Hadnot Point;
2 is that right?

3 A. Correct.

4 Q. Okay. How did you determine that Mr. Vidana
5 visited Hadnot Point 1.5 days per week?

6 MR. MICELI: Object to the form.

7 A. I would need to verify specifically from the
8 deposition reference, but my recollection is he said he
9 visited one to two days per week.

10 Q. (BY MS. SILVERSTEIN) So then would the
11 source that you're relying on be Mr. Vidana's
12 deposition testimony?

13 A. Correct.

14 Q. Is there any other source that you relied on
15 to determine Mr. Vidana visited Hadnot Point 1.5 days
16 per week?

17 A. Not that I recall, no.

18 Q. Okay. You'd agree that based on your chart
19 and your equations for Mr. Vidana, you did not model
20 him as exposed to contaminated water where he lived or
21 worked except for those 1.5 visits to Hadnot Point per
22 week, correct?

23 A. That's correct, yeah.

24 Q. Is your assumption that he -- you should have
25 a copy of Mr. Vidana's deposition with you. It is

1 Exhibit 13. Go ahead and pull that out, please.

2 MR. MICELI: I'll help you.

3 MS. SILVERSTEIN: It's a big stack of paper.

4 A. Thank you.

5 Q. (BY MS. SILVERSTEIN) Do you have

6 Mr. Vidana's deposition exhibit?

7 A. I do.

8 MR. MICELI: Hold on just one second. I
9 don't want exhibits being divided up here. Excuse me.

10 THE DEPONENT: I got it.

11 MR. MICELI: At my expense. Good ninja
12 catch.

13 Q. (BY MS. SILVERSTEIN) Can you turn to
14 page 105 of Mr. Vidana's deposition, please.

15 A. I'm there.

16 Q. And you're aware that Mr. Vidana was at Camp
17 Lejeune for MOS training, right?

18 A. Yes.

19 Q. If you go to page 105, line 6, it says, "Was
20 all of your MOS training at Camp Johnson?" And the
21 answer is, "Yes, sir."

22 Do you see that?

23 A. I do.

24 Q. Is your assumption that he visited Hadnot
25 Point 1.5 times per week based on Mr. Vidana's

1 testimony about the officer's club or E-club?

2 A. I don't recall that specifically, why he
3 visited on base.

4 Q. Do you recall why you chose to model
5 Mr. Vidana as having 1.5 visits to Hadnot Point per
6 week?

7 A. I don't recall specifically. I would need to
8 check the records.

9 Q. When you say you need to check the records,
10 what would you need to check?

11 A. My references of where I -- I got that
12 information.

13 Q. When you say the references for where you got
14 that information, that would be included in the
15 timelines that you prepared, right?

16 A. I don't know if it's in the timeline or if
17 it's in the deposition notes, information extracted
18 from the deposition.

19 Q. And those deposition notes, those haven't
20 been produced, correct?

21 A. No.

22 Q. So sitting here today, you can't tell us what
23 1.5 visits per day for Mr. Vidana was based on; is that
24 right?

25 A. No. I just recall him stating that he

1 visited one to two times per week.

2 Q. So I will then direct you to page 128. Are
3 you on page 128?

4 A. No, I didn't hear that. Okay.

5 Q. On page 128, starting at line 17, Mr. Vidana
6 discusses going to O-clubs, or officer clubs, and
7 E-clubs on base, right?

8 A. Yes.

9 Q. And you'd agree that Mr. Vidana does not
10 specify where the location of those E-clubs or O-clubs
11 was on base, right?

12 A. Not on page 128, no.

13 Q. Is there somewhere else in the deposition
14 that he specified where the O-clubs or E-clubs were?

15 A. I don't know from memory, I would have to
16 scan it for that information.

17 Q. And you didn't provide that information in
18 your timeline, right?

19 A. No.

20 Q. When Mr. Vidana went to the E-clubs or
21 O-clubs on base, he was going there to socialize with
22 other Marines, right?

23 MR. MICELI: Object to the form -- withdraw
24 that.

25 A. I mean, it doesn't say why he was going

1 there. On this page you're referring me to, he says to
2 play pool. Yeah, he says he would go there and -- with
3 other enlisted people and play pool.

4 Q. (BY MS. SILVERSTEIN) So he -- and based on
5 his testimony here, he was not going to the E-club or
6 O-club for work, right?

7 A. On this page, no, it doesn't appear that he
8 was, no.

9 Q. Okay. And I know we talked a minute ago
10 about Mr. Vidana doing his MOS training at Camp
11 Johnson, where -- what were you relying on to determine
12 that he was working at Camp Lejeune or at Hadnot Point?
13 Excuse me.

14 A. I don't recall specifically. I would have to
15 read the deposition in those sections to verify. I
16 don't remember exactly what he stated in his deposition
17 relative to that.

18 Q. So if Mr. Vidana didn't state in his
19 deposition that he worked at Hadnot Point, where would
20 you get that information from?

21 A. Well, I don't even know for sure if -- until
22 I look at the record again, his deposition again, is
23 what I mean by that. Let me look at the calculation
24 summary again. It just says visit days. I don't say
25 work days. So I don't know that I did assume he was

1 working there. Maybe just extended visits there. I
2 would need to clarify that.

3 Q. Okay. And your basis for extended visits to
4 Hadnot Point or visits to Hadnot Point, that would be
5 in the deposition, right?

6 MR. MICELI: Object to the form --

7 A. That's where I would typically get that
8 information, yes.

9 Q. (BY MS. SILVERSTEIN) Okay. So if I wanted
10 to scour the deposition to see whether or not -- so I
11 could confirm where Mr. Vidana worked or socialized and
12 see if that included Hadnot Point, I should be able to
13 find that in the deposition, right?

14 A. I believe so, yes.

15 Q. And there's not another document that you're
16 relying on for that information?

17 A. Not that I recall.

18 Q. And if there was, you would have provided
19 that in your materials considered list, right?

20 MR. MICELI: Object to the form.

21 A. Yes.

22 MS. SILVERSTEIN: I think we need to go on a
23 short break to talk to the folks at the firm.

24 MR. MICELI: Yep.

25 THE VIDEOGRAPHER: Time is 4:51. We're going

1 off the record.

2 (Recess taken from 4:51 p.m. to 5:06 p.m.)

3 THE VIDEOGRAPHER: Time is 5:06. We're back
4 on record.

5 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, did you
6 talk to anybody about the substance of your testimony
7 on break?

8 A. No.

9 Q. In your report -- can you turn to Appendix 7
10 of your report, please.

11 A. Okay. I'm there.

12 Q. Okay. And can you just take a quick look
13 through Appendix 7 and let me know if the chart -- if
14 you're able to read the chart, or if you need a
15 slightly larger one.

16 A. If you have slightly larger ones --

17 Q. Sure.

18 A. -- I will take them.

19 MR. MICELI: This will be 24; is that right.

20 (Deposition Exhibit 24 was marked.)

21 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, you were
22 just handed Exhibit 24, which I will represent are
23 enlarged copies of the charts contained in Appendix 7
24 for plaintiff David William Fancher. If you go ahead
25 and look at the first page of Exhibit 24, that's the

1 summed variable total page, right?

2 A. Correct.

3 Q. And for Mr. Fancher, you modeled three
4 different intake values, right? In Chart 1 you modeled
5 him consuming 1 liter of water per day, right?

6 A. Yes.

7 Q. In Chart 2, was Mr. Fancher ingesting the
8 ATR -- ATSDR exposure assumptions, whether it was a
9 routine day or a field day, right?

10 A. Correct.

11 Q. And then in Chart 3, your ingestion
12 assumptions are based on Mr. Fancher's deposition in
13 the Army field manuals, right?

14 A. Correct.

15 Q. You agree that you modeled -- so the amount
16 of water you modeled Mr. Fancher was drinking, changes
17 over the three charts. You'd agree that you modeled
18 all of his water consumption is coming from the Camp
19 Lejeune water system, right?

20 A. So I modeled his exposures coming from Hadnot
21 Point other than when he lived at the Webb Apartments
22 when his residence was there.

23 Q. And although --

24 MR. MICELI: Kailey, before you go further,
25 how many pages -- excuse me -- because on the second

1 page what I have is a continuation of the chart at the
2 top and then Chart 1 at the bottom. And then when I
3 flip the page, it's a continuation of a chart in Chart
4 3 at the bottom. I don't see Chart 2. Or is that --
5 is the top of page 3 actually Chart 2. I'm trying --

6 MS. SILVERSTEIN: These are -- for the
7 record, these are blown-up copies of what is in
8 Dr. Reynolds's report in Appendix 7. And I'll
9 represent that in Exhibit 10, Appendix 7, the top chart
10 on the last page is not labeled. My assumption is it's
11 Chart 2 since it's unlabeled and Chart 1 and Chart 3
12 are labeled.

13 MR. MICELI: Okay.

14 MS. SILVERSTEIN: But that chart --

15 MR. MICELI: I just want to make sure we were
16 singing out of the same hymnal.

17 MS. SILVERSTEIN: And I'll note that at the
18 bottom of the prior page that has Chart 1 on it,
19 there's a header that says Chart 2 Days on Base and
20 Cumulative Contaminant Exposure, ATSDR Informed, I
21 assume that goes with the following chart. But they're
22 not in the same -- they are not on the same page in the
23 report.

24 Q. (BY MS. SILVERSTEIN) Okay. When you say
25 except for when Mr. Fancher was living in the Webb

1 Apartments, did you still model some proportion of his
2 time during those months as consuming water on base?

3 A. Yes. For -- for those time periods, he was
4 consuming water during his work location, which was at
5 Hadnot Point.

6 Q. And if you -- are you looking at the exposure
7 dates chart above Chart 1?

8 A. Yes.

9 Q. So in that chart, you have exposure dates as
10 the first column, right?

11 A. Yes.

12 Q. And then you have total days as the second
13 column, correct?

14 A. Yes.

15 Q. And then the next column you have is exposure
16 location work, correct?

17 A. Correct.

18 Q. Does the total days in the second column
19 apply to the exposure location of work?

20 A. Yes.

21 Q. The fourth column is exposure location
22 residential, correct?

23 A. Correct.

24 Q. And then you have a fifth column that is
25 total days, right?

1 A. Correct.

2 Q. And does that fifth column of total days, is
3 that saying how many days you modeled him as exposed to
4 the Camp Lejeune water based on his residential
5 location?

6 A. Yes. This should be total days of when he
7 was at the work location.

8 Q. So then I need to make it a little more
9 specific. In the second row, so the first row for the
10 Webb Apartments, do you see that row?

11 MR. MICELI: You mean the fifth row from the
12 left?

13 MS. SILVERSTEIN: No, the second row.

14 MR. MICELI: Second row. I'm thinking
15 columns, I apologize. I'm not trying to confuse.

16 Q. (BY MS. SILVERSTEIN) With the date 11/1/1979
17 to 11/20/1979. Do you see that row?

18 A. Yes.

19 Q. Under total days in blue, you have 4.3,
20 right?

21 A. Yes.

22 Q. Does that mean you modeled him as exposed on
23 base for 4. -- as residing on base for 4.3 days?

24 A. Yes.

25 Q. How did you determine how many total days to

1 model Mr. Fancher's residential location as on base?

2 A. Please ask that again.

3 Q. Sure. For that second row, November 1, 1979,
4 to November 20, 1979, you modeled Mr. Fancher as having
5 residential exposure on base for 4.3 days for that time
6 period, right?

7 A. Correct.

8 Q. Which means that the other 15.7 days you
9 modeled him as his residential water consumption was
10 off base at Webb Apartments, right?

11 A. Correct.

12 Q. How did you determine how many days to model
13 him as having residential exposure on base?

14 A. So from his deposition, he would have
15 reported overnight stays at some frequency at Hadnot
16 Point. And so that was where we get the total days
17 residential that were exposure days.

18 Q. Mr. Fancher didn't recall how many specific
19 days or which specific days he slept on base versus at
20 home, correct?

21 A. I don't recall that specific from his
22 deposition, but there are days that were assumed that
23 he had residential exposures on base or overnight
24 exposures on base. So I would need to verify the
25 deposition for that. If Mr. Fancher didn't testify to

1 how many days that he was -- or which specific days in
2 November 1979, he had residential exposure on base
3 versus only at home.

4 Q. How did you make that determination?

5 A. They weren't estimates per individual month,
6 they were averaged over the month's time frame. So,
7 for example, in line -- third row -- one, two, three,
8 four, five, six, seven, eight, which is 5/1/1980 to
9 5/8/1980 there were only eight total days, so a portion
10 of those days which is 1.77 were assumed to be a
11 residential exposure at Hadnot Point.

12 Q. How did you determine what proportions to
13 use?

14 A. From -- in his deposition, he would have
15 stated -- as a general methodology, he would have
16 stated the number of overnight days per month he
17 anticipated or maybe -- maybe during -- when he lived
18 off base how many nights he stayed at Hadnot Point and
19 so I used that information to do a proportional
20 exposure of residential days at Hadnot Point when he
21 was living off base.

22 Q. So then would it be characterizing that
23 accurately to say that Mr. Fancher -- in your
24 recollection, Mr. Fancher testified to the approximate
25 number of days per week that he was at Hadnot Point for

1 residential exposure versus Webb Apartments?

2 MR. MICELI: Object to the form.

3 A. I'm saying that there was some indication in
4 his deposition that his -- he had exposure days that
5 were what I would consider residential because he spent
6 the night there. So longer than a workday there, even
7 when he lived off base, he had overnight stays at
8 Hadnot Point.

9 Q. (BY MS. SILVERSTEIN) So you're saying he
10 testified that he spent some nights at Hadnot Point
11 when he lived in Webb Apartments; is that right?

12 A. I don't recall his specific statement. I
13 would have to verify that. But based on my
14 methodology, the fact that he has residential exposure
15 days at Hadnot Point when he lived off base indicates
16 that those would have been days estimated that he spent
17 overnight at Hadnot Point.

18 Q. Did you use your professional judgment to
19 determine what the proportion of days that he spent at
20 Hadnot Point versus Webb Apartments was?

21 A. I don't recall if he specifically stated a
22 number or if I had to infer from his information what
23 those days would have been.

24 Q. And if I represent he didn't state a specific
25 number, how would you infer how many days?

1 A. If he said, maybe, a range of days that he
2 was there or that it was common that he would spend
3 several nights a month or week or what have you there,
4 then I would -- even if there wasn't an exact number, I
5 could infer from his indication that he spent overnight
6 stays there.

7 Q. Well, more specifically you inferred a
8 specific number of overnights that he spent at Hadnot
9 Point, right?

10 MR. MICELI: Object to the form.

11 A. It looks like they were averaged over -- it
12 wasn't a different number for every month as if he
13 stated, "On this month, I stayed this many days," but
14 it appears that they were averaged over the time that
15 he lived off base.

16 Q. (BY MS. SILVERSTEIN) And you'd agree that
17 you used that number to determine his specific exposure
18 for that date range, right?

19 MR. MICELI: Object to the form.

20 A. Could you repeat that, please.

21 Q. (BY MS. SILVERSTEIN) You'd agree that you
22 took that calculated average of, say, 1.7 days from
23 May 1, 1980, to May 8, 1980, and that was one of the
24 parameters you used when determining what Mr. Fancher's
25 exposure was from May 1, 1980, to May 8, 1980, right?

1 MR. MICELI: Object to the form.

2 A. That was one example that I pulled out, so
3 it's possible -- I mean, it looks like this is 1.7
4 total days over roughly a week's time over eight days,
5 so it's possible he made a statement about spending
6 weekends on base. I would have to verify where I got
7 those exact numbers.

8 Q. (BY MS. SILVERSTEIN) Sitting here today, you
9 don't know whether those numbers came from his
10 deposition or somewhere else?

11 MR. MICELI: Object to the form.

12 A. Since the only information I really had about
13 days on base versus residential time was from the
14 deposition, I would say I'd need to review the
15 deposition for that detail.

16 Q. (BY MS. SILVERSTEIN) If someone was trying
17 to understand how you made the assumption of the number
18 of days he lived on base, they would review the
19 deposition for that information. Is that fair?

20 A. Yes.

21 MR. MICELI: Object to the form.

22 Q. (BY MS. SILVERSTEIN) You described your
23 cumulative exposure calculations for all of the
24 plaintiffs in terms of total micrograms, right?

25 A. Yes.

1 Q. You didn't describe your findings in terms of
2 micrograms per liter, right?

3 A. Correct.

4 Q. And you didn't describe your findings in
5 terms of the parts per billion, right?

6 A. Correct.

7 Q. So if someone took -- if you look at the
8 summed variable totals for Mr. Fancher. And as an
9 example for Chart 1 your TCE calculation was
10 92,052 micrograms, right?

11 MR. MICELI: Object to the form.

12 A. Could you repeat that please.

13 Q. (BY MS. SILVERSTEIN) So for Chart 1 for
14 Mr. Fancher --

15 A. Yes.

16 Q. -- your cumulative consumption total for TCE
17 was 92,052 micrograms, correct?

18 A. Yes, that was assuming a 1-liter exposure,
19 which was -- this Chart 1 is really just a template to
20 set up the other charts using a very simplistic
21 exposure profile. So this is -- if he drank 1 liter a
22 day, that would be the cumulative consumption.

23 Q. So the consumption -- the cumulative
24 consumption you calculated in Chart 1 is
25 92,052 micrograms, right?

1 A. Yes.

2 Q. So if someone expressed that as
3 92,052 micrograms per liter, that would not be correct,
4 right?

5 A. Correct.

6 (Deposition Exhibit 25 was marked.)

7 Q. (BY MS. SILVERSTEIN) I am handing you
8 Exhibit 25. And I'm handing you the portion that's the
9 report and not all the materials considered and the CV
10 attached at the end.

11 MR. MICELI: Okay.

12 MS. SILVERSTEIN: But the witness has the
13 full document.

14 MR. MICELI: As long as you don't go into
15 those.

16 Q. (BY MS. SILVERSTEIN) I just handed you a
17 document titled Specific Causation Expert Report, David
18 Fancher, right?

19 A. Yes.

20 Q. This is by Professor Yair Lotan, MD, right?

21 A. Yes.

22 Q. Have you reviewed this report before?

23 A. No.

24 Q. Have you ever spoken to Dr. Lotan?

25 A. No.

1 Q. Can you turn to page 13.

2 MR. SNIDOW: Do you have --

3 Q. (BY MS. SILVERSTEIN) Do you see at the
4 bottom of page 13 that Dr. Lotan inserted part of
5 your -- beginning on page 13 -- or page 11 through
6 page 13, Dr. Lotan inserted part of your charts for
7 Mr. Fancher?

8 A. Yes.

9 Q. And on page 13, this is the sum variable
10 totals chart that we were just looking at for
11 Mr. Fancher, right?

12 A. Correct.

13 Q. And do you see that paragraph right below the
14 chart on page 13?

15 A. Yes.

16 Q. Dr. Lotan says in the one, two, three --
17 fifth line, the sentence beginning, "For."

18 Do you see that?

19 MR. MICELI: For's the last word on the line?

20 A. You're saying first paragraph there's --

21 MR. MICELI: I'm trying to help you direct
22 her to it.

23 Q. (BY MS. SILVERSTEIN) The fifth line down.

24 A. Gotcha.

25 Q. The last word is "For." It's the start of a

1 sentence. Do you see that?

2 A. I do.

3 Q. It says, "For instance, Dr. Reynolds
4 indicates that it would be reasonable to conclude that
5 Mr. Fancher would have ingested 20- or 30,000 parts per
6 billion of PCE and VC and thousands of parts per
7 billion of benzene."

8 Did I read that I correctly?

9 A. Yes.

10 Q. You didn't calculate Mr. Fancher's exposure
11 to PCE or VC in terms of parts per billion, did you?

12 A. No.

13 Q. And you'd agree that parts per billion and
14 total micrograms are not the same unit?

15 A. Correct.

16 Q. So if you were to represent the Chart 3 value
17 of PCE, which is in your chart as 26,742 micrograms, if
18 you were to represent that as 26,742 parts per billion
19 of PCE, that would be incorrect, right?

20 MR. MICELI: Object to the form.

21 A. My values are in total micrograms.

22 Q. (BY MS. SILVERSTEIN) You can go ahead and
23 set that document to the side.

24 I'm going to go ahead and hand you
25 Exhibit 26.

1 (Deposition Exhibit 26 was marked.)

2 MR. MICELI: Are we done with 24 as well?

3 MS. SILVERSTEIN: Yeah, I think so. I
4 apologize, this one appears to have been a little bit
5 squished in transit. But I'll hand you Exhibit 26.

6 Q. (BY MS. SILVERSTEIN) I handed you a document
7 titled Corrected Appendix 15 for Bruce Wayne Hill
8 (Leukemia), right?

9 A. Yes.

10 Q. Does this appear to be a fair and accurate,
11 albeit a little bit squished, copy of the Corrected
12 Appendix 15 for Bruce Wayne Hill?

13 A. Yes.

14 Q. And I've shown you today three corrected
15 appendices for Ms. Dyer, Appendix 3; Mr. Hill, Appendix
16 15; and Mr. Connard, Appendix 12.

17 Do you recall seeing those corrected
18 appendices?

19 A. Yes.

20 Q. Aside from those three corrected appendices,
21 are there any corrections or revisions to the
22 appendices in your report that you are aware of sitting
23 here today?

24 A. I don't believe so, no.

25 Q. And between those three corrected appendices

1 and your full report, do those four documents contain
2 all of your opinions in this case?

3 MR. MICELI: Object to the form.

4 A. I mean, they contain all of my calculations
5 on exposure assessment.

6 Q. (BY MS. SILVERSTEIN) Would you agree they
7 include all of your opinions?

8 A. I think it depends on what questions I would
9 be asked.

10 Q. Do you intend to offer any opinions that are
11 not included in either your full report or one of those
12 three corrected appendices?

13 A. I believe if I was asked specifically about
14 something related to my expertise in exposure
15 assessment or risk assessment that wasn't specifically
16 in this report, I could answer that.

17 Q. But sitting here today, you don't have any
18 other opinions that you're intending to offer at trial;
19 is that fair?

20 A. I don't think I randomly come up with the
21 opinions. I just answer questions asked. So I don't
22 have any opinions to offer unless I'm asked.

23 Q. Okay. You don't have any additional
24 calculations to offer other than what's contained in
25 those four documents, right?

1 A. Everything that I did for my exposure
2 assessment on the Camp Lejeune case is included in
3 these documents.

4 Q. And there's not -- okay. You can go ahead
5 and set that appendix aside.

6 A. Okay.

7 Q. And we likely won't come back to it. You can
8 set that aside.

9 Did you review the ATSDR's 2017 public health
10 assessment?

11 A. Yes.

12 (Deposition Exhibit 27 was marked.)

13 Q. (BY MS. SILVERSTEIN) I am handing you
14 Exhibit 27. Dr. Reynolds, you were handed Exhibit 27,
15 which is -- it says at the top, "ATSDR Public Health
16 Assessment For Camp Lejeune Drinking Water U.S. Marine
17 Corps Base Camp Lejeune North Carolina"; is that right?

18 A. Yes.

19 Q. And this was prepared -- or the date on this
20 document is January 20, 2017, correct?

21 A. Correct.

22 Q. And does this appear to be the same document
23 that you reviewed or one of the documents that you
24 reviewed for your report?

25 A. Yes.

1 Q. Can you turn to page 43, please. Are you on
2 page 43?

3 A. Yes.

4 Q. Do you see at the top where it says, "Data
5 limitations for VOCs"?

6 A. Yes.

7 Q. That first chunk of text at the top says,
8 "ATSDR attempted to assess accurately the potential
9 health effects that contamination had on the Marine
10 Corps base Camp Lejeune community, but limitations
11 exist in the environmental data used to make that
12 assessment. When such data limitations appeared, ATSDR
13 chose conservative health protective data
14 interpretation options that were estimates of exposure
15 in the upper end of the range of recommended values."

16 Did I read that correctly?

17 A. Yes.

18 Q. In part of your analysis, you used ATSDR's
19 assumptions, right?

20 A. Yes.

21 Q. Which means that you used ATSDR's sometimes
22 conservative health protective values in your analysis,
23 right?

24 A. Potentially, but ATSDR reports their monthly
25 means averages as means, so that indicates to me there

1 are more conservative values that could have been
2 utilized.

3 Q. ATSDR also -- you also used ATSDR's drinking
4 water values, right, for Marines that --

5 A. You mean default --

6 Q. Right.

7 A. -- assumptions of consumption levels, yes,
8 yes.

9 Q. And you used some values that were higher
10 than ATSDR's RME for Marines in training, right?

11 MR. MICELI: Object to the form, foundation.

12 A. Values listed in the field manual tended to
13 be higher than what ATSDR reported as a general Marine
14 in training.

15 Q. (BY MS. SILVERSTEIN) Right. The other --
16 one of the other sources of data you used was field
17 manuals that were from the 1950s through 1980s, right?

18 MR. MICELI: Object to the form.

19 A. And also plaintiff-informed information.

20 Q. (BY MS. SILVERSTEIN) But the field manuals
21 you used were for 1950 -- the 1950s through 1980s; is
22 that right?

23 A. Correct.

24 Q. Still looking at page 43, do you see the No.
25 3 paragraph?

1 A. Yes.

2 Q. It says, "Of note, in the absence of
3 site-specific data for water consumption,
4 showering/bathing, water flow rates, the base
5 population's showering/bathing frequency, breathing
6 rates and body weights" -- excuse me -- "Of note is the
7 absence of site-specific data for water consumption,
8 showering/bathing, water flow rates, the base
9 population's showering/bathing frequency, breathing
10 rates and body weights."

11 Did I read that correctly?

12 A. Yes.

13 Q. And then it says, "To ensure that the
14 assessment was conservative, health protective, ATSDR
15 used values for these parameters that generally
16 reflected the upper end of exposure," correct?

17 A. Correct.

18 Q. One of the documents that is then cited in
19 that string cite is Kolka 2003, right?

20 A. Yes.

21 Q. Have you reviewed Kolka 2003?

22 A. Not separately from the reference here.

23 Q. And by that you mean you haven't read the
24 article you just -- you know it's referenced --

25 A. Correct.

1 Q. -- in this document; is that right?

2 A. Correct.

3 Q. I am handing you Exhibit 28.

4 (Deposition Exhibit 28 was marked.)

5 MR. MICELI: Thank you.

6 MS. SILVERSTEIN: Sorry, it got away from me.

7 Q. (BY MS. SILVERSTEIN) I handed you a
8 document, the title is -- and if you turn to the first
9 full page of text, do you see where it says, "Current
10 U.S. Military Fluid Replacement guidelines"?

11 A. Yes.

12 Q. And do you see the primary author on that is
13 Margaret A. Kolka, PhD?

14 A. Yes.

15 Q. And you said earlier you haven't reviewed
16 this document, right?

17 A. Correct.

18 Q. Can you turn to page 6-1, if that's the first
19 page.

20 A. Yes.

21 Q. In that first paragraph under Background, the
22 third line down, the first word is, "Unfortunately."

23 Do you see that?

24 MR. MICELI: Pardon me, I have to object on
25 the foundational ground. I don't see where the -- this

1 is represented as the Kolka 2003 that is referenced in
2 this ATSDR. That's actually Reference No. -- appears
3 to be Reference No. 7 of what you've identified as
4 Exhibit 28.

5 MS. SILVERSTEIN: Objection is noted.

6 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, do you
7 see under the section Background, the third line down
8 the first word is, "Unfortunately"?

9 A. I do.

10 Q. And it says, "Unfortunately, during the
11 ten-year period between 1989 and 1999, there were 190
12 hospitalized cases of hyponatremia (caused by
13 over-drinking) during hot weather in military training
14 reported."

15 Did I read that correctly?

16 A. Yes.

17 Q. In the next paragraph it states, "In response
18 to the numerous hospitalized cases of hyponatremia, the
19 fluid replacement guidelines for hot weather military
20 training were reviewed and subsequently revised."

21 Did I read that correctly?

22 A. Yes.

23 Q. And under review -- revise it says, "In
24 response to hyponatremia caused by over drinking"; is
25 that right?

1 A. Yes.

2 Q. In other words, the assumptions provided in
3 the field manuals were resulting in Marines drinking
4 too much water?

5 MR. MICELI: Object to the form, foundation.

6 A. This tells me people were drinking a lot of
7 water in the field manual guidelines. So -- and some
8 people appeared to have had some adverse reaction to
9 that.

10 Q. (BY MS. SILVERSTEIN) Did you consider the
11 revised fluid replacement guidelines for the military?

12 A. These revised guidelines were after the
13 timeline when the Camp Lejeune population was exposed.

14 Q. So to answer my question, no, you did not
15 consider the revised fluid replacement guidelines,
16 correct?

17 A. No.

18 MR. MICELI: Object -- excuse me, object to
19 the form of the question and foundation.

20 Q. (BY MS. SILVERSTEIN) Is that correct, you
21 didn't consider the revised fluid retention guidelines?

22 A. I did not consider the revised guidelines.

23 (Deposition Exhibit 29 was marked.)

24 Q. (BY MS. SILVERSTEIN) I am handing you
25 Document 29.

1 MR. MICELI: Thank you.

2 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, I handed
3 you a document titled Death By Water Intoxication. Do
4 you see that?

5 A. Yes.

6 Q. And do you see the guarantor and contributor
7 listed at the top are both Colonel John W. Gardner?

8 A. Yes.

9 Q. And in the top left-hand corner, do you see
10 that this is dated 2002?

11 A. Yes.

12 Q. Have you ever reviewed this article?

13 A. No.

14 Q. So in the abstract of this article, four
15 lines down about halfway through that line, it starts
16 with the word "This."

17 Do you see that?

18 A. Yes.

19 Q. It says, "This article reviews several recent
20 military cases and three deaths that have occurred as a
21 result of overhydration which resulted in hyponatremia
22 and cerebral edema. All of these cases are associated
23 with drinking more than 5 liters, usually 10 to
24 20 liters, of water intake during a period of a few
25 hours. The importance of maintaining adequate

1 hydration in exertional heat illness prevention cannot
2 be overemphasized, but excessive fluid intake may lead
3 to life-threatening hyponatremia."

4 Did I read that correctly?

5 A. Yes.

6 MR. MICELI: Object to the form.

7 Q. (BY MS. SILVERSTEIN) And then the last
8 sentence says, "Current guidelines provide safety by
9 limiting fluid intake during times of heavy sweating to
10 1 to 1.5 liters per hour."

11 Did I read that correctly?

12 A. You read that correctly.

13 Q. There were time periods during -- you modeled
14 plaintiffs during certain time periods as drinking more
15 than 5 liters of water, right?

16 A. Yes. Never 10 to 20 in a few hours, though.

17 Q. If you go ahead and look back at Mr. Vidana's
18 chart, the larger version of which is Exhibit 23, I
19 think -- 21, excuse me. Okay.

20 A. Okay.

21 Q. Do you have Mr. Vidana's appendix in front of
22 you?

23 A. I believe I do. There's no header on this,
24 but I have Exhibit 21.

25 Q. We can also, if you prefer, go ahead and look

1 at Exhibit 20 in your report.

2 MR. MICELI: 20 or 21?

3 MS. SILVERSTEIN: Appendix 20 in her report.

4 THE DEPONENT: Twenty.

5 Q. (BY MS. SILVERSTEIN) So in Exhibit 10,
6 Mr. Vidana's appendix is Appendix 20.

7 MR. MICELI: Okay.

8 MS. SILVERSTEIN: We can go ahead and look at
9 that.

10 MR. MICELI: I see what you're saying. But
11 it's -- it's exhibit -- the blown-up version is
12 Exhibit 21.

13 MS. SILVERSTEIN: Let's go ahead and turn to
14 Exhibit 10, your full chart.

15 MR. MICELI: Okay.

16 MS. SILVERSTEIN: And please turn to Appendix
17 20.

18 MR. MICELI: All right. Twenty-one is
19 actually Cagiano, so I want to --

20 A. Okay. So Exhibit 10, Appendix 20. Okay.

21 Q. (BY MS. SILVERSTEIN) Do you have Appendix 20
22 in front of you?

23 A. It ended up being the one we marked, and I
24 didn't realize it.

25 Q. Can you turn to the sum total variables page?

1 A. Okay. That is not in front here.

2 Q. It's the first page after Appendix 20. After
3 the page that says Appendix 20.

4 A. Yeah, I have a break in my stack here. So I
5 think it's in a different place.

6 MR. MICELI: I think part of the problem,
7 mine, at least, is out of order.

8 MS. SILVERSTEIN: We provided the copies as
9 they were provided to us. It's possible it got out of
10 order throughout the course of the day.

11 MR. MICELI: Well --

12 Q. (BY MS. SILVERSTEIN) We can do this a
13 different way, and you can go to your calculation page,
14 which is Exhibit 5.

15 MR. MICELI: Printing mishap.

16 MS. SILVERSTEIN: There was no printing
17 mishap earlier when we looked at the document. We can
18 go ahead and go.

19 Q. (BY MS. SILVERSTEIN) Do you have Exhibit 5
20 in front of you, the calculations?

21 A. Yes.

22 Q. Okay. Can you turn to Appendix 20, please.

23 A. Okay.

24 Q. Do you see Chart 5?

25 A. Yes.

1 Q. Your equation for Chart 5 has a water
2 intake -- uses a water intake value of 5.205, correct?

3 A. Correct.

4 Q. And then you adjust it so that two-thirds of
5 Mr. Vidana's exposure was at Hadnot Point, right?

6 A. Correct.

7 Q. Which means that two-thirds of the
8 5.205-liters that you modeled him at would have been
9 while he was at Hadnot Point, right?

10 A. Correct.

11 Q. Did you consider how long of a time -- a
12 period during the day Mr. Vidana was at Hadnot Point?

13 A. Only the two-thirds proportion.

14 Q. And so if you modeled the two-thirds
15 proportion, that amount of water intake at Hadnot Point
16 would have to take place during whatever time period
17 Mr. Vidana was at Hadnot Point, right?

18 A. Correct.

19 Q. So if he was there for three hours, then that
20 two-thirds of 5.205 liters would have to take place
21 during that three hours, right?

22 A. Well --

23 MR. MICELI: Go ahead.

24 A. Water consumption is not necessarily equally
25 divided over hours of the day, we just know how many

1 liters per day is consumed. And so people may have
2 more consumption at breakfast, lunch and dinner, for
3 example. So since we don't know that detail, we assume
4 that it took place throughout the day. So if he was
5 assumed to be there for two-thirds of his day, then it
6 would be two-thirds of that ingestion level of liters
7 per day would have been considered.

8 Q. (BY MS. SILVERSTEIN) And if Mr. Vidana, it
9 turns out, was only there for three hours, your
10 calculation is still modeling two-thirds of his water
11 intake for the day as taking place during that
12 three-hour time period he was at Hadnot Point, right?

13 MR. MICELI: Object to the form, foundation.

14 A. It would be dependent on activity. So in
15 general, since I didn't have that detail information,
16 if he was working or training or having physical
17 activity during time at Hadnot Point, I would have
18 assumed a two-third exposure.

19 Q. (BY MS. SILVERSTEIN) So you did assume
20 two-third exposure in Chart 5, right?

21 A. It looks like that, yes.

22 Q. So that's 16 out of 24 hours of the day,
23 right?

24 A. Yes.

25 Q. And if Mr. Vidana was, in fact, at Hadnot

1 Point for less than 16 hours, then that proportion
2 would need to be adjusted, right?

3 MR. MICELI: Object to the form.

4 A. Possibly depending on activity, but it would
5 likely be more appropriate to say it was a one-third
6 exposure if there was a really short time there.

7 Q. (BY MS. SILVERSTEIN) If Mr. Vidana -- you
8 said "if it was a really short time there." What do
9 you mean?

10 A. I mean, you're saying if they he was there
11 only three hours. Depending on his activities when he
12 was there, it's possible that his exposure proportion
13 would be calculated as less.

14 Q. If Mr. Vidana was there for three hours for
15 recreational or social purposes, then what
16 proportions -- the two-thirds proportion wouldn't be
17 appropriate to use for that, right?

18 MR. MICELI: Object to the form.

19 A. Not necessarily. If he was being active -- I
20 mean, if he was there and rec- -- by recreation you
21 mean running or playing basketball or, you know, some
22 kind of physical activity, that would drive the
23 assumption of a higher ingestion rate.

24 Q. (BY MS. SILVERSTEIN) If Mr. Vidana was there
25 for a couple hours playing pool with his buddies at the

1 O-club or the E-club, that's not a high level of
2 physical activity, right?

3 A. I would infer that if he was there two hours
4 playing pool, that the two-thirds intake rate of his
5 total daily consumption would probably be an
6 overestimate.

7 MS. SILVERSTEIN: Okay. I think we can take
8 one more break and then go ahead and wrap up.

9 MR. MICELI: Fine with me.

10 THE VIDEOGRAPHER: Time is 5:51. We're going
11 off record.

12 (Recess taken from 5:51 p.m. to 6:13 p.m.)

13 THE VIDEOGRAPHER: Time is 6:13. We're back
14 on record.

15 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, did you
16 talk to anybody about the substance of your testimony
17 during the break?

18 A. No.

19 Q. Okay. And I am going to go ahead and hand
20 you Exhibit 30. I'll hand you Exhibit 30.

21 MR. MICELI: What was the time left that he
22 said? We have 43 minutes; is that right? Okay.

23 (Deposition Exhibit 30 was marked.)

24 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, I handed
25 you Exhibit No. 30. These appear to be invoices from

1 KReynolds Environmental to members of the plaintiffs'
2 counsel. Are these your invoices?

3 A. Yes.

4 Q. Is KReynolds Environmental, is that your
5 company?

6 A. Yes.

7 Q. And do these appear to be fair and accurate
8 copies of the invoices that you submitted to the
9 plaintiffs?

10 A. Yes.

11 Q. Does this include all of the invoices that
12 you've submitted to the plaintiffs?

13 A. There was one sent last Friday.

14 Q. We'll note for the record that --

15 MR. MICELI: We'll get that to you.

16 MS. SILVERSTEIN: Okay. Great.

17 MR. MICELI: I think your request was which
18 had been paid, how much had been paid. So that one
19 hasn't been paid, but we'll get that invoice to you.

20 MS. SILVERSTEIN: Appreciate it.

21 Q. (BY MS. SILVERSTEIN) The first of these
22 invoices was for March 12, 2023, right?

23 A. Correct.

24 Q. And then there are five additional invoices,
25 right?

1 A. One, two -- yeah, five additional, six total,
2 yes.

3 Q. Okay. The most recent invoice here, so not
4 including the one that you sent on Friday, I think you
5 said?

6 A. Correct.

7 Q. Was dated April 14, 2025, correct?

8 A. Correct.

9 Q. The invoice before that, February 24, 2025,
10 right?

11 A. Correct.

12 Q. Does the April 14, 2025, invoice represent
13 the work that you did between February 24th and
14 April 14th?

15 A. In general, there's a slight lag of when the
16 date that was billed and the -- when hours were
17 expensed, so there might be a week lag.

18 Q. Okay. So maybe February 15, 17, something --
19 somewhere in that range?

20 A. Roughly, yes.

21 Q. To April 14th?

22 A. Correct.

23 Q. Your April 14th invoice -- well, I guess
24 first, so that would mean that your April 14, 2025,
25 invoice is for work that you did after your initial

1 report was submitted, correct?

2 A. That's correct, yes.

3 Q. It's for -- you billed for 23 hours, right?

4 A. Yes.

5 Q. Do you recall what work you did during that
6 time period?

7 MR. MICELI: And I'll instruct you not to
8 discuss what you -- what conversations you've had with
9 counsel that you're working with.

10 A. So I reviewed -- I reviewed depositions and
11 re-reviewed some expert reports and the things that are
12 in my materials considered list.

13 Q. (BY MS. SILVERSTEIN) When you say "expert
14 depositions," did those include the depositions of
15 Dr. Julie Goodman and Dr. John Lipscomb?

16 A. I reviewed Lipscomb.

17 Q. Did you review Dr. Goodman's deposition?

18 A. No.

19 Q. Do you recall if you reviewed any deposition
20 transcripts aside from Dr. Lipscomb?

21 A. Yeah, Dr. LaKind and Dr. Bailey.

22 Q. Do you mean you reviewed their reports?

23 A. Sorry, their reports, yes. Correct.

24 Q. Did you review all of the reports by
25 Dr. LaKind and Dr. Bailey?

1 A. All of the reports that were provided to me,
2 which I believe there were maybe 20 or 21.

3 Q. When you say 20 or 21, is that total between
4 both of those individuals?

5 A. No. 20 or 21 for Dr. LaKind and 20 or 21 for
6 Dr. Bailey.

7 Q. So then would it be correct to say that you
8 didn't review a report by Dr. LaKind and Dr. Bailey for
9 each of the plaintiffs; is that right?

10 A. I reviewed reports from both of them for each
11 of the plaintiffs that I was provided reports for. So
12 there were some that I either didn't receive the repo-
13 -- they weren't provided to me or they weren't
14 submitted by them.

15 Q. And you said "expert transcripts." What
16 expert transcripts were you referring to?

17 A. Expert reports.

18 Q. Okay. You also reviewed Dr. Lipscomb's
19 deposition transcript, right?

20 A. Correct, yes.

21 Q. Did you review any other deposition
22 transcripts?

23 MR. MICELI: You've gone over plaintiffs.
24 You're referring to experts?

25 Q. (BY MS. SILVERSTEIN) What I am asking is:

1 After submitting your report, did you review any other
2 deposition transcripts?

3 MR. MICELI: Thank you.

4 A. Okay. Actually, as I'm recalling -- let me
5 think. I did review Dr. Goodman's.

6 Q. (BY MS. SILVERSTEIN) Okay. I am handing you
7 Exhibit 31.

8 (Deposition Exhibit 31 was marked.)

9 Q. (BY MS. SILVERSTEIN) I handed you
10 Exhibit 31. It states at the top, "Dr. Kelly
11 Reynolds - Second Supplemental Materials Considered."

12 Do you see that?

13 A. I do, yes.

14 Q. Among the documents listed, it says, "Expert
15 reports of Judy LaKind April 8, 2025, and May 8, 2025."

16 Do you see that?

17 A. Yes.

18 Q. And it doesn't specify which reports from
19 Dr. LaKind you reviewed?

20 A. It doesn't specify it here, no.

21 Q. And it says, "Expert reports of Lisa A.
22 Bailey, April 8, 2025, and May 8, 2005," right?

23 A. Yes.

24 Q. And it, again, doesn't specify which reports
25 from Dr. Bailey you reviewed, right?

1 A. It doesn't specify that here, no.

2 Q. And you said a few minutes ago that you
3 didn't review -- you weren't provided to review 25
4 reports, one for each plaintiff from both of those
5 experts, correct?

6 A. There were not 25 reports in total.

7 Q. Sitting here today, do you recall which
8 plaintiffs you did not review a report from Dr. LaKind
9 about?

10 A. My recollection is it was plaintiffs that had
11 Parkinson's disease outcomes.

12 Q. So would that include Mr. McElhiney?

13 A. I believe so.

14 Q. And is that the same for Dr. Bailey? The
15 reports you weren't provided are reports of plaintiffs
16 with Parkinson's disease outcomes?

17 A. Correct.

18 Q. You can go ahead and set that document aside.
19 And, Dr. Reynolds, you did not prepare a
20 rebuttal report for litigation, right?

21 A. No.

22 Q. You can go ahead and set Exhibit 30 aside.
23 We're not going to come back to that. So you can go
24 ahead and set that aside.

25 A. Okay. Okay. Gotcha.

1 Q. Dr. Reynolds, you said earlier today that
2 dose expressed in terms of chemical concentration per
3 unit of mass is used in regulatory risk assessment,
4 right?

5 A. No, I don't believe I said that.

6 Q. Do you remember us talking earlier today
7 about how dose is represented, those questions?

8 A. Yes.

9 Q. And do you remember talking about the amount
10 of dose being represented as the amount of exposure per
11 weight of the person or thing exposed. Do you remember
12 talking about that?

13 MR. MICELI: Object to the form.

14 A. I remember you talking about in regulatory
15 risk assessments that body weight is considered as part
16 of the dose calculation.

17 Q. (BY MS. SILVERSTEIN) And you said in
18 regulatory risk assessment, body weight is considered
19 as part of the dose calculation, right?

20 A. Yes.

21 Q. Would you agree that there are contexts other
22 than regulatory risk assessment where dose is expressed
23 in -- to include the body weight?

24 MR. MICELI: Object to the form, foundation.

25 A. I mean, typically in epi studies that's not a

1 measurement. Body weight is not part of the
2 evaluation. It tends to be very specific to regulatory
3 risk assessment.

4 Q. (BY MS. SILVERSTEIN) So then is it your --
5 are you saying that expressing dose in terms of
6 milligram per kilogram day is only done in regulatory
7 risk assessment?

8 A. I'm not going to say it's only done there.
9 You may be able to find examples of where it's used
10 elsewhere. But in any study, it's important to think
11 about what metric you're comparing to in the end. So
12 regulatory risk assessment is set up so that the units
13 you're comparing your values to are things like MCL --
14 MCLs, MCLGs, cancer slope factors. And those are
15 consistently represented in milligram per kilogram day.

16 Q. Are you aware that in medicine, dose is
17 expressed as milligram per kilogram day?

18 MR. MICELI: Object to the form, foundation.
19 She's not a medical expert.

20 MS. SILVERSTEIN: I'm asking about her
21 awareness.

22 Q. (BY MS. SILVERSTEIN) Dr. Reynolds, are you
23 aware that in medicine, dose is expressed in milligram
24 per kilogram day?

25 A. Depending on the context, if you --

1 Q. Is it -- I'm sorry. Go ahead.

2 A. If you were looking at a dose of medication
3 and its efficacy, there are different -- you know, body
4 weight is important in terms of how much dose somebody
5 gets for the effective dose of the drug.

6 MS. SILVERSTEIN: I have no further
7 questions, but I will note for the record that we are
8 keeping this deposition open. We've requested on two
9 different occasions, including in our subpoena, the
10 spreadsheets or calculations that support
11 Dr. Reynolds's results. And as discussed today, the
12 calculations provided have discrepancies with the
13 results and do not provide the full information. So we
14 are holding this deposition open until receipt of that
15 information. At which point, we reserve the right to
16 seek additional time on the record.

17 MR. MICELI: All right. How much time have
18 we been on the record?

19 THE VIDEOGRAPHER: Six hours 24 minutes.

20 MR. MICELI: Okay. So I'll represent that
21 we're recognizing that you're reserving 36 minutes of
22 your deposition unless you have further questions after
23 I finish my redirect. We will take up whatever issues
24 we need to take up with the Court. And if the Court
25 deems additional time is appropriate, we'll let the

1 Court decide that. But we'll take issue with it. So I
2 can move right into our direct if we'd like.

3 MS. SILVERSTEIN: Sorry, we're just -- we
4 don't agree that we're limited to 34 or 36 minutes.
5 We'll be holding this deposition open upon resolution
6 of this issue. And I have no further questions.

7 Dr. Reynolds, thank you so much for your time
8 today. I know it was a really long day.

9 THE DEPONENT: Thank you.

10 MS. SILVERSTEIN: We appreciate your time
11 today.

12 MR. MICELI: I'm going to make it a little
13 longer for you.

14 We will agree to disagree, but that's what
15 we're going to have to do today.

16 EXAMINATION

17 BY MR. MICELI:

18 Q. Dr. Reynolds, first, I want to get you to,
19 sort of, explain -- and this will be brief. You
20 weren't asked about your educational experience except
21 for some very brief questions at the beginning. Can
22 you please educate the Court and perhaps others who may
23 hear this or read this deposition and watch this video
24 about your educational background starting with your
25 bachelor's degree.

1 MS. SILVERSTEIN: Object to the form.

2 A. Sure. So I received my bachelor's degree in
3 1989, and I studied -- I'm trying to think what the
4 actual degree name was back then. I believe it was
5 microbiology with a minor in chemistry. And then
6 for -- after that, I went on to get a master's degree
7 at the University of South Florida. And there I was at
8 the -- the College of Public Health working with
9 mentors in the fields of risk assessment, disease
10 transmission, exposure assessment.

11 And there my degree was in environmental
12 science and public health, and then I went on to get a
13 PhD. '92 is when I got my master's; '95 I got my PhD.
14 And that was in the Department of Soil and Water
15 Science, which eventually became the Department of
16 Environmental Science and with an expertise in
17 environmental science risk assessment.

18 Soon after graduating with my PhD, I had a
19 re-stint as a post doc and then was -- started teaching
20 a course in risk assessment, which was primarily
21 focused on radiation and chemical risk assessments.
22 And then I was appointed assistant professor of
23 research, and so I continued research until -- until
24 about, let's think, 2006. And then -- and I continued
25 teaching the risk assessment course and as part of that

1 holistic exposure assessment, I modified the course a
2 bit to include microbial exposures as well as chemical
3 exposures and radiation exposures and risk assessment
4 related to those exposures.

5 And then in 2006, I joined the College of
6 Public Health. So I moved from the Soil Water
7 Environmental Science Department to College of Public
8 Health in the Department of Community of Environmental
9 Policy. And I was there until 2012 -- well, I'm still
10 there.

11 But in 2012, I became tenured associate
12 professor. In 2013 I founded the ESRAC center, which
13 is the Environmental Exposure Science and Risk
14 Assessment Center, and directed that center and a wide
15 array of experts, faculty members, community members,
16 industry, government, stakeholders. We would work
17 together in teams to advance the field in exposure
18 assessment and risk assessment for both microbes and
19 chemical exposures and risks, and then -- that's 2013.

20 And in 2015 I was promoted to full professor.
21 My timeline is a little bit off. In 2018. In 2015, I
22 won the research -- research of excellence award. And
23 then in 2018, I was promoted to full professor. And
24 also at that time, I assumed the role of department
25 chair for the Community, Environmental and Policy

1 Department.

2 And from '21 to '22, I was the interim
3 associate dean for research representing our college
4 with other associate deans throughout the University of
5 Arizona, I think 22 different colleges. There were
6 associate research deans. And so I did that for a
7 couple of years and now I am -- I remain department
8 chair of Community, Environment and Policy Department.

9 Q. (BY MR. MICELI) Okay. And you mentioned the
10 University of Arizona there at the end, but your PhD is
11 from the University of Arizona?

12 A. Yes.

13 Q. Okay. And then everything from your PhD to
14 what you just explained to us, has that all been here
15 at the University of Arizona?

16 A. Correct.

17 Q. Okay. And so explain to me -- I want to make
18 sure it didn't get lost in, sort of, the litany of your
19 experience, but can you explain to us again what the
20 ESRAC center is?

21 A. Yes. It stands for the Environment Exposure
22 Science and Risk Assessment Center.

23 Q. Exposure and Risk Assessment Center.

24 A. Yes.

25 Q. And -- and you also said, I believe, when you

1 were at the University of South Florida getting your
2 master's, that's when you started getting into exposure
3 assessments and risk assessments?

4 A. Yes.

5 Q. Okay. So you were at University of South
6 Florida, which is down in Tampa, right?

7 A. Correct.

8 Q. And what years were you there?

9 A. It would have been 1989 to 1992.

10 Q. Okay. So if we just start with 1992.

11 A. Um-hum.

12 Q. That's about a post-master's degree when you
13 started doing the assessment and risk -- or exposure
14 and risk assessment work?

15 A. Yes.

16 Q. That is about 33 years?

17 A. Yes.

18 MS. SILVERSTEIN: Object to the form.

19 Q. (BY MR. MICELI) Okay. Thirty-two to
20 33 years?

21 A. Yes.

22 MS. SILVERSTEIN: Object to form.

23 Q. (BY MR. MICELI) And in your 32- to 33-year
24 career doing exposure assessment and risk assessment,
25 have you ever seen regulatory risk assessment used to

1 determine specific causation of a person's disease.

2 MS. SILVERSTEIN: Object to form.

3 A. No.

4 Q. (BY MR. MICELI) Okay. And have you
5 reviewed -- I believe you've already said you've
6 reviewed the deposition of Dr. Lipscomb?

7 A. Correct.

8 Q. Okay. Did you glean from reading his
9 deposition whether in his 30-plus career doing risk
10 assessment, he has ever seen anybody use regulatory
11 risk assessment to determine specific causation?

12 MS. SILVERSTEIN: Object to form.

13 A. Yes.

14 Q. (BY MR. MICELI) And what did he say?

15 MS. SILVERSTEIN: Object to form.

16 A. He said that that is not what regulatory risk
17 assessment was meant to do.

18 Q. (BY MR. MICELI) Okay. I want to talk a
19 little bit about risk assessment, though, just for a
20 second, just some terminology. What does is the term
21 MCLG stand for?

22 A. MCLG is maximum contaminant level goal.

23 Q. Okay. And what does that mean?

24 A. That's the level that would be considered
25 most protective of human health. So at those

1 exposures, adverse health outcomes would not be
2 expected.

3 Q. Okay. And what is an MCL?

4 A. An MCL is -- it stands for maximum
5 contaminant level, and those are a combination of where
6 health effects might occur and also consideration of
7 feasibility to control a site to meet that. So these
8 are regulatory standards. So there are thresholds for
9 allowable concentrations in an environmental media
10 where anything below that doesn't necessarily mean
11 health effects aren't occurring. But it wouldn't
12 necessarily trigger a risk management decision because
13 risk management decisions based on MCLs consider more
14 than just health. They consider feasibility in
15 economics.

16 Q. Okay. What do you mean by that?

17 MS. SILVERSTEIN: Object to form.

18 A. I mean that if an MCL -- if there's -- an MCL
19 would be set at a level where health effects could
20 still be likely, but that's the level that a risk
21 manager might decide is as low as reasonably achievable
22 to clean up that site, if you will. They're used a lot
23 in superfund sites and also safe drinking water act as
24 MCL set at certain levels.

25 Q. (BY MR. MICELI) Okay. So if your -- with

1 carcinogens, what is the MCLG?

2 MS. SILVERSTEIN: Object to the form.

3 A. In general, the MCLG for carcinogens is zero.

4 Q. (BY MR. MICELI) Okay. And so if you have an
5 MCLG of zero and you have measured levels of
6 contaminants that exceed an already established MCL, is
7 there a reason to do further risk assessment? And if
8 not, what is the next step?

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

11 A. So generally, an MCL means that a risk
12 assessment has been done so that an MCL was set at a
13 certain level. And if you do the risk assessment or if
14 you -- and it exceeds the risk thresholds or if you
15 have an MCL which indicates what the risk thresholds
16 would be at that MCL, if you exceed an MCL, the next
17 step would be a risk management decision and/or
18 additional evaluation.

19 Q. (BY MR. MICELI) When you say "additional
20 evaluation," what would that mean?

21 A. That could mean a more site-specific
22 assessment. It could mean triggering an epi study,
23 communication with the public that they're at risk.
24 There are a number of risk management decisions that
25 could be considered if you know you're exceeding an

1 MCL.

2 Q. Okay. So if you have an MCLG of zero and you
3 have an MCL that is exceeded, an epi study is one of
4 the risk management decisions that can be taken?

5 MS. SILVERSTEIN: Object to form.

6 A. Yes.

7 Q. (BY MR. MICELI) Okay. And you've reviewed
8 the evidence that is documented in your materials
9 reviewed list or materials considered list. And so I
10 want to ask you, with regard to TCE, PCE, benzene and
11 vinyl chloride, were there MCLs in place or already
12 established for those chemicals?

13 MS. SILVERSTEIN: Object to form.

14 A. There are MCLs for all of those chemicals.

15 Q. (BY MR. MICELI) Okay. And because they're
16 carcinogens, there's an MCLG of zero and established
17 MCLs. Were those MCLs exceeded at Camp Lejeune?

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

20 A. Those MCLs were exceeded at Camp Lejeune.

21 Q. (BY MR. MICELI) Okay. And following that in
22 the materials that you've reviewed, does it demonstrate
23 that epi studies were then conducted?

24 A. Yes.

25 Q. Okay. And did epi studies indicate likely

1 causation of various cancers and Parkinson's disease at
2 levels found at Camp Lejeune?

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

5 A. Yes.

6 Q. (BY MR. MICELI) Okay. Now, earlier in your
7 deposition you referred to some questions -- or you
8 answered some questions from Ms. Silverstein about risk
9 assessments that determine regulatory risk at --
10 between 10 to the negative 4 and 10 to the negative 6.

11 Do you recall those questions generally?

12 A. Yes.

13 Q. And at what level in a -- let's say 10 to
14 negative 6, what does that mean to you from a -- in a
15 risk assessment setting concerning whether or not
16 further investigation is necessary?

17 MS. SILVERSTEIN: Object to form.

18 A. So in a regulatory risk assessment, if you
19 exceed a one in a million risk, it will trigger
20 evaluation of why that risk is exceeded, if it can be
21 managed, what the feasibility is to manage it. It
22 would trigger further evaluation that might be site
23 specific or it might recommend other risk management
24 decisions.

25 Q. (BY MR. MICELI) Would that include, again,

1 epi studies?

2 MS. SILVERSTEIN: Object to form.

3 A. Yes.

4 Q. (BY MR. MICELI) All right. I'm going move
5 on from there. Unless you -- okay. In your report and
6 in your various calculations for the plaintiffs that
7 you've done, you reference, -- or you reference your
8 measurements in total micrograms, correct?

9 A. Correct.

10 Q. Can you explain why you did so.

11 A. So it was requested that I present my
12 exposure assessment in total micrograms to be compared
13 to some of the epi studies. And expressing my
14 concentrations in total micrograms makes those values
15 very adaptable to, maybe, different epi studies that
16 might have different units. And so it's a foundational
17 value that could be adjusted to fit certain studies and
18 could be compared directly with studies that looked at
19 total micrograms.

20 Q. Okay. And in the manner in which you did so,
21 and you've gone over, we don't need to go through all
22 of the calculations today -- again today, I should say.
23 Is the manner in which you went about establishing
24 total micrograms for these plaintiffs consistent with
25 the methodology that you employ regularly in your job

1 as an exposure assessment expert?

2 A. Yes.

3 Q. Okay. There's nothing unique about having to
4 do it just this one time for this case you're working
5 on?

6 A. No.

7 Q. Okay. You've also used the term today,
8 multiple times, "conservative." Can you explain to the
9 Court what you mean by conservative.

10 MS. SILVERSTEIN: Object to form.

11 A. Yeah, so that term is used, kind of, on both
12 ends of the spectrum. So you could say I'm utilizing
13 conservative estimates to mean I'm being more
14 protective of human health. And so I'm assuming more
15 high-end estimates, if you will, like RMEs are more
16 conservative estimates.

17 Or you could say I'm looking at this -- I'm
18 using conservative estimates erring on the side of not
19 overestimating exposures. So I've read and I've --
20 I've read in some of the depositions of experts and in
21 some of the publications that I reviewed, some of the
22 references that I reviewed, that term is used in both
23 of the -- in both of those ways on either end of the
24 spectrum. You can conservatively protect public
25 health, and you can conservatively estimate reduced

1 exposure so as not to overestimate exposures.

2 Q. (BY MR. MICELI) Okay. And did you attempt
3 to be conservative in your approach?

4 A. So in my -- in my estimates of individual
5 characteristics like time on base and, you know, days
6 per month, I was conservative in that I only used the
7 exact days that they were there. So compared to, for
8 example, other experts who assumed they were there the
9 whole month if they were there for two days. So -- and
10 in my estimates, I was conservative on the side of not
11 overestimating the days on base and the days exposed.

12 But when I did my actual exposure
13 assessments, I considered a range of conservative low
14 exposures and conserv- -- and then high exposures,
15 which were more protective of public health.

16 Q. Okay. And you mentioned that a couple of
17 times today that you did various calculations. And I
18 think Ms. Silverstein went over with you the 1-liter
19 example, the ATSDR model, the military field manuals
20 and then the deposition-informed. Do you recall that?

21 A. Yes.

22 Q. Okay. Are those all different ways that you
23 calculated total microgram exposure for all of the
24 plaintiffs?

25 A. I mean, the foundational calculations are

1 similar, but some of the inputs were different because
2 I wanted to look at CTEs and a calculation the RME --
3 yeah, RMEs in a calculation and then I wanted to look
4 at specific testimony from the plaintiffs and what that
5 might indicate in terms of their exposures, and also
6 the field manuals.

7 Q. And I know that plaintiffs were there at
8 different times, some plaintiffs were not --

9 A. Right.

10 Q. -- active military. But the manner in which
11 you gave multiple options of exposure, what was the
12 purpose for doing that?

13 MS. SILVERSTEIN: Objection.

14 A. That's very common in both risk assessment
15 and exposure assessment because there may be
16 uncertainties about their actual exposure
17 concentrations, their actual ingestion rates. And so
18 presenting a range of values gives you a plausible
19 range of outcomes.

20 Q. (BY MR. MICELI) Okay. And when you say
21 "plausible," are those reasonable -- did you equate
22 plausible and reasonable together?

23 MS. SILVERSTEIN: Objection.

24 A. When I say plausible, I do mean reasonable as
25 well.

1 Q. (BY MR. MICELI) Okay. Now, you've been --
2 you were asked a number of questions today about water
3 modeling. Do you recall that?

4 A. Yes.

5 Q. Okay. Are you a water modeler?

6 A. No.

7 Q. Are you offering any opinions about water
8 modeling?

9 A. No.

10 Q. Are you deferring to other experts to offer
11 and accurately offer testimony on water modeling?

12 A. Yes.

13 MS. SILVERSTEIN: Object to form.

14 A. Yes.

15 Q. (BY MR. MICELI) Okay. And did you rely upon
16 the published peer reviewed literature on water
17 modeling at Camp Lejeune in offering your opinions?

18 A. Yes.

19 Q. Okay. And multiple times throughout this
20 deposition you've said that you used the best available
21 evidence. Can you explain what you mean when you use
22 that term, "best available evidence"? What you mean?

23 MS. SILVERSTEIN: Object to form.

24 A. So the best available evidence would be in
25 the peer-reviewed literature, and would be from the

1 plaintiffs' direct testimony of their behaviors. So
2 when I say best available information, it's exactly
3 that. It's what's available to utilize in exposure
4 assessment to the best of people's recollection and the
5 best of the published literature data.

6 Q. (BY MR. MICELI) Okay. Early in this
7 deposition, Ms. Silverstein confirmed with you, you're
8 not a toxicologist, correct?

9 A. Correct.

10 Q. So I'm going to ask you, were you aware that
11 your exposure assessment of individuals would be or
12 could be used by other experts to determine whether or
13 not those -- the levels that you calculated caused a
14 risk to human health?

15 MS. SILVERSTEIN: Objection.

16 A. Yes.

17 Q. (BY MR. MICELI) Okay. Now, I don't know if
18 you were -- you were asked this earlier but I want to
19 ask you. Are you a medical doctor?

20 A. No.

21 Q. Are you qualified to give medical opinions
22 about causation?

23 A. No.

24 Q. Okay. Were you aware that your exposure
25 assessment calculations and the ranges that you

1 provided were going to be used by medical doctors who
2 would then offer medical causation opinions?

3 MS. SILVERSTEIN: Object to form.

4 A. I don't know that I knew exactly who was
5 going to be utilizing that information. If they were
6 going to be medical doctors or epidemiologists or
7 toxicologists. But I knew that that would be in the
8 realm of who would utilize my information, yes.

9 Q. (BY MR. MICELI) You mentioned earlier today
10 you talked with three doctors?

11 A. Yes.

12 Q. Okay. Are you aware that the doctors that
13 you spoke with were neurologists?

14 A. Yes.

15 Q. Neurologists are medical doctors, right?

16 A. They could be researchers.

17 Q. Or both, right. Okay.

18 I want to ask you -- I want to return to the
19 fruit basket, for a moment, questions. Do you recall
20 being asked a number of questions about bananas today?

21 A. Yes.

22 Q. Have you ever been asked to research whether
23 or not bananas cause a health risk to people who eat
24 bananas?

25 MR. MICELI: Object to form.

1 A. No.

2 Q. (BY MR. MICELI) Okay. Is there any reason
3 to believe that every person that eats a banana is
4 consuming a banana at the maximum level of benzene that
5 Ms. Silverstein demonstrated or showed to you today in
6 that one article?

7 A. No.

8 Q. Okay. Do you know of any peer-reviewed
9 scientific article that causally relates the consuming
10 of bananas to non-Hodgkin's lymphoma or any other
11 cancer?

12 MS. SILVERSTEIN: Object to form.

13 A. No.

14 Q. (BY MR. MICELI) Well, do you know of any
15 study that relates any fruit, consuming any fruit, to
16 non-Hodgkin's lymphoma or other cancers?

17 MS. SILVERSTEIN: Object to form.

18 A. I'm not aware, no.

19 Q. (BY MR. MICELI) Okay. I want to go over a
20 couple of the exhibits that were shown to you at the
21 very end of your deposition. And hopefully they're
22 near the top of this very large stack we have here.

23 A. They're definitely not in order.

24 Q. They're not. I'm going to look for -- they
25 may be over in yours. I'm looking for 28 and 29.

1 A. This is all my report.

2 Q. Put those over there. You can check me, but
3 I'm looking for 28 and 29. It's Kolka and the toxicity
4 of drinking water.

5 A. Here's 29.

6 Q. Okay. Maybe the other one is right there
7 with it?

8 MS. SILVERSTEIN: David, which artic- --
9 documents are you referring to?

10 MR. MICELI: Twenty-eight and 29, Kolka 2003.
11 Did you find that?

12 THE DEPONENT: I have 29, but I don't have
13 28.

14 MR. SNIDOW: I have one here.

15 MR. MICELI: That's 29.

16 MS. SILVERSTEIN: Kolka 2008, and what's the
17 other one?

18 MR. MICELI: The 2003.

19 MS. ELLISON: That has highlighting on it.

20 MR. MICELI: I have mine, but I don't
21 think --

22 MS. ELLISON: Let's use the one that's marked
23 as an exhibit.

24 MR. MICELI: I just have to find it, that's
25 all.

1 MS. SILVERSTEIN: Is the other document
2 you're referring to the Gardner document?

3 MR. MICELI: No. The Gardner document is 29,
4 and that's death by water intoxication.

5 The other one is the -- which you represented
6 as Kolka 2003. I couldn't find the date on it. I
7 can't believe this. I know it's going to be underneath
8 your report over there.

9 THE DEPONENT: It might be. Let's see.
10 Maybe it's in the middle of my report.

11 MR. MICELI: Do you know what it is? It's
12 the very bottom. Look at the bottom.

13 THE DEPONENT: Yep, there it is.

14 MR. MICELI: There it is.

15 THE DEPONENT: Oh, no, that's 10.

16 MR. MICELI: No, no, is it? Can you pass me
17 that paperclip. I'm just trying to keep these things
18 together for her. Eighty-eight and 89. Good eye.

19 I think they're trying to get us out of here
20 because it feels like they turned the air conditioner
21 off.

22 MS. SILVERSTEIN: It does.

23 (Pause in the proceedings.)

24 MR. MICELI: The problem is our court
25 reporter is going to need it regardless, and so we're

1 going to have to find it.

2 MS. SILVERSTEIN: We're happy to provide you
3 an electronic version of the document.

4 MR. MICELI: I don't want to leave her -- I
5 want to see if I have any writing on mine. Because if
6 I don't, I can ask them to copy it. Again, we're going
7 to have to find the original.

8 THE DEPONENT: Here it is. Here it is.

9 MR. MICELI: Okay. There we are. Let's keep
10 those two there and everything else right here.

11 THE DEPONENT: Okay. These ones are in
12 order. Whoops.

13 MR. MICELI: Don't worry about them being in
14 order. We'll put them in order later.

15 THE DEPONENT: Okay. Okay.

16 MR. MICELI: Put that right up here.

17 THE DEPONENT: Okay.

18 Q. (BY MR. MICELI) I want to start with
19 Exhibit 28, Kolka -- it's been represented as Kolka
20 2003, but if you look at the first and second pages, it
21 does not appear that there's a date of this
22 publication. I take that back, down at the very bottom
23 above the solid line. "Paper presented at the RTOHFM
24 specialist meeting on maintaining hydration issues
25 guidelines and delivery held in Boston, 10 and 11

1 December 20, 2003."

2 Do you see that?

3 A. Yes.

4 Q. Okay. If you go to -- you were asked some
5 questions about this. But I want to go -- if you flip
6 with me to the back.

7 A. Okay.

8 Q. To Footnote No. 9 in this article, it will
9 look like this. So we keep --

10 A. The reference.

11 Q. This page right there.

12 A. Okay. Yes.

13 Q. Number 9 is Montain and Latzka -- Montain,
14 Latzka and Sawka, Fluid Replacement Recommendations for
15 Training in Hot Weather. Military medicine.

16 Do you see that?

17 A. Yes.

18 Q. Is there any reason why -- well, in the years
19 that you looked at Camp Lejeune, was 1999 beyond the
20 effective years of the -- of the water contamination at
21 Camp Lejeune?

22 A. It was, yes.

23 MS. SILVERSTEIN: Object to form.

24 Q. (BY MR. MICELI) Okay. And so is there any
25 reason why you didn't use information on water

1 guidelines that postdated the contamination at Camp
2 Lejeune?

3 MS. SILVERSTEIN: Object to form.

4 A. Yes. It wouldn't be relevant to the
5 population at the time.

6 Q. (BY MR. MICELI) Okay. But -- okay. Thank
7 you.

8 Now, if you look at the Exhibit 29 that was
9 shown to you. And Ms. Silverstein went over the
10 abstract with you and referenced -- I think it's the
11 second sentence that begins, "This article reviews."

12 A. Yes.

13 Q. "Several recent military cases and three
14 deaths that have occurred as a result of over hydration
15 with result in hyponatremia and cerebral edema." But
16 then she didn't include this next sentence. "All of
17 these cases were associated with more than 5 liters,
18 usually 10 to 20 liters, of water intake during a
19 period of a few hours."

20 Do you see that?

21 MS. SILVERSTEIN: Objection. I'll note for
22 the record that I did include that sentence when
23 talking to Dr. Reynolds but...

24 MR. MICELI: I was -- I'm misremembering
25 that. I apologize if I did. No offense intended.

1 Q. (BY MR. MICELI) Did you study any -- in
2 reviewing the information on the plaintiffs that you
3 offer exposure estimates on, did you see anybody that
4 consumed 10 to 20 liters of water or fluid in a day?

5 MS. SILVERSTEIN: Objection.

6 A. No.

7 Q. (BY MR. MICELI) Okay. And certainly you
8 didn't review anybody that consumed 5, 10 or 20 liters
9 in a matter of hours, did you?

10 A. No.

11 MS. SILVERSTEIN: Objection.

12 Q. (BY MR. MICELI) If you flip over to the
13 second page of this, it references in the second
14 paragraph, left-hand column. It says, "Comparison of
15 hospitalization and outpatient visits for hyper --
16 hyponatremia between '97 and 1998 showed a reduction
17 attributed to new guidelines."

18 First of all, did you review any cases that
19 involved hyponatremia?

20 A. No.

21 Q. Okay. And it says, "Further analysis of
22 hyponatremia cases in the Army through 1999
23 demonstrated that decline in cases -- in case rates
24 Army-wide might be attributable entirely to a dramatic
25 reduction at Fort Benning."

1 Do you see that sentence?

2 A. I do.

3 Q. Do you know where Fort Benning is?

4 A. No.

5 Q. Okay. Do you know -- well, I won't ask that.

6 I think I'm done with that. In your review
7 of material to give your opinions on exposure
8 estimates, from the material you reviewed, are you
9 aware that modeling was necessary because the
10 Department of Navy and the U.S. Marine Corps didn't
11 have measured levels for every year that they
12 contaminated the water at Camp Lejeune?

13 A. Yes.

14 MS. SILVERSTEIN: Object to form, and
15 foundation.

16 Q. (BY MR. MICELI) Okay. Was that the reason
17 why they had to model it?

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

20 A. Yes.

21 Q. (BY MR. MICELI) Is it common in your
22 profession to have to use modeling where data is --
23 where actual data is lacking?

24 A. Yes.

25 Q. Okay. And the water modeling data that you

1 looked at and water modeling numbers that you looked
2 at, were they found in peer-reviewed journals?

3 A. Yes.

4 Q. Okay. And are peer -- were you aware that
5 they were peer-reviewed --

6 A. Yes.

7 Q. Like, the ATSDR reports?

8 A. Yes.

9 Q. For the benefit of the people that will
10 listen to your deposition or read it, what is -- what
11 is the purpose of peer reviewing something like the
12 water modeling at Camp Lejeune?

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

15 Q. (BY MR. MICELI) Let me back up a second, you
16 published before, haven't you?

17 A. Yes.

18 Q. Are you a peer -- have you ever been a peer
19 reviewer?

20 A. Yes.

21 Q. Okay. Have any of your articles ever been
22 peer reviewed?

23 A. Yes.

24 Q. Okay. What is your understand -- are all of
25 your articles peer reviewed?

1 A. Most -- I mean, I have sections in my CV of
2 peer-reviewed articles and also, you know, book
3 chapters or more professional reports. And there could
4 be different levels of peer review, but almost all are
5 peer reviewed on some level.

6 Q. What is your understanding of the purpose of
7 the peer review process?

8 A. It's to have a variety of experts look at the
9 information and the data and validate the credibility
10 of the data or the clarity of the data.

11 Q. Okay.

12 A. And the assumptions around -- or the
13 interpretation of the data too.

14 Q. Okay. Is this -- is the Department of Navy
15 or Marine Corps's inability to keep records of exposure
16 levels in their water systems what necessitated the use
17 of a modeling of water -- the water modeling system?

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

20 A. Yes.

21 Q. (BY MR. MICELI) Okay. Now, did you review
22 anything in this -- in order to offer your opinions in
23 this case, particularly concerning the need for
24 modeling because the Department of Navy and the U.S.
25 Marine Corps did not actually take contaminant levels

1 in their water for all of the years at issue here, did
2 you see anything where the Department of Navy or the
3 United States Marine Corps ever warned the people on
4 Camp Lejeune that they were contaminating them and
5 exposing them to life-threatening diseases?

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

8 A. I have not seen anything like that, no.

9 MR. MICELI: Okay. I want to take a short
10 break and talk to my colleague real quick, and then we
11 can probably wrap this up.

12 THE VIDEOGRAPHER: Time is 7:03. We're going
13 off record.

14 (Recess taken from 7:03 p.m. to 7:06 p.m.)

15 THE VIDEOGRAPHER: Time is 7:06. We're back
16 on record.

17 MR. MICELI: I don't think it matters that
18 that door is open. I think we're the only ones here at
19 this point.

20 I just want to note for record, that DOJ
21 expert, Judy LaKind, Dr. LaKind, has been on the -- on
22 the Zoom throughout the course of this deposition. But
23 subject to just putting that on the record, I have no
24 further questions.

25 MS. SILVERSTEIN: I have no further questions

1 either, though I am tempted to make a joke about using
2 the next 41 minutes up. But I won't subject anyone to
3 that so...

4 MR. MICELI: I like your thought, though.
5 That's great.

6 MS. SILVERSTEIN: So thank you again for your
7 time, Dr. Reynolds. I know is it was a relatively long
8 day.

9 THE DEPONENT: Thank you. For you too.

10 MR. MICELI: Thanks.

11 THE VIDEOGRAPHER: Time is 7:06. We're going
12 off record.

13 (The proceedings concluded at 7:06 p.m.)
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CERTIFICATE OF REPORTERS

STATE OF ARIZONA)
) ss.
CITY AND COUNTY OF PIMA)

I, RICHAEAL M. SILVIA, Registered Merit Reporter, Certified Realtime Reporter, and Certified Reporter in the State of Arizona, do hereby certify that the foregoing deposition was taken before me in the County of Pima, State of Arizona; that an oath or affirmation was duly administered by me to the witness, KELLY A. REYNOLDS, PhD, pursuant to A.R.S. 41-324(B); that the questions propounded to the witness and the answers of the witness thereto were taken down by me in shorthand and thereafter reduced to typewriting; that the transcript is a full, true and accurate record of the proceeding, all done to the best of my skill and ability; that the preparation, production and distribution of the transcript and copies of the transcript comply with the Arizona Revised Statutes and in ACJA 7-206(F)(3); ACJA 7-206 J(1)(g)(1) and (2); and ACJA 7-206 J(3)(b).

The witness herein, KELLY A. REYNOLDS, PhD, did not mention review and signature.

I FURTHER CERTIFY that I am in no way related to any of the parties nor am I in any way interested in the outcome hereof.

IN WITNESS WHEREOF, I have set my hand in my office in the County of Pima
10th day of July 2025.



Richael M. Silvia, RMR, CRR, CRCR
Arizona CR No. 51017

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