

# **Exhibit 2**

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UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA

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IN RE: ROUNDUP PRODUCTS MDL No. 2741  
LIABILITY LITIGATION Case No.  
16-md-02741-VC

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This document relates to:

ALL ACTIONS

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DEPOSITION OF CHRISTOPHER JUDE PORTIER, Ph.D.  
New York, New York  
September 5, 2017

Reported by: MARY F. BOWMAN, RPR, CRR

Job No: 128474

Page 2

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4 September 5, 2017  
5 9:04 a.m.  
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8 Deposition of CHRISTOPHER JUDE  
9 PORTIER, Ph.D., held at the offices of  
10 Weitz & Luxenberg, 700 Broadway, New York,  
11 New York, before Mary F. Bowman, a  
12 Registered Professional Reporter, Certified  
13 Realtime Reporter, and Notary Public of the  
14 State of New Jersey.  
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Page 3

1 APPEARANCES:  
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4 Attorneys for the Plaintiffs and the witness  
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6 New York, NY 10003  
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1 APPEARANCES:  
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6 Washington, DC 20005  
7 BY: ERIC LASKER, ESQ.  
8 JOHN KALAS, ESQ.  
9  
10 Also Present:  
11 Robyn D. Buck, Esq., Monsanto  
12 Michael Baum, Esq. (By telephone)  
13 Pedram Esfandiary, Esq. (By telephone)  
14 Matthew Smith, Videographer  
15  
16  
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1 INDEX:  
2 WITNESS EXAM BY: PAGE:  
3 C. Portier Mr. Lasker 6, 376  
4 Ms. Greenwald 366  
5  
6 EXHIBIT INDEX:  
7 NUMBER DESCRIPTION PAGE:  
8 Exhibit 15-1 document entitled, "IARC 13  
9 Monographs on Evaluation of  
10 Carcinogenic Risks to Humans,"  
11 Exhibit 15-2 document entitled, 13  
12 "Discussion of Changes to  
13 Draft Preamble,"  
14 Exhibit 15-3 document entitled, "IARC 21  
15 Monographs on Evaluation of  
16 Carcinogenic Risks to Human,  
17 Internal Report 6/001,"  
18 Exhibit 15-4 e-mail chain, dated October 28  
19 21, 2015,  
20 Exhibit 15-5 report entitled, "Chem Daily 30  
21 Text Project: New Technology  
22 Sheds Light on Chemicals in  
23 Our Environment,"  
24 Exhibit 15-6 IARC announcement, dated 33  
25 July 16, 2014,

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1 THE VIDEOGRAPHER: This begins  
2 media labeled No. 1 of the  
3 video-recorded deposition of  
4 Dr. Christopher Portier in the matter  
5 of In re: RoundUp Products Liability  
6 Litigation, for the United States  
7 District Court, Northern District of  
8 California.

9 This deposition is being held at  
10 700 Broadway in New York, New York on  
11 September 5, 2017, at approximately  
12 9:04 a.m.

13 My name is Matthew Smith for TSG  
14 Reporting, Incorporated. I'm the legal  
15 video specialist.

16 The court reporter is Mary Bowman  
17 in association with TSG Reporting.

18 Will counsel please introduce  
19 yourself for the record.

20 (Whereupon counsel placed their  
21 appearances on the audio record. All  
22 attorney appearances will be on the  
23 final transcript).

24 THE VIDEOGRAPHER: Thank you.  
25 Will the court reporter please

1 monograph, correct?

2 MS. GREENWALD: Objection, form.

3 A. The group that IARC brought in,  
4 advisors, recommended a few changes to the  
5 preamble.

6 Q. For example, the science advisory  
7 board that you chaired recommended that  
8 IARC place greater weight on mechanistic  
9 data in reaching its cancer evaluations,  
10 correct?

11 A. The advisory group suggested that  
12 the mechanism data that was now becoming  
13 available was substantially different than  
14 what it was when the first preamble was  
15 written and they -- that the preamble  
16 needed to be revised to take into account  
17 modern mechanistic understanding of cancer.

18 Q. One of the things, for example,  
19 that your group recommended was that an  
20 agent might be classified as possibly  
21 carcinogenic to humans based solely on  
22 strong mechanistic data, correct?

23 MS. GREENWALD: Objection, form.

24 A. I don't know. I'd have to see  
25 the document to be certain that's the case,

1 swear in the witness.  
2 CHRISTOPHER PORTIER,  
3 called as a witness by the parties,  
4 having been duly sworn, testified as  
5 follows:

6 EXAMINATION BY

7 MR. LASKER:

8 Q. Good morning, Dr. Portier.

9 Dr. Portier, you served in May of  
10 2005 as the chair of the IARC Science  
11 Advisory Board that recommended amendments  
12 to the preamble of the IARC monograph  
13 series, correct?

14 A. I'm not sure of the date. But  
15 the last time they did the preamble, I  
16 served as the chair. Actually, I was  
17 cochair.

18 Q. And the preamble is the document  
19 that sets forth the methodology that IARC  
20 working groups are required to follow in  
21 reaching their carcinogenicity  
22 classifications, correct?

23 A. That is correct.

24 Q. The group that you chaired  
25 recommended a number of revisions to the

1 and I'd have to see the previous document  
2 to see that it wasn't in the previous  
3 preamble.

4 MR. LASKER: Let me -- actually,  
5 let me mark both of these.

6 So we will mark as Exhibit 15-1  
7 the report of the Science Advisory  
8 Group from May of 2005.

9 (Exhibit 15-1, document entitled,  
10 "IARC Monographs on Evaluation of  
11 Carcinogenic Risks to Humans," marked  
12 for identification, as of this date.)

13 MR. LASKER: And then we will  
14 mark as 15-2 a document that is labeled  
15 "Discussion of Changes in the Draft  
16 Preamble," which was prepared the same  
17 time -- or following the Science  
18 Advisory Board meeting.

19 (Exhibit 15-2, document entitled,  
20 "Discussion of Changes to Draft  
21 Preamble," marked for identification,  
22 as of this date.)

23 Q. Dr. Portier, just to clarify the  
24 record, Exhibit 15-1 is the report that  
25 your advisory group prepared for IARC,

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1 correct?

2 MS. GREENWALD: Objection, form.

3 A. It does look like the report that

4 we prepared for IARC.

5 Q. And on the second page of the

6 report, in the listing of the participants,

7 you are identified as the chair of this

8 advisory group, correct?

9 A. That is correct. The cochair got

10 ill, had to leave on the first date.

11 That's why I am listed as the only chair

12 and he is not listed.

13 Q. If we look at -- and the question

14 was about the mechanistic data and some of

15 the recommendations of your committee.

16 If you could look at Exhibit

17 15-2, and particularly at page 7 -- I'm

18 sorry.

19 15-2 would be the changes,

20 Dr. Portier?

21 You're looking at 15-1?

22 A. Yes. Sorry.

23 Q. 15-2 is discussing some of the

24 changes following your advisory group

25 recommendations.

Page 15

1 And on page 7, towards the bottom

2 of the page --

3 A. Yes.

4 Q. -- there is a paragraph that

5 starts, "The expert workshop recommended in

6 the consensus report."

7 Do you see that paragraph?

8 A. Yes.

9 Q. And then there is the sentence:

10 "Accordingly, the Advisory Group

11 recommended that an agent can be

12 characterized as possibly carcinogenic to

13 humans based solely on strong mechanistic

14 data."

15 Correct?

16 A. That's what it says.

17 Q. And that was one of the

18 recommendations of your advisory group?

19 A. That's recommendation 12(d).

20 MS. GREENWALD: Objection, form.

21 A. So the advisory group cites the

22 paper by McGregor, et al., which had looked

23 at the presence or the ability to have data

24 on animal carcinogenicity studies for an

25 IARC monograph review, and McGregor

Page 16

1 concluded that animal cancer bioassays were

2 being used less and less in looking at the

3 carcinogenicity of compounds and more and

4 more other types of mechanistic studies

5 were being used to supplant the need for a

6 two-year chronic animal carcinogenicity

7 study.

8 So that was the basis from which

9 the discussion went on to look at the rest

10 of it.

11 Q. Dr. Portier, my question is a

12 simple one.

13 A. I know. I'm trying to find it in

14 here.

15 "Changing the preamble to reflect

16 this possibility, also taking into

17 account" ...

18 Yes, that's exactly what the

19 group said.

20 Q. So the Science Advisory Board,

21 the chair recommended that the preamble be

22 amended to mechanistic data alone could

23 support a finding of possible

24 carcinogenicity, correct?

25 MS. GREENWALD: Objection, form.

Page 17

1 A. There is more verbiage to it than

2 that.

3 Q. But in effect, that was the

4 recommendation, correct?

5 MS. GREENWALD: Objection, form.

6 A. No, there is more verbiage to it

7 than that. The verbiage deals with

8 extremely strong and strongest from other

9 relevant data could potentially be

10 classified by IARC in Group 2B.

11 Q. OK. I stand corrected.

12 A. And to be clear, it says,

13 "Similarly, an agent for which there is

14 less than sufficient evidence from animal

15 studies."

16 That means you could have limited

17 evidence in animal studies, including

18 inadequate evidence, and strong evidence

19 from other relevant data could potentially

20 be classified in Group 2B.

21 So it's important that that is

22 linked with the strong data. You can't do

23 it just because you have mechanistic data.

24 Q. Understood.

25 Your advisory group also

Page 18

1 recommended that the preamble be amended,  
 2 and if you want to look at pages 6 and 7 of  
 3 the document, Exhibit 15-2, Discussion of  
 4 Changes in Draft Preamble, your Science  
 5 Advisory Board also recommended that the  
 6 preamble be amended to allow for the  
 7 finding of sufficient evidence of  
 8 carcinogenicity in animals based on the  
 9 results in a single animal study, correct?  
 10 MS. GREENWALD: Objection, form.  
 11 Q. And that is on the bottom of  
 12 page 6, top of page 7.  
 13 MS. GREENWALD: Objection, form.  
 14 A. That is correct.  
 15 The previous preamble required  
 16 that you have positive results from studies  
 17 in two separate labs. The new preamble  
 18 states that results in both sexes of a  
 19 single species in a GLP study can provide  
 20 sufficient evidence of carcinogenicity.  
 21 So you still have to have two  
 22 positive findings of the carcinogenicity  
 23 but they don't have to come from two  
 24 separate laboratories.  
 25 Q. Your Science Advisory Board also

Page 19

1 endorsed -- page 3 on the changes,  
 2 Exhibit 15 -- 15-2 -- also endorsed the use  
 3 of metaanalyses to evaluate the human  
 4 epidemiological data, correct?  
 5 A. Can you tell me where it is on  
 6 here?  
 7 Q. Page 3, numeral 8 at the bottom.  
 8 A. Oh, it's right there.  
 9 Yes.  
 10 Q. And if you look at -- let me go  
 11 back to 15-1, which is a report.  
 12 Page 4 of 5 discusses the fact  
 13 that your group also reaffirmed the  
 14 preamble's guidance that IARC working  
 15 groups could only consider scientific  
 16 studies in the published literature or  
 17 publicly available reports from national  
 18 and international agencies, correct?  
 19 MS. GREENWALD: Objection, form.  
 20 A. Do you know which issue this is?  
 21 Q. Page 4 and 5 in Exhibit 15-1 at  
 22 the bottom, it says, "Data from  
 23 monographs"?  
 24 A. Yes.  
 25 Q. And again, the question is that

Page 20

1 your Science Advisory Board also reaffirmed  
 2 the preamble's guidelines that IARC working  
 3 groups could only consider scientific  
 4 studies in the published literature or  
 5 publicly available reports from national or  
 6 international agencies, correct?  
 7 MS. GREENWALD: Objection, form.  
 8 A. That is correct.  
 9 Q. In December of --  
 10 A. But I believe that was in the  
 11 previous preamble as well. We are simply  
 12 agreeing with the previous preamble.  
 13 Q. Correct. That was the question.  
 14 A. Actually, the only change we  
 15 changed from the previous preamble, what we  
 16 were changing there was we could use  
 17 government and international agency  
 18 documents provided they were publicly  
 19 available.  
 20 That was not in the previous  
 21 preamble.  
 22 Q. Got it.  
 23 In December of 2005, you then  
 24 served on the advisory group that reviewed  
 25 and largely approved the recommendations

Page 21

1 that had been made by your Science Advisory  
 2 Board, correct?  
 3 MS. GREENWALD: Objection, form.  
 4 Q. And I can show you the documents  
 5 if that would make it easier for your call.  
 6 A. I certainly don't remember that.  
 7 Please.  
 8 MR. LASKER: So this will be  
 9 Exhibit 15-3.  
 10 (Exhibit 15-3, document entitled,  
 11 "IARC Monographs on Evaluation of  
 12 Carcinogenic Risks to Human, Internal  
 13 Report 6/001," marked for  
 14 identification, as of this date.)  
 15 Q. You can turn to the second  
 16 page -- third page, you will see your name  
 17 listed as part of the advisory group.  
 18 A. Yes, but so were many of the  
 19 others who helped were on the first  
 20 advisory group.  
 21 Q. Just so we have a clear record,  
 22 in December of 2005, you also served on the  
 23 advisory group that reviewed and largely  
 24 approved the recommendations made by your  
 25 earlier Science Advisory Board, correct?

1 MS. GREENWALD: Objection, form.

2 A. There were several pieces to that  
3 question. Could you repeat it for me,  
4 please.

5 Q. In December of 2005, you served  
6 on the advisory group that reviewed and  
7 then approved the amendments to the  
8 preamble, correct?

9 A. In 2005, I served on two advisory  
10 groups. One made recommendations. The  
11 second one reviewed the new preamble to  
12 make sure that it actually matched the  
13 recommendations.

14 Q. From 2013 to 2014, you served as  
15 a visiting scientist at IARC, correct?

16 A. From, I believe, October 2013  
17 'til April, March 2014, yes.

18 Q. What work were you doing for IARC  
19 during this period?

20 A. What work was I doing for IARC  
21 during this period?

22 I did several things. There was  
23 some joint collaborations on looking at  
24 genotoxicity due to a variety of chemicals  
25 using proteomics, metabolomics and

1 genomics.

2 I gave a seminar on genomics and  
3 genomic issues and some network modeling  
4 that allows you to pull up our genomic data  
5 and gave talks on that.

6 We worked on a manuscript that  
7 was recently published that looked at the  
8 ten characteristics of carcinogenesis, so I  
9 worked on that.

10 We were working on a review of  
11 the model -- of the Monographs 100. The  
12 Monographs 100 reviewed all of the known  
13 human carcinogens, and we had a couple of  
14 questions we wanted to ask from the known  
15 human carcinogens, such as how often do  
16 cancer seen in the animal match the cancer  
17 seen in humans? And other issues along  
18 those lines. How many times do rats match  
19 mice and how often is a mechanism tied to a  
20 specific tumor in humans rather than any  
21 tumor in humans?

22 So we were analyzing that data.  
23 And then we were using that at the same  
24 time to put together some guidance -- some  
25 points for guidance for mechanistic work

1 groups.

2 On the IARC monographs, when they  
3 came in to look at mechanistic data, I  
4 didn't end up putting those points  
5 together. That was done by IARC staff long  
6 after I left.

7 Q. Were you paid for your work as a  
8 visiting scientist at IARC?

9 A. IARC's visiting scientists are  
10 reimbursed for their expenses while they're  
11 in Lyon during that period of time. And I  
12 was reimbursed for those expenses; however,  
13 they were reimbursement of expenses. It  
14 was not salary.

15 Q. In April of 2014, you then served  
16 as the chair of the IARC advisory committee  
17 that designated glyphosate as a medium  
18 priority for review for carcinogenicity,  
19 correct?

20 MS. GREENWALD: Objection to  
21 form.

22 A. In -- was it April of 2014 -- if  
23 that's the correct date, I can't be  
24 absolutely certain -- in April of 2014, I  
25 chaired the IARC working group that looked

1 at approximately 200 chemicals that were  
2 nominated to the program by outside  
3 individuals to see what priority should be  
4 placed on evaluating those 200 compounds in  
5 the next five years for the IARC.

6 Q. And that group, among other  
7 decisions it made, designated glyphosate as  
8 a medium priority for review, correct?

9 A. Yes, that group recommended  
10 glyphosate for medium priority review.

11 Q. Do you recall who asked you to  
12 serve as the chair of that committee?

13 A. I don't remember which member of  
14 the staff was running that committee but  
15 probably Kurt Straif, the head of the  
16 program.

17 Q. At the time you served as the  
18 chair of this 2014 advisory committee, you  
19 had been serving as well for over a year as  
20 a senior scientist for the Environmental  
21 Defense Fund, correct?

22 A. I was working one day per week as  
23 a senior contributing scientist with the  
24 Environmental Defense Fund, yes.

25 Q. The Environmental Defense Fund



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1 was founded in the late 1960s in connection  
 2 with concerns about a pesticide called DDT,  
 3 correct?  
 4 MS. GREENWALD: Objection, form.  
 5 A. I've never spent time looking at  
 6 the history of the Environmental Defense  
 7 Fund. So I really have no idea.  
 8 I've heard the same story as you.  
 9 Q. So your understanding is the  
 10 Environmental Defense Fund got started  
 11 around the issue of the pesticide DDT?  
 12 MS. GREENWALD: Objection, form.  
 13 A. Someone has told me that the  
 14 Environmental Defense Fund began from a  
 15 group of scientists on Long Island in New  
 16 York who were trying to get DDT, a terrible  
 17 environmental toxin, out of the -- out of  
 18 their water, out of their air.  
 19 Q. And the Environmental Defense  
 20 Fund over the ensuing 50 years continued to  
 21 be active in opposing various pesticides,  
 22 correct?  
 23 MS. GREENWALD: Objection, form.  
 24 A. I have no knowledge of that.  
 25 Q. During the same time that you

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1 were working with IARC in reviewing  
 2 glyphosate and other pesticides, you were  
 3 also working with the Environmental Defense  
 4 Fund in promoting a wristband project which  
 5 was seeking to measure human exposures to  
 6 pesticides and other chemicals, correct?  
 7 MS. GREENWALD: Objection, form.  
 8 A. I can't -- I do not know the  
 9 answer to that question. The time frame is  
 10 the issue here.  
 11 Q. So you do recall that you worked  
 12 with the Environmental Defense Fund on the  
 13 wristband project, correct?  
 14 A. But I can't be certain such work  
 15 was done while I was also at IARC.  
 16 Q. I understand. I want to see if I  
 17 get a clear answer to this: You do recall  
 18 working with the Environmental Defense Fund  
 19 on their wristband project, correct?  
 20 A. I do recall advising them on  
 21 their wristband project, yes.  
 22 Q. And the wristband project was  
 23 measuring human exposures to pesticides and  
 24 other chemicals, correct?  
 25 A. It was measuring anything in the

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1 person's environment that adhered to the  
 2 latex -- the special latex that's on the  
 3 wristband, and then that was in turn  
 4 evaluated by GC mass spec to find out how  
 5 much of each of these the people had  
 6 encountered.  
 7 Q. Again, the wristband project that  
 8 the Environmental Defense Fund conducted  
 9 and you advised on was measuring human  
 10 exposures to pesticides and other  
 11 chemicals, correct?  
 12 MS. GREENWALD: Objection, asked  
 13 and answered.  
 14 A. I don't really know if they had  
 15 pesticides on the list of chemicals they  
 16 measured. I can remember some of them but  
 17 I can't remember exactly whether there were  
 18 pesticides on there. But certainly, there  
 19 were chemicals on that list.  
 20 (Exhibit 15-4, e-mail chain,  
 21 dated October 21, 2015, marked for  
 22 identification, as of this date.)  
 23 Q. Dr. Portier, I have provided you  
 24 with a copy of an e-mail exchange. It  
 25 starts off as an e-mail exchange between

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1 you and Linda Birnbaum on October 21, 2015.  
 2 Correct?  
 3 A. October 21, 2015, to Linda  
 4 Birnbaum at -- at NIEHS, yes.  
 5 Q. For the record, who is Linda  
 6 Birnbaum?  
 7 A. Linda Birnbaum is the director of  
 8 the National Institute of Environmental  
 9 Health Sciences and the director of the  
 10 National Toxicology Program, former  
 11 president of the Society of Toxicology, and  
 12 a lot of other big, important titles.  
 13 Q. In this e-mail, you discuss two  
 14 issues with Dr. Birnbaum: One dealing with  
 15 work you're doing for the Environmental  
 16 Defense Fund, and the second being work  
 17 that you're doing in connection with  
 18 glyphosate, correct?  
 19 MS. GREENWALD: Objection, form.  
 20 A. Could you ask the question again,  
 21 please.  
 22 Q. Sure.  
 23 In your e-mail of October 21,  
 24 2015, you are discussing two issues: One  
 25 is the work that you are doing for the

1 Environmental Defense Fund, and the second  
2 is the work that you have been doing with  
3 respect to glyphosate and a European  
4 regulatory decision about cancer, correct?

5 MS. GREENWALD: Objection, form.

6 A. Why is there a blacked-out  
7 section in this letter? I don't understand  
8 that.

9 Q. This was a document that was  
10 produced by the government and they blacked  
11 it out.

12 A. OK.

13 Anyway, the first paragraph deals  
14 with the work I'm doing in Europe on  
15 reregistration of glyphosate, which I find  
16 fascinating, and the second part deals with  
17 the work on wristbands with EDF.

18 MR. LASKER: And then if we can  
19 mark as Exhibit 15-5.

20 (Exhibit 15-5, report entitled,  
21 "Chem Daily Text Project: New  
22 Technology Sheds Light on Chemicals in  
23 Our Environment," marked for  
24 identification, as of this date.)

25 Q. And this Exhibit 15-5 is the

1 Q. Your affiliation with the  
2 Environmental Defense Fund was not  
3 disclosed in that April 2014 IARC advisory  
4 committee report, correct?

5 MS. GREENWALD: Objection, form.

6 A. Again, could you repeat the  
7 question.

8 Q. Sure.  
9 April 2014, you served as the  
10 chair of the IARC advisory committee that  
11 designated glyphosate as a medium priority?

12 A. Correct.

13 Q. Your affiliation with the  
14 Environmental Defense Fund was not  
15 disclosed in that IARC advisory committee  
16 report, correct?

17 MS. GREENWALD: Objection, form.

18 A. The IARC advisory committee  
19 report did not list -- well, I'd have to  
20 look now. I'd have to see a copy of the  
21 report. I'm sorry.

22 Q. Do you recall whether IARC  
23 knew -- at the time that you served as  
24 chair of their advisory committee, do you  
25 know if they knew of your work with the

1 Environmental Defense Fund's report on its  
2 wristband project, correct?

3 MS. GREENWALD: Objection, form.

4 A. Yes, I believe this is EDF's  
5 report on their wristband testing project.

6 Q. As reflected in this report, the  
7 wristband project that you consulted on for  
8 Environmental Defense Fund reported results  
9 for detections of pesticides as -- if you  
10 look at the second page, 12 different  
11 pesticides as part of its analysis and the  
12 findings of pesticides in 93 percent of the  
13 participants, correct?

14 MS. GREENWALD: Objection, form.

15 A. This does then clarify that I  
16 couldn't remember if there were pesticides,  
17 but yes, obviously, there were pesticides  
18 in here. And that the pesticides were seen  
19 in -- I have to look and find that  
20 percentage. I'm sorry.

21 Q. The first page will show you the  
22 percentage in the blocked-out, gray area in  
23 the gray box.

24 A. 93 percent detected one or more  
25 pesticides, that is correct.

1 Environmental Defense Fund?

2 A. Yes.

3 Q. Shortly after your advisory group  
4 designated glyphosate as a medium priority,  
5 IARC announced it would be convening a  
6 working group to evaluate a number of  
7 pesticides for -- to determine whether they  
8 could be classified as carcinogens,  
9 correct?

10 A. I don't know.

11 MR. LASKER: I'm going to mark  
12 as -- we will make this the next two in  
13 line, Exhibit 15-6 and 15-7, two  
14 notices from IARC announcing upcoming  
15 meetings, particularly meeting 112.

16 And for the record, I will  
17 represent that these documents were  
18 pulled off of IARC's website using  
19 something called a Wayback Machine,  
20 which allows you to actually date when  
21 it appeared on the IARC website.

22 So the first document is dated  
23 July 16, 2014, and the second is  
24 October 7, 2014.

25 (Exhibit 15-6, IARC announcement,

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1 dated July 16, 2014, marked for  
 2 identification, as of this date.)  
 3 (Exhibit 15-7, IARC announcement,  
 4 dated October 7, 2014, marked for  
 5 identification, as of this date.)  
 6 MS. GREENWALD: Which is which?  
 7 MR. LASKER: July 16 is the 6,  
 8 and October 7 is the 7. So  
 9 chronological order.  
 10 Q. So just so we have the timing  
 11 correct, in April of 2014, your advisory  
 12 committee designated glyphosate as medium  
 13 priority, correct?  
 14 MS. GREENWALD: Objection, form.  
 15 A. In --  
 16 Q. April of 2014.  
 17 A. -- '14, the advisory group  
 18 recommended several compounds for high  
 19 priority and some for medium priority, of  
 20 which glyphosate is one of the products.  
 21 Q. And in July of 2014, IARC  
 22 announced meeting 112, which was going to  
 23 be focused on organophosphate insecticides,  
 24 correct?  
 25 MS. GREENWALD: Objection, form.

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1 A. It appears from your Wayback  
 2 Machine review that that is the date which  
 3 IARC put up this notice that says, "Some  
 4 organophosphate insecticides, not  
 5 specifically glyphosate."  
 6 Q. And then October 7, 2014, that  
 7 notice was amended and for meeting 112,  
 8 they now also include glyphosate to be  
 9 reviewed, correct?  
 10 MS. GREENWALD: Objection, form.  
 11 A. It appears that, from your  
 12 Wayback Machine, October 7, that that is  
 13 correct, that in October, IARC appended  
 14 herbicides to their organophosphate  
 15 insecticides review.  
 16 It is not uncommon for IARC to  
 17 group chemicals when they do reviews if the  
 18 chemicals have similar behavior or the  
 19 datasets for the chemicals come from  
 20 similar sources.  
 21 So because many people -- many of  
 22 the epidemiology studies were pesticides  
 23 and herbicides combined, it makes good  
 24 sense to do it here because you're  
 25 reviewing the same epidemiological studies.

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1 Q. But just to be clear, glyphosate  
 2 is not an organophosphate insecticide,  
 3 correct?  
 4 A. That is correct.  
 5 Q. The working group 112, you  
 6 ultimately were asked to serve as an  
 7 invited specialist to this committee,  
 8 correct?  
 9 A. I was asked to serve as an  
 10 invited specialist to this committee. I  
 11 was asked -- yes.  
 12 Q. Let me ask: Did you ask to serve  
 13 on the committee or did somebody ask you to  
 14 serve on the committee?  
 15 A. I was asked in the normal way  
 16 that IARC asks people to serve on these  
 17 committees, by an e-mail sent to me --  
 18 first, they call you and say, "Are you  
 19 interested?" And then they send you an  
 20 e-mail.  
 21 Q. Do you recall who asked you to  
 22 serve as an invited specialist for working  
 23 group 112?  
 24 A. No. I really don't recall. It  
 25 could have been any member of the staff.

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1 Q. An invited specialist is someone  
 2 whom IARC believes has critical knowledge  
 3 and experience on a matter but has real or  
 4 apparent conflicts of interest, correct?  
 5 MS. GREENWALD: Objection, form.  
 6 A. The definition of an "invited  
 7 specialist" is part of the preamble. And  
 8 if what you have just said is a quote from  
 9 the preamble, then that would be correct.  
 10 Q. Well, why don't we take a look at  
 11 the preamble then.  
 12 A. I don't have it yet.  
 13 Q. You are about to get it.  
 14 A. I thought you had given it to me.  
 15 (Exhibit 15-8, document entitled,  
 16 "IARC Monographs on the Evaluation of  
 17 Carcinogenic Risks to Humans Preamble,  
 18 marked for identification, as of this  
 19 date.)  
 20 Q. If you could look at page 4 of  
 21 the preamble, line 32 to 33 -- they are  
 22 nice enough to have line numbers for us.  
 23 A. That is the definition.  
 24 Q. So invited specialist is someone  
 25 who IARC believes has critical knowledge

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1 and expertise on the matter but who has a  
 2 real or apparent conflict of interest,  
 3 correct?  
 4 A. That is what it says, that is  
 5 correct.  
 6 Q. Your conflict of interest arose  
 7 because of your role with the Environmental  
 8 Defense Fund, correct?  
 9 MS. GREENWALD: Objection, form.  
 10 A. To be clear, it's a perceived  
 11 conflict of interest, not necessarily a  
 12 conflict of interest. And they're very  
 13 clear here on the language that it have --  
 14 they talk about apparent or real.  
 15 In this case, it is a perception  
 16 that this is a conflict of interest. But  
 17 yes, that was the perceived conflict of  
 18 interest that they were concerned about.  
 19 Q. And you had that same conflict of  
 20 interest when you served as the chair of  
 21 the advisory committee that prioritized  
 22 glyphosate for evaluation, correct?  
 23 MS. GREENWALD: Objection, form.  
 24 A. The correct answer to the  
 25 question is no.

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1 And here is why that's the  
 2 correct answer to the question as you asked  
 3 it: The 2014 meeting was an advisory  
 4 group, not a monograph meeting. So it  
 5 doesn't work under the same rules as the  
 6 preamble. So that's case No. 1.  
 7 But IARC does give you a form  
 8 that you have to fill out for potential  
 9 conflicts of interest for every meeting.  
 10 For that meeting, because it was  
 11 an advisory group, and because I was only  
 12 doing work with the Environmental Defense  
 13 Fund on issues related to air pollution and  
 14 climate change and hydraulic fracking, in  
 15 my opinion, I did not think it was a  
 16 conflict of interest, and therefore, I did  
 17 not list it.  
 18 Q. And do you recall, sitting here  
 19 today, whether during that period in April  
 20 of 2014, you had begun consulting with the  
 21 Environmental Defense Fund on the wristband  
 22 project?  
 23 A. I do not recall.  
 24 Q. Aside from your role on the  
 25 advisory committee that prioritized

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1 glyphosate for review, had you reviewed the  
 2 science on glyphosate prior to being  
 3 appointed to working group 112?  
 4 MS. GREENWALD: Objection to  
 5 form.  
 6 A. Prior to being appointed to  
 7 working group 112, I had not looked at any  
 8 of the scientific evidence on the  
 9 carcinogenicity of glyphosate.  
 10 Q. Let me show you an e-mail that we  
 11 received from one of the other working  
 12 group members.  
 13 MR. LASKER: And we will mark  
 14 this as 15-9.  
 15 (Exhibit 15-9, e-mail dated March  
 16 3, 2015, marked for identification, as  
 17 of this date.)  
 18 A. What is this?  
 19 Q. This is an e-mail that is dated  
 20 March 3, 2015, which was the beginning of  
 21 the IARC 112 working group time period.  
 22 A. OK.  
 23 Q. The subject line is "E-mail  
 24 Subgroup 4," which is the subgroup on  
 25 mechanisms, correct?

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1 A. That would usually -- yes, that  
 2 would be it.  
 3 Q. And this is creating an e-mail  
 4 tree of the members on this subcommittee,  
 5 correct?  
 6 A. That appears to be the case, yes.  
 7 Q. And you were included as one of  
 8 the individuals working on subgroup 4 at  
 9 working group 112, correct?  
 10 A. That is correct.  
 11 Q. Were you assigned by IARC to work  
 12 with the mechanism subgroup?  
 13 A. Yes, I was.  
 14 Q. Were you tasked with preparing  
 15 any analyses before the actual physical  
 16 meeting in Lyon?  
 17 A. No, I was not.  
 18 Q. We have a couple of other e-mails  
 19 between the mechanistic subgroup members I  
 20 would like to ask you about.  
 21 (Exhibit 15-10, e-mail dated  
 22 March 4, 2015, marked for  
 23 identification, as of this date.)  
 24 Q. This March 4, 2015 e-mail, again,  
 25 to members of subgroup 4, and you're

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1 included, correct, as a recipient of this  
 2 e-mail?  
 3 A. Yes, I'm included, and yes, it's  
 4 an e-mail to it appears to be subgroup 4  
 5 with a copy to Kate Guyton.  
 6 Q. This March 4, 2015 e-mail to you  
 7 and the other mechanism folks attached an  
 8 early draft of Sections 4.6 and a summary  
 9 of 4.5 for each of the four chemicals being  
 10 reviewed, including glyphosate, correct?  
 11 MS. GREENWALD: Objection, form.  
 12 A. It seems to say that Section 4.6  
 13 in summary of 4.5, two- or-three sentence  
 14 summary, was attached.  
 15 Q. And Dr. Martin is providing you  
 16 all with this summary to provide folks with  
 17 something to include in their respective  
 18 4.6 sections, correct?  
 19 MS. GREENWALD: Objection, form.  
 20 A. I don't know.  
 21 Q. The last clause --  
 22 A. Oh, I see, yes, Section 4.6 is  
 23 the summary of the Section 4 evaluation.  
 24 Q. And were you working on one of  
 25 the 4.6 sections?

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1 A. No, I don't write any of the  
 2 sections in the IARC monograph.  
 3 MR. LASKER: We also have a March  
 4 6, 2015 e-mail. This will be  
 5 Exhibit 15-11.  
 6 (Exhibit 15-11, e-mail dated  
 7 March 6, 2015, marked for  
 8 identification, as of this date.)  
 9 Q. And this is a -- this e-mail is  
 10 from Kathryn Guyton, and she is with the  
 11 IARC staff, correct?  
 12 A. Uh-huh. Yes.  
 13 Q. And there is an e-mail to you and  
 14 other subgroup 4 working group folks again  
 15 talking about the work that the mechanistic  
 16 subgroup was doing during this period,  
 17 correct?  
 18 MS. GREENWALD: Objection, form.  
 19 A. It's a complicated question.  
 20 Q. OK, I'm not sure it's complicated  
 21 but I'll ask it again.  
 22 This e-mail between you and the  
 23 other individuals working on the mechanism  
 24 subgroup was part of the work that was done  
 25 during that week on mechanisms at working

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1 group 112, correct?  
 2 MS. GREENWALD: Objection, form.  
 3 A. This is an e-mail. It deals with  
 4 the work of Section 4 during the IARC  
 5 monograph.  
 6 Q. During the working group 112, did  
 7 you spend all of your time when the meeting  
 8 was not in plenary session with the  
 9 mechanism subgroup?  
 10 A. No.  
 11 Q. What other subgroups did you --  
 12 well, let me ask this: Did you go from  
 13 different subgroup to different subgroup  
 14 during the meeting?  
 15 A. No. I spent a short period of  
 16 time with the animal carcinogenicity  
 17 subgroup.  
 18 Q. Do you recall when that was?  
 19 A. No, I do not recall.  
 20 Q. Did they ask for you to help them  
 21 out or did you decide on your own to spend  
 22 some time with them?  
 23 A. They asked for me to help them  
 24 out.  
 25 Q. Do you recall what specifically

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1 they asked you to help them with?  
 2 A. Yes, I do.  
 3 Q. What was that?  
 4 A. The topic dealt with the, I  
 5 believe, kidney tumors in the Knezevich  
 6 and -- I forget the name of the authors --  
 7 rat study, and the question had to deal  
 8 with historical controls.  
 9 Q. So just to be clear, is this a  
 10 Knezevich rat study or a Knezevich mouse  
 11 study?  
 12 A. I guess Knezevich I'm hoping was  
 13 a mouse study and it's -- the mouse study.  
 14 Sorry.  
 15 There are so many studies, I get  
 16 confused.  
 17 Q. Do you recall specifically what  
 18 their question was with respect to  
 19 historical controls?  
 20 A. The question was did this tumor  
 21 appear to be significant because of the  
 22 historical control population that had been  
 23 identified, and then, also, where could  
 24 they get code to do a trend test on that  
 25 particular data.

1 Q. Did you provide them with the --  
2 did you advise them as to where they could  
3 find code to conduct a trend test on the  
4 data?

5 A. I gave them some suggestions of  
6 where to look. I was unaware of any place  
7 where it could be found, if I recall -- if  
8 I recall correctly.

9 Q. Did you assist in calculating  
10 the -- the trend test that appears for that  
11 study in the IARC monograph?

12 MS. GREENWALD: Objection, form.

13 A. I'm not sure what you're asking  
14 me.

15 Q. The IARC --

16 A. The p-value was obtained from a  
17 program identified by one of the members in  
18 either that subgroup or the mechanism  
19 subgroup, and that person ran the code.

20 Q. Do you recall who that was?

21 A. I think it -- I'd have to see a  
22 list of the authors of the monograph and I  
23 could probably pull -- I'm terrible with  
24 names -- I could probably pull it from the  
25 list.

1 assessment of the data.

2 Do you recall that?

3 MS. GREENWALD: Objection, form.

4 A. At every IARC monograph meeting  
5 about midweek there were presentations from  
6 each of the working groups as to where they  
7 are and where they think the decisions are  
8 going.

9 Q. Let me show you copies of some  
10 handwritten notes that we received from  
11 Dr. Matthew Ross from Mississippi State.

12 MR. LASKER: And we will mark  
13 this as next in line. It's 15-12.

14 (Exhibit 15-12, handwritten notes  
15 dated 3/6/15, marked for  
16 identification, as of this date.)

17 Q. Dr. Ross was a member of the  
18 mechanism subgroup with you, correct?

19 MS. GREENWALD: Objection, form.

20 A. Dr. Ross was a member of the  
21 mechanism subgroup.

22 Q. Now, on the last page of these  
23 notes, Dr. Ross has written some notes  
24 about what was being said about glyphosate  
25 at this meeting. And --

1 Q. Did you review the statistical  
2 analysis after it was conducted?

3 A. Yes, I did.

4 Q. While you were at the monograph  
5 meeting?

6 A. Yes, I did.

7 Q. And did you verify that that  
8 analysis was conducted correctly?

9 MS. GREENWALD: Objection, form.

10 A. I verified that the approximate  
11 p-value from the Armitage linear trend test  
12 that was run in that analysis appeared to  
13 be correct.

14 Q. Did you understand at the time  
15 that that was an approximate trend test?

16 MS. GREENWALD: Objection, form.

17 A. I did not know it either way.

18 Q. Did you attend any of the plenary  
19 suggestions that was conducted during that  
20 week for working group 112?

21 A. All of them.

22 Q. And about midway through the  
23 week, there was a -- there was a  
24 presentation before the plenary in which  
25 the subgroups provided their initial

1 A. Where is this?

2 Q. This would be the last page, the  
3 bottom half of the page. Do you see  
4 group 1, group 2, group 3, group 4, with  
5 listings for glyphosate?

6 It's going to be the last page of  
7 the document.

8 A. Yes, I do see that.

9 Q. And there are notes for  
10 subgroup 1, which is for exposure data,  
11 correct?

12 A. Correct.

13 Q. And there's a notation here,  
14 "Detectable in water and food."

15 Do you recall that discussion?

16 MS. GREENWALD: Objection, form.

17 A. Not specifically. But it is  
18 normal.

19 Q. And then there is a note for  
20 subgroup 2 for human data, correct?

21 MS. GREENWALD: Objection, form.

22 A. There appears to be a note on  
23 glyphosate in human data under group 2.

24 Q. And Dr. Ross' notes indicate that  
25 subgroup 2 stated that glyphosate was

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1 negative NHL, and then says, "Case control  
 2 glyph" with an arrow "NHL," and then a  
 3 notation, "AHS negative data," correct?  
 4 MS. GREENWALD: Objection, form.  
 5 A. That's exactly what it says.  
 6 Q. And "AHS" is referring to the  
 7 Agricultural Health Study, correct?  
 8 MS. GREENWALD: Objection, form.  
 9 A. I can't presume that.  
 10 Q. Do you recall whether there was  
 11 discussions at the Agricultural Health  
 12 Study during this working group meeting?  
 13 A. Of course there were discussions  
 14 of the Agricultural Health Study during  
 15 this meeting.  
 16 Q. With respect to group 3 --  
 17 subgroup 3, that is the animal subgroup,  
 18 correct?  
 19 A. That is correct. That's -- if  
 20 this note pertains to that, yes.  
 21 Q. And Dr. Ross wrote down that the  
 22 animal subgroup said that the animal  
 23 carcinogenicity data for glyphosate was  
 24 limited to inadequate, correct?  
 25 MS. GREENWALD: Objection, form.

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1 A. It -- he has written a note that  
 2 says, "Glyphosate - limited to inadequate."  
 3 Q. "Limited" and "inadequate" are  
 4 both defined terms in the IARC preamble,  
 5 correct?  
 6 A. For the animal data, yes.  
 7 Q. Do you recall a presentation  
 8 during a plenary session in working  
 9 group 112 where the animal subgroup was  
 10 discussing the animal data for glyphosate  
 11 as being limited to inadequate?  
 12 MS. GREENWALD: Objection, form.  
 13 A. I can't recall.  
 14 Q. You don't recall one way or the  
 15 other?  
 16 A. No. This is a preliminary -- if  
 17 he is taking notes from the preliminary  
 18 meeting, it's just a preliminary meeting.  
 19 And so I have no clue as to -- I mean, it's  
 20 typical to have these discussions in  
 21 plenary midweek.  
 22 Q. And just so the record is clear,  
 23 this would have been a presentation by the  
 24 animal subgroup after the period of time  
 25 that it had taken prior to the meeting to

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1 conduct their analysis and then after the  
 2 first few days of the subgroup meeting,  
 3 correct?  
 4 MS. GREENWALD: Objection, form.  
 5 A. In a typical IARC monograph  
 6 meeting, midway through the week, the  
 7 animal group would have gone through each  
 8 of the papers together, discussed problems  
 9 with the paper, and were beginning to think  
 10 about where they would go with the call,  
 11 that is correct.  
 12 Q. Do you recall yourself voicing  
 13 any objections to the animal group's  
 14 preliminary assessment of the glyphosate  
 15 data?  
 16 A. At this point?  
 17 I might have -- I wouldn't have  
 18 voiced concern at their calling it  
 19 "limited." But I might have voiced concern  
 20 at their interpretation of one or two of  
 21 the studies.  
 22 Q. Let me show you another e-mail we  
 23 received from Dr. Ross.  
 24 (Exhibit 15-13, e-mail dated  
 25 March 11, 2015, marked for

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1 identification, as of this date.)  
 2 Q. Dr. Portier, Exhibit 15-13 is an  
 3 e-mail from Ivan Rusyn initially to -- it  
 4 doesn't have a "To" line here but it is  
 5 discussing convening group 4 downstairs in  
 6 the first coffee break on March 9, 2015.  
 7 Do you recall attending a meeting  
 8 of group 4 -- March 9, just to refresh your  
 9 recollection, will be the second-to-last  
 10 day of the IARC working group meeting.  
 11 Do you recall attending a coffee  
 12 break meeting of the mechanism subgroup on  
 13 March 9, 2015?  
 14 MS. GREENWALD: Objection, form.  
 15 A. There is no way I could recall a  
 16 small submeeting at an IARC monograph  
 17 meeting and whether I was in attendance or  
 18 not.  
 19 Q. Do you recall discussions with  
 20 respect to whether or not glyphosate should  
 21 be classified as 2B or 2A under the IARC  
 22 classification scheme?  
 23 A. Could you ask the question again?  
 24 I want to be clear I got that question  
 25 right.

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1 Q. Do you recall discussions during  
 2 the working group meeting with members of  
 3 group 4 as to whether or not glyphosate  
 4 should be classified as 2B, possible  
 5 carcinogen, or 2A, probable carcinogen?  
 6 A. I was specifically not allowed to  
 7 do that.  
 8 So the answer to that question  
 9 is: As an invited expert, I would have not  
 10 encouraged in one way or the other on any  
 11 of the -- any of the final listings, but I  
 12 would have talked about the science and the  
 13 interpretation of that science.  
 14 Q. Would you have talked about  
 15 whether or not the -- in your opinion, the  
 16 mechanistic data was strong so as to  
 17 allow -- and I recognize you wouldn't have  
 18 continued in the next step -- but so as to  
 19 allow under the preamble glyphosate to be  
 20 moved from 2B to 2A?  
 21 MS. GREENWALD: Objection to  
 22 form.  
 23 A. I specifically remember the  
 24 discussions that group had relative to the  
 25 strength of the evidence for mechanisms for

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1 glyphosate, and I clearly remember keeping  
 2 my mouth shut. Because I was an invited  
 3 specialist and that was my job.  
 4 Q. Do you recall that as of March  
 5 9 -- so this would be three days after the  
 6 notes we looked at from Dr. Ross -- the  
 7 animal subgroup had -- was classifying the  
 8 data -- the animal data as for glyphosate  
 9 as limited?  
 10 MS. GREENWALD: Objection, form.  
 11 A. So IARC monographs are owned  
 12 completely by the entire working group.  
 13 And so the animal carcinogenicity working  
 14 group would make a recommendation.  
 15 However, the entire working group has to  
 16 agree or conclude or concur with that  
 17 recommendation. Otherwise, it can change.  
 18 As you can see in this case, Ivan  
 19 Rusyn had concerns about limited evidence  
 20 in animals, but yes, up to March 9, it  
 21 appears that the animal working group was  
 22 going to recommend limited.  
 23 Q. Just so I understand the process,  
 24 the animal subgroup recommended that the  
 25 animal data was limited, but the full

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1 working group ultimately decided that the  
 2 animal data was sufficient for glyphosate,  
 3 is that correct?  
 4 MS. GREENWALD: Objection, form.  
 5 A. I can't be certain that's the way  
 6 it actually worked.  
 7 Q. You were at the meeting, do you  
 8 recall that's how it worked?  
 9 A. I don't recall. I've seen cases  
 10 where the entire working group has changed  
 11 the recommendation in the plenary session  
 12 before. I can't remember.  
 13 Q. Following the working group  
 14 meeting, the working group's conclusions  
 15 were published in an article in The Lancet,  
 16 correct?  
 17 A. Very brief summary, abstract more  
 18 than anything else, yes.  
 19 Q. Does IARC have an arrangement  
 20 with The Lancet to publish abstracts of its  
 21 meetings?  
 22 A. Yes, they do.  
 23 Q. This happens shortly after the  
 24 meetings are concluded, correct?  
 25 A. That is correct.

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1 Q. Just so I understand the process,  
 2 this is not a peer-reviewed article that  
 3 appears in The Lancet correct?  
 4 MS. GREENWALD: Objection, form.  
 5 A. I actually do not understand the  
 6 way in which Lancet reviews this article.  
 7 So I can't answer the question.  
 8 MR. LASKER: Let me mark as next  
 9 in line 15-14.  
 10 (Exhibit 15-14, e-mail dated  
 11 March 13, 2015, marked for  
 12 identification, as of this date.)  
 13 Q. Here is an e-mail March 13, 2015  
 14 to you and other members of the working  
 15 group from Kathryn Guyton asking for  
 16 comments on the draft article that was to  
 17 appear in Lancet about the working  
 18 group 112 meeting, correct?  
 19 MS. GREENWALD: Objection, form.  
 20 A. This is an e-mail from Kathryn  
 21 Guyton sending a draft of the document that  
 22 will be going into Lancet Oncology and  
 23 asking for these members of the working  
 24 group to review it for clarity.  
 25 Q. Do you recall if you reviewed the



1 draft and provided any comments?  
 2 A. I'm pretty certain I would have  
 3 read it. I don't recall if I provided  
 4 comments.  
 5 Q. You agree that your involvement  
 6 in the IARC working group on glyphosate had  
 7 the appearance of being a conflict of  
 8 interest, correct?  
 9 MS. GREENWALD: Objection, form.  
 10 That's not his testimony.  
 11 A. The fact is that IARC felt it was  
 12 a potential or a perceived conflict of  
 13 interest. That is the fact. My opinion  
 14 doesn't matter.  
 15 Q. Well, my question though is about  
 16 your opinion.  
 17 You do agree that your  
 18 involvement in the IARC working group on  
 19 glyphosate has the appearance of being a  
 20 conflict of interest, correct?  
 21 MS. GREENWALD: Objection.  
 22 A. I'm having a tough time with the  
 23 question. I've never really thought about  
 24 it.  
 25 Do I think I had a conflict of

1 European Food Safety Authority.  
 2 Q. You registered your company as a  
 3 lobbyist in Europe so you could lobby  
 4 against glyphosate reregistration, didn't  
 5 you?  
 6 MS. GREENWALD: Objection, form.  
 7 A. No, I did not.  
 8 Q. Let's take this in steps.  
 9 A. Sure.  
 10 Q. You did lobby -- you did register  
 11 your company as a lobbyist in Europe,  
 12 correct?  
 13 A. No, I did not. At least as far  
 14 as they told me I did not.  
 15 Q. Who is "they"?  
 16 A. Go ahead and put it in and I'll  
 17 explain.  
 18 MR. LASKER: This is  
 19 Exhibit 15-15.  
 20 (Exhibit 15-15, printout from  
 21 LobbyFacts, marked for identification,  
 22 as of this date.)  
 23 Q. Dr. Portier, this is a document  
 24 put out by LobbyFacts EU, which notes that  
 25 your company, C. Portier Consultations, was

1 interest? No. But would others  
 2 potentially see it as a conflict of  
 3 interest? Of course, yes.  
 4 Q. So you do --  
 5 A. Some others, not all others.  
 6 Some others.  
 7 Q. So just to be clear, you do agree  
 8 that your participation in working group  
 9 112 on glyphosate has the appearance of  
 10 being a conflict of interest?  
 11 MS. GREENWALD: Objection, form.  
 12 A. As I said before, I agree with  
 13 the statement that some people would  
 14 perceive it as a conflict of interest.  
 15 Q. A few months after IARC reached  
 16 its causation determination, the issue of  
 17 whether glyphosate can cause cancer was  
 18 considered by European regulators, correct?  
 19 A. I am sorry, what was the first  
 20 part of that sentence?  
 21 Q. Some months after IARC reached  
 22 its causation determination, the issue of  
 23 whether glyphosate can cause cancer was  
 24 considered by European regulators, correct?  
 25 A. Specifically considered by the

1 at least thought to be registered, if not  
 2 registered, as a lobbyist in Europe in  
 3 connection with the reregistration decision  
 4 for glyphosate, correct?  
 5 MS. GREENWALD: Objection, form.  
 6 A. I -- there are so many parts to  
 7 that, I have no idea.  
 8 Would you like me to tell you  
 9 what this is?  
 10 Q. Let me first go through the  
 11 document.  
 12 On the second page of the  
 13 document, it talks about a C. Portier  
 14 Consultations registration on EU  
 15 transparency register, and the issue was  
 16 registration of the pesticide glyphosate,  
 17 correct?  
 18 A. It says something like that.  
 19 [REDACTED]  
 20 [REDACTED]  
 21 [REDACTED]  
 22 [REDACTED]  
 23 Q. And at least according to this  
 24 source, your company was registered in  
 25 Europe to consult on a reregistration of

1 the pesticide glyphosate, correct?

2 MS. GREENWALD: Objection, form.

3 A. That is not my understanding.

4 Q. What is your understanding?

5 A. We were asked by the commissioner  
6 of health -- four of the scientists who  
7 participated in a -- who were coauthors of  
8 a letter sent to the commissioner  
9 concerning the quality of the review done  
10 on glyphosate by the European Food Safety  
11 Authority.

12 The commissioners' staff told us  
13 that we could not -- we would have to  
14 register to come in and talk to the  
15 commissioner because everybody has to  
16 register. They gave us a particular space  
17 to fill it in on the EC website.

18 I went to that spot, I filled  
19 this in as they asked me to fill it in,  
20 since I had to come up with a title for the  
21 company, or -- because the thing wouldn't  
22 take nothing in that spot, I called it C.  
23 Portier Consultations, for lack of a better  
24 term.

25 The day after I entered this, the

1 MS. GREENWALD: Objection, form.

2 A. I don't exactly know how to  
3 answer that question because I don't know  
4 what their rules specifically are. All I  
5 did was respond to what the staffer told me  
6 I had to do.

7 Q. In any event, after this  
8 discussion, you then did appear and speak  
9 with European Parliament, European  
10 regulators, about glyphosate, correct?

11 A. That's too complicated a question  
12 for me to answer.

13 I met with very specific people.  
14 The head of the -- the health commissioner  
15 for European Commission and several of his  
16 staff members. I think one of them was a  
17 regulator but I can't be absolutely  
18 certain.

19 There was interaction on my part  
20 with EU parliamentary members and there was  
21 interaction on my part with other members  
22 of parliament and conferences at various  
23 other national authorities.

24 Q. On early November of 2015, you  
25 reached out to other members of the IARC

1 staffer called back and said, I have this  
2 all wrong. I'm sorry. You can come see  
3 the commissioner because all you want to  
4 talk about is scientific issues. You're  
5 not lobbying on behalf of a company.  
6 You're all academics. You don't have to do  
7 this, but I had already done it.

8 Q. Just so I understand, you were  
9 told by the staff European -- a staffer on  
10 the European Commission --

11 A. Yes.

12 Q. -- that you didn't have to  
13 register because you were not presenting  
14 your views on behalf of any private entity,  
15 is that correct?

16 MS. GREENWALD: Objection, form.

17 A. They -- they told us we were not  
18 lobbyists and this list was for lobbyists,  
19 and therefore, we did not need to register.  
20 That was the crux of the conversation.

21 Q. The reason you didn't have to  
22 register is because you were not providing  
23 information -- or you were not talking to  
24 the European regulators on behalf of any  
25 private -- other private entity, correct?

1 working group to help you in your  
2 discussions with the European regulators,  
3 correct?

4 MS. GREENWALD: Objection, form.

5 A. At some point before that letter  
6 went out, I asked other scientists to --  
7 who were interested to join me in writing  
8 the letter.

9 MR. LASKER: Let's mark this as  
10 Exhibit 15-16.

11 (Exhibit 15-16, e-mail chain  
12 dated 11/9/2015, marked for  
13 identification, as of this date.)

14 Q. Exhibit 15-16 at the bottom of  
15 the first e-mail in the chain is an e-mail  
16 that you sent to a number of other  
17 scientists dated November 9, 2015 regarding  
18 the EFSA review of glyphosate, correct?

19 A. That appears to be what it is.

20 MS. GREENWALD: Eric, the Bates  
21 is cut off the bottom. Do you know  
22 what it is? It doesn't appear on this  
23 document.

24 MR. LASKER: I don't. We will  
25 get that for you. I don't have it.

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1 MS. GREENWALD: Thank you.  
 2 Q. In this e-mail, you were telling  
 3 these other scientists that the European  
 4 Food Safety Agency was going to conclude  
 5 that glyphosate has no carcinogenic  
 6 potential, correct?  
 7 A. I believe I read that, yes.  
 8 Q. And you were telling these  
 9 individuals that this created two problems  
 10 in your view: That it might weaken the  
 11 IARC monograph program, and suggest that  
 12 the IARC working group did not adequately  
 13 review all of the data, correct?  
 14 MS. GREENWALD: Objection, form.  
 15 A. No.  
 16 Q. You stated and quoted  
 17 specifically then, that EFSA's  
 18 determination that glyphosate had no  
 19 carcinogenic potential created two  
 20 problems: One that it weakens the strength  
 21 of the IARC monograph program to stimulate  
 22 change in how some of these agents are  
 23 reviewed and addressed.  
 24 And the second is that it  
 25 suggests we did not do our assessment

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1 adequately and that had we seen all the  
 2 data they saw, they would have gotten -- we  
 3 would have gotten a different answer,  
 4 correct?  
 5 MS. GREENWALD: Objection, form.  
 6 That wasn't what he testified.  
 7 A. No, it was not read exactly, but  
 8 the point of my saying "no" before is you  
 9 said I said it would weaken the IARC  
 10 monograph program.  
 11 That's not what this says. It  
 12 says it weakens the strength of the IARC  
 13 monograph program to stimulate change.  
 14 That's not weakening the program.  
 15 Q. And then the second concern that  
 16 you had is that it would suggest that the  
 17 work that we did -- and by "we," you are  
 18 talking about working group 112, correct?  
 19 A. Yes, I guess so.  
 20 Q. That if we did not do our  
 21 assessment adequately, and if we had seen  
 22 all the data, we would have gotten a  
 23 different answer, correct?  
 24 A. In fact, this suggestion was all  
 25 over, from EFSA, from PF4, from others as

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1 well.  
 2 Q. You state in your e-mail to these  
 3 scientists, "I do not intend to let this  
 4 happen." Correct?  
 5 A. I do not intend to let the  
 6 strength of the IARC monograph program to  
 7 stimulate change in how these agents are  
 8 reviewed happen, and I do not intend to let  
 9 it happen that people said we did our  
 10 estimate wrong.  
 11 Q. On November 11, 2015, you sent a  
 12 follow-up e-mail to a broader group of  
 13 recipients, again raising the same concern  
 14 about the EFSA's conclusion that glyphosate  
 15 does not cause cancer, correct?  
 16 MS. GREENWALD: Objection, form.  
 17 (Exhibit 15-17, e-mail chain  
 18 dated November 11, 2005, marked for  
 19 identification, as of this date.)  
 20 A. OK, what is your question now?  
 21 Q. On November 11, you sent a  
 22 follow-up e-mail to a broader group of  
 23 recipients, again raising concerns about  
 24 EFSA's conclusion that glyphosate did not  
 25 cause cancer, correct?

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1 MS. GREENWALD: Objection to  
 2 form.  
 3 A. That would be incorrect.  
 4 I raised concerns about  
 5 scientific flaws in the BFR addendum. I am  
 6 concerned that the serious flaws of the BFR  
 7 addendum, if not challenged, can continue  
 8 to be used by regulatory agencies to  
 9 dismiss critical science pertinent to  
 10 regulatory decisions.  
 11 Q. You are asking this broader group  
 12 of scientists to join you in a letter to be  
 13 sent to the European regulators about  
 14 glyphosate, correct?  
 15 A. That is correct.  
 16 MR. LASKER: Why don't we take a  
 17 break?  
 18 MS. GREENWALD: That's up to you.  
 19 Yeah, OK.  
 20 THE VIDEOGRAPHER: The time is  
 21 10:19 a.m. We're off the record.  
 22 (Recess.)  
 23 THE VIDEOGRAPHER: The time is  
 24 10:34 a.m. We are on the record.  
 25

1 BY MR. LASKER:

2 Q. Dr. Portier, before the break, we  
3 were talking about some e-mails that you  
4 had sent to some scientists in November of  
5 2015.

6 Do you recall that?

7 A. Are you -- you're talking about  
8 document 15-17?

9 Q. Yes. And 15-16.

10 A. Could you read the question  
11 again -- restate the question.

12 Q. All I asked is we were talking  
13 about e-mails that you had sent to  
14 scientists --

15 A. We were talking about these two  
16 documents.

17 Q. -- in November 2015.

18 A. We were talking about these two  
19 documents, correct.

20 Q. As of the time you sent these  
21 e-mails, you had been signed on as an  
22 expert consultant for plaintiffs' counsel  
23 in this litigation for more than seven  
24 months, correct?

25 MS. GREENWALD: Objection, form.

1 Q. You did not disclose in your  
2 e-mail to these other scientists asking you  
3 to join you in this letter the fact that  
4 you were a paid consultant for plaintiffs'  
5 counsel in this litigation, did you?

6 MS. GREENWALD: Objection, form.

7 A. The draft document has a -- what  
8 is it at the end -- the manuscript has a  
9 thing at the end that says if anybody has  
10 any conflicts of interest, and that was  
11 already, as far as I remember, in the  
12 draft.

13 But the letter itself does not  
14 disclose that.

15 Q. Well, let's take this one step at  
16 a time.

17 The e-mail that you sent to these  
18 other scientists -- or the two e-mails you  
19 sent to these other scientists asking them  
20 to join you in this letter does not  
21 disclose the fact that you had been working  
22 as a paid consultant for plaintiffs'  
23 counsel in the litigation, correct?

24 A. The e-mail had an attachment.  
25 The attachment was the draft of the letter.

1 A. I can't be certain of the exact  
2 amount of time.

3 MR. LASKER: Let's mark as the  
4 next document in line, which is 15-18.

5 (Exhibit 15-18, letter dated  
6 March 29, 2015, marked for  
7 identification, as of this date.)

8 Q. Dr. Portier, these are documents  
9 that you produced to us in response to our  
10 requests -- document requests for this  
11 deposition.

12 And as set forth in this cover  
13 letter, or this first letter, you signed an  
14 engagement letter signing up as an expert  
15 consultant with plaintiffs' counsel in this  
16 litigation on March 29, 2015, correct?

17 A. That is correct.

18 Q. So that would be more than seven  
19 months before?

20 A. I just wasn't sure of the dates.  
21 I'm sorry.

22 Q. So this is about seven months or  
23 so before you sent those e-mails out that  
24 we were just looking at, correct?

25 A. Probably, yeah.

1 I believe the attachment had the conflict  
2 of interest to it on the draft, but I'm not  
3 certain.

4 Q. Let's look at the letter that you  
5 actually sent.

6 MR. LASKER: We will mark this as  
7 Exhibit 15-19.

8 (Exhibit 15-19, letter dated  
9 November 27, 2015, marked for  
10 identification, as of this date.)

11 Q. This is the letter that was  
12 ultimately sent -- the open letter that was  
13 sent by you and the individuals you had  
14 asked to join you to  
15 Commissioner Andriukaitis, European  
16 Commission?

17 A. Yes.

18 Q. This November 27, 2015 letter  
19 also does not disclose the fact that you  
20 had signed on as a paid consultant with  
21 plaintiffs' counsel in this litigation,  
22 correct?

23 A. That appears to be the case.

24 Q. So neither the e-mails that you  
25 sent to these other scientists asking you

1 to join you in the letter to the European  
2 regulators or the letter you actually sent  
3 to the European regulators in November of  
4 2015, disclosed the fact that you had been  
5 working with plaintiffs' counsel in this  
6 litigation for over seven months, correct?

7 MS. GREENWALD: Objection to  
8 form.

9 A. That is a complicated question.  
10 Could you simplify it for me.

11 Q. We will take it in parts.

12 The two e-mails that you sent in  
13 November of 2015 to the scientists asking  
14 you to join you in this letter to the  
15 European regulators regarding glyphosate  
16 does not disclose the fact that you had  
17 been working as a private consultant for  
18 plaintiffs' counsel in this litigation,  
19 correct?

20 MS. GREENWALD: Objection, form.

21 A. Letter 15-17 and 15-16 do not say  
22 that I'm consulting with these law firms.

23 Q. And the open letter that you sent  
24 to the European Commission on November 27,  
25 2015, also does not disclose the fact that

1 you had been working for over seven months  
2 as a paid consultant for plaintiffs'  
3 counsel in this litigation, correct?

4 A. That is correct.

5 Q. You signed on as a private  
6 consultant for plaintiffs' counsel nine  
7 days -- within nine days of the publication  
8 of The Lancet article announcing IARC's 2A  
9 classification of glyphosate, correct?

10 A. Where is the date of that again?

11 Q. We can show that to you.

12 A. Here it is, March 29 of 2015.

13 That appears to be the case.

14 Q. When did you first speak with  
15 plaintiffs' counsel about working with them  
16 as an expert in this litigation?

17 A. March 20 -- soon -- before March  
18 29.

19 I was already working with  
20 counsel --

21 Q. OK, so when were you --

22 A. -- on something different.

23 Q. So when did you -- let's ask  
24 that.

25 So this is with Mr. Lundy?

1 A. I don't know to what degree my  
2 discussions with them become confidential,  
3 so I'm at a loss here.

4 Q. I'm not going to ask you about  
5 the actual substance of the conversations,  
6 although that's a separate issue, not a  
7 privilege issue, but my question right now  
8 is dates.

9 When did you --

10 A. So that was with Mr. Lundy, in  
11 answer to your question.

12 Q. And you had been working with  
13 Mr. Lundy on other matters prior to March  
14 2015, is that correct?

15 A. As far as I recall, yes.

16 Q. Were you -- for those other  
17 matters, have you been disclosed as a  
18 testifying expert in connection with those?

19 A. I'm not a testifying expert in  
20 those.

21 Q. Do you know if your involvement  
22 in that litigation has been publicly  
23 disclosed?

24 A. That I do not know.

25 Q. How long prior to March 2015 had

1 you been working with Mr. Lundy?

2 A. I don't know. Maybe two months.

3 Q. When do you recall -- and  
4 obviously, it's going to be sometime --  
5 would it be fair to say sometime between  
6 March 20, when the IARC classification was  
7 announced, and March 29, when you had a  
8 conversation with Mr. Lundy about working  
9 as an expert in the glyphosate litigation?

10 MS. GREENWALD: Objection to  
11 form.

12 A. The answer is that's not correct.

13 Q. When did you have your first  
14 conversation with Mr. Lundy about working  
15 as an expert for plaintiffs in glyphosate  
16 litigation?

17 A. Sometime prior to this agreement  
18 here. Maybe a few days. I have no idea.

19 But the IARC monograph finding  
20 was announced the day the monograph closed.  
21 The publication was later.

22 Q. Do you recall whether you had  
23 your first conversation with Mr. Lundy  
24 before or after The Lancet article was  
25 published?

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1 A. No.  
 2 Q. It could have been before, could  
 3 have been after, you don't recall?  
 4 A. Don't recall.  
 5 Q. Is the other matter that you are  
 6 working with or -- with Mr. Lundy related  
 7 to a -- and you don't have to identify the  
 8 substance, but a substance that has been  
 9 part of an IARC review for carcinogenic?  
 10 A. There have been many substances  
 11 for review by IARC for carcinogenicity,  
 12 this one included.  
 13 Q. So the other work you're doing  
 14 for Mr. Lundy also involves an  
 15 IARC-reviewed substance, is that correct?  
 16 A. That is correct.  
 17 Q. You had -- in your retention  
 18 agreement on March 29, 2015, it notes that  
 19 you will be working both with Mr. Lundy and  
 20 with Ms. Greenwald for Weitz & Luxenberg,  
 21 correct?  
 22 And her name is specifically  
 23 mentioned on I think page 3 of the  
 24 agreement.  
 25 A. Yes.

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1 Q. Have you worked with  
 2 Ms. Greenwald or her firm prior to this  
 3 time?  
 4 A. No.  
 5 Q. Just one other question with  
 6 respect to the other consulting work with  
 7 Mr. Lundy.  
 8 The other matter, is that -- does  
 9 that involve a substance for which you had  
 10 served on the IARC working group?  
 11 A. Define "substance"?  
 12 Q. The issue that you're consulting  
 13 with them -- the other issue that you are  
 14 consulting with, does that involve  
 15 exposures that were reviewed by IARC on a  
 16 working group that you were part of?  
 17 A. Yes.  
 18 Q. So pursuant to the terms of your  
 19 agreement with your March 29, 2015 letter,  
 20 your engagement with plaintiffs' counsel  
 21 began on March 29, 2015 and has continued  
 22 through to the present, correct?  
 23 A. Yes.  
 24 Q. You were paid a \$5,000 retainer  
 25 by plaintiffs' counsel on or about March

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1 29, 2015, correct?  
 2 A. Correct.  
 3 Q. You agreed in March 29 -- and  
 4 this is on page 3 of your engagement  
 5 letter -- to work under the exclusive  
 6 direction of three attorneys at the Lundy  
 7 Lundy law firm, and Robin Greenwald of  
 8 Weitz & Luxenberg, correct?  
 9 MS. GREENWALD: Objection, form.  
 10 Q. That's No. 6.  
 11 MS. GREENWALD: Objection.  
 12 A. No. 6 says I will be working  
 13 under the exclusive direction of Hunter  
 14 Lundy, Matthew Lundy and Kristie Hightower  
 15 with Lundy, Lundy, Soileau & South, and  
 16 Robin Greenwald with Weitz & Luxenberg.  
 17 Q. You agreed on March 29, 2015 --  
 18 and this is No. 7 on -- numeral 7 on page  
 19 3 -- that any and all work product created  
 20 by you or on your behalf in whole or in  
 21 part during the course of this engagement  
 22 authorized by these attorneys shall be  
 23 considered a work for hire and the property  
 24 of the firms, correct?  
 25 A. That is correct.

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1 Q. You agreed on March 29, 2015,  
 2 in -- on page 3, numeral 4, that you would  
 3 not do any other work related to glyphosate  
 4 outside the specifics of the litigation  
 5 without the written consent of the  
 6 plaintiffs' attorneys, correct?  
 7 A. It says, "I will not accept any  
 8 RoundUp or glyphosate-related engagement  
 9 with any law firm that is party to RoundUp  
 10 and/or glyphosate-related litigation  
 11 without their written consent."  
 12 Q. You also agreed on March 29,  
 13 2015 -- and this is on page 2 -- that you  
 14 would not disclose your work for  
 15 plaintiffs' counsel to media organizations,  
 16 trade journals, professional publications,  
 17 members of the public or other purported  
 18 experts, correct?  
 19 MS. GREENWALD: Objection, form.  
 20 Q. That's No. 3.  
 21 MS. GREENWALD: Same objection.  
 22 A. No. 3, sorry.  
 23 Now, your question again, please.  
 24 Q. You agreed on March 29, 2015,  
 25 that you would not disclose your work for

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1 plaintiffs' counsel to media organizations,  
 2 trade journals, professional publications,  
 3 members of the public or other purported  
 4 experts, correct?  
 5 A. Correct.  
 6 Q. You agreed to retain the  
 7 plaintiffs' lawyers to represent you if  
 8 anyone sought to compel you to disclose  
 9 this information, correct?  
 10 A. I believe that's what part C  
 11 says.  
 12 Q. And you began billing plaintiffs'  
 13 counsel for your time as of -- and this is  
 14 the first invoice attached -- June 17,  
 15 2015, correct?  
 16 A. Yes.  
 17 Q. You had a meeting on June 17,  
 18 2015 with Mr. Lundy, and then a second  
 19 meeting with Mr. Lundy and Ms. Greenwald on  
 20 June 19, 2015, correct?  
 21 A. That is correct.  
 22 Q. On October 19, 2015, you sent  
 23 plaintiffs' counsel an invoice for your  
 24 work on their behalf from June of 2015 to  
 25 October of 2015, correct?

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1 A. Yes.  
 2 Q. And you have been working as a  
 3 paid consultant for plaintiffs' counsel  
 4 throughout the entire time that you have  
 5 had discussions with regulators in the  
 6 United States and in Europe about  
 7 glyphosate, correct?  
 8 MS. GREENWALD: Objection, form.  
 9 A. Again, I have to get that  
 10 question in my head here.  
 11 Since March 29, 2015, I have been  
 12 working with counsel.  
 13 Q. So during the entire period of  
 14 time in which you have had conversations  
 15 with U.S. regulators and European  
 16 regulators about glyphosate, you have been  
 17 a retained expert for plaintiffs' counsel  
 18 in this litigation, correct?  
 19 MS. GREENWALD: Objection, form.  
 20 A. The e-mails, discussions and  
 21 everything else that I sent to the  
 22 regulators is not part of the work I have  
 23 done for this law firm.  
 24 Q. That was not my question.  
 25 A. OK, what was your question again.

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1 Q. During the entire period of time  
 2 in which you have had conversations with  
 3 U.S. and European regulators about  
 4 glyphosate, you have been a paid consultant  
 5 for plaintiffs' counsel in this litigation,  
 6 correct?  
 7 MS. GREENWALD: Objection, form.  
 8 A. Yes.  
 9 Q. Now, you attached to your expert  
 10 report some submissions that you have made  
 11 to European regulators and to the EPA in  
 12 the United States in opposition to the  
 13 decisions or findings by those agencies  
 14 that glyphosate does not cause cancer,  
 15 correct?  
 16 A. The -- if I remember the letters  
 17 correctly, they are raising scientific  
 18 concerns about the way in which these  
 19 particular agencies reviewed the evidence  
 20 for glyphosate and cancer.  
 21 Q. These submissions that you have  
 22 made to the regulators contain much of the  
 23 same scientific analyses that you have  
 24 included in your expert report in this  
 25 litigation in support of the plaintiffs,

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1 correct?  
 2 MS. GREENWALD: Objection, form.  
 3 A. I -- it's not correct.  
 4 Q. So is it -- let me ask this: In  
 5 your submissions to the European regulators  
 6 and U.S. regulators, you represented pooled  
 7 analyses of animal cancer bioassays,  
 8 correct?  
 9 A. Yes, correct.  
 10 Q. And you present those same pooled  
 11 analyses in your expert report in this  
 12 litigation, correct?  
 13 MS. GREENWALD: Objection, form.  
 14 A. No, not correct.  
 15 Q. You have revised them over the  
 16 course of time, correct?  
 17 MS. GREENWALD: Objection, form.  
 18 A. I have revised the way in which I  
 19 do the pools analyses over time.  
 20 Q. And you have submitted different  
 21 pooled analyses to the regulators over  
 22 time, correct?  
 23 A. That is correct.  
 24 Q. And you have submitted pooled  
 25 analyses also in your expert report,

1 correct?

2 A. That is correct.

3 Q. And some of the pooled analyses  
4 in your expert report you are continuing to  
5 use in your submissions to the regulators,  
6 correct?

7 MS. GREENWALD: Objection to  
8 form.

9 A. That isn't correct.

10 Q. You have not presented any of the  
11 information from your -- any of your  
12 analyses in the expert report to  
13 regulators?

14 A. You're proposing a sequence of  
15 events that is not correct.

16 Q. Not my question.

17 A. I know it's not your question,  
18 but the answer to the question has to do  
19 with the sequence of the events.

20 Pooled analyses were done for my  
21 letters to the regulators and others with  
22 these data.

23 That was done prior to any expert  
24 report I prepared for this litigation.

25 Q. But both those pooled analyses

1 answer that part of it.

2 Clearly in the letter you have  
3 given me, that was not in there.

4 Q. The letter I gave you was the  
5 European regulators, correct?

6 A. The first letter I sent.

7 MR. LASKER: Let's mark as  
8 Exhibit 15-20.

9 (Exhibit 15-20, attachment to the  
10 expert report, marked for  
11 identification, as of this date.)

12 Q. And this was one of the  
13 attachments to your expert report in this  
14 litigation and a submission that you made  
15 to the EPA on October 4, 2016.

16 A. OK.

17 Q. You begin your submission to EPA  
18 in October of 2016 with a disclaimer,  
19 correct?

20 A. This work was done with my own  
21 research and on my own time. Yes.

22 Q. And you state -- you told the  
23 EPA, and anyone else who was looking at  
24 your submissions, that you had, quote,  
25 received no reimbursement for any of these

1 were conducted after you had been retained  
2 as a private expert for plaintiffs' counsel  
3 in this litigation, correct?

4 MS. GREENWALD: Objection, form.

5 A. What was the term you used for  
6 there?

7 Q. Your pooled analyses that you  
8 submitted to the U.S. and European  
9 regulators were prepared after the time  
10 that you signed on as a paid expert for  
11 plaintiffs' counsel in this litigation,  
12 correct?

13 MS. GREENWALD: Objection, form.

14 A. A paid consultant and/or expert,  
15 yes.

16 Q. The submissions that you made --  
17 strike that.

18 In your submissions to these  
19 regulators, the letters that you submitted,  
20 you do not disclose your relationship with  
21 plaintiffs' counsel as an expert in private  
22 litigation against Monsanto, do you?

23 MS. GREENWALD: Objection, form.

24 A. I do not recall in my letters to  
25 EPA whether I did such a thing. I can't

1 comments, correct?

2 A. That's correct.

3 Q. And during this same time period,  
4 you were publicly proclaiming that, quote,  
5 nobody has paid me a cent to do what I am  
6 doing with glyphosate. I have no conflict  
7 whatsoever, correct?

8 MS. GREENWALD: Objection, that  
9 is not what this says.

10 Q. Let's look at this document.

11 MR. LASKER: We will mark this  
12 15-21.

13 (Exhibit 15-21, document  
14 entitled, "Oh Brother, CropLife  
15 Questions, Makeup of Glyphosate Panel,"  
16 marked for identification, as of this  
17 date.)

18 Q. Dr. Portier, this is an article  
19 dated October 12, 2016, entitled, "Oh  
20 Brother, CropLife Questions, Makeup of  
21 Glyphosate Panel."

22 Do you see that?

23 A. Yes, I do.

24 Q. This is discussing the EPA's  
25 evaluation of glyphosate, correct?



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1 MS. GREENWALD: Objection, form.  
 2 A. This is an article by Steve  
 3 Davies discussing CropLife questioning the  
 4 makeup of the glyphosate panel.  
 5 Q. On the second page of this  
 6 document, at the bottom of the page, there  
 7 is an -- you have been interviewed and  
 8 there's some various statements you have  
 9 made regarding glyphosate, correct, in the  
 10 panel?  
 11 A. I'm sorry?  
 12 Q. At the bottom of the second page,  
 13 there is various discussions, comments that  
 14 you have made to the reporter in connection  
 15 with this article, correct?  
 16 MS. GREENWALD: Objection, form.  
 17 A. This pertains to the work I did  
 18 part time for the Environmental Defense  
 19 Fund, and it's conceivable the reporter got  
 20 this quote out of context.  
 21 So I can't -- I can't tell you  
 22 whether certainly I got it or not. I've  
 23 been misquoted many times.  
 24 Q. The quote in this article that is  
 25 attributed to you in October of 2016 is,

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1 "Nobody has paid me a cent to do what I am  
 2 doing with glyphosate," and "I have no  
 3 conflict of interest whatsoever," on the  
 4 bottom of the page.  
 5 Do you see that?  
 6 MS. GREENWALD: Objection, form.  
 7 A. That -- those two sentences are  
 8 on the bottom of the page.  
 9 Q. Did you ever have any follow-up  
 10 discussion with this reporter telling him  
 11 you misquoted me?  
 12 A. I have no problem -- probably  
 13 not. I'd never do that.  
 14 Q. Prior to your submissions to EPA  
 15 in October of 2016, you had, of course, in  
 16 fact, been paid by plaintiffs' counsel to  
 17 assist them in the glyphosate litigation  
 18 against Monsanto, correct?  
 19 A. Prior to my submissions to EPA in  
 20 October of 2015 -- yes.  
 21 Q. And as of October 2016, when you  
 22 were quoted in this article as telling the  
 23 world that you had no conflict whatsoever,  
 24 you, in fact, had been consulting with  
 25 plaintiffs' counsel in this litigation for

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1 more than 18 months, correct?  
 2 MS. GREENWALD: Objection,  
 3 assumes facts not in evidence and form.  
 4 Q. You can answer.  
 5 MS. GREENWALD: You can answer.  
 6 I have my objection on the record.  
 7 A. Repeat the question now.  
 8 Q. As of October '16 -- October  
 9 2016, when you were quoted in this article  
 10 as stating that you had no conflicts  
 11 whatsoever, you had, in fact, been  
 12 consulting with plaintiffs' counsel in the  
 13 glyphosate litigation against Monsanto for  
 14 more than 18 months, correct?  
 15 MS. GREENWALD: Objection. Same  
 16 objection as before.  
 17 A. At the time this quote in this  
 18 article is written, I was working with  
 19 counsel, yes.  
 20 Q. And had been working with them  
 21 for more than 18 month, correct?  
 22 MS. GREENWALD: Same objection.  
 23 A. That is correct.  
 24 Q. And when you were quoted in this  
 25 article as saying nobody had paid you a

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1 cent for what you are doing with  
 2 glyphosate, you had by that time sent  
 3 plaintiffs' counsel three separate invoices  
 4 for your glyphosate work in litigation  
 5 against Monsanto, correct?  
 6 MS. GREENWALD: Objection, form.  
 7 A. The work being referred to here  
 8 was the analyses and evaluations and  
 9 reading of the regulatory documents, for  
 10 which nobody paid me.  
 11 Q. So it is your testimony that  
 12 plaintiffs' counsel did not pay you to  
 13 review the regulatory documents?  
 14 A. They were paying me to provide  
 15 them with advice and consulting. Until  
 16 they decided that I would be an expert  
 17 witness, there was nothing they were  
 18 requiring me to read or review except an  
 19 occasional paper they would send me.  
 20 Q. Let me ask you to look at  
 21 Exhibit 15-18. It is the retention  
 22 agreement and attached exhibits.  
 23 A. Yes.  
 24 Q. And if you look at page 7 of this  
 25 document, it's the invoice dated June 30,

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1 2016, correct?  
 2 A. Page 7?  
 3 June 30, 2016, there is here June  
 4 30, 2016.  
 5 Q. And this invoice is four months  
 6 before you submitted -- had your submission  
 7 to the EPA, correct?  
 8 A. Yes.  
 9 Q. And in this invoice, you are  
 10 charging -- or you're billing plaintiffs'  
 11 counsel for your work in reading and  
 12 evaluating the EPA's glyphosate documents,  
 13 correct?  
 14 A. That's what it says. I stand  
 15 corrected from my previous statement.  
 16 Q. So plaintiffs' counsel had paid  
 17 you to evaluate EPA's glyphosate document,  
 18 correct?  
 19 A. That's what it appears to say.  
 20 Q. And after being paid by  
 21 plaintiffs' counsel to evaluate the EPA  
 22 document, you then made submissions to EPA,  
 23 correct?  
 24 A. But not the evaluation I made for  
 25 plaintiffs' counsel.

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1 Q. Dr. Portier, let me just ask the  
 2 question again.  
 3 Four months after being paid by  
 4 plaintiffs' counsel to evaluate the EPA's  
 5 glyphosate document --  
 6 A. I submitted --  
 7 Q. -- you made submissions to EPA  
 8 regarding your evaluation of their  
 9 assessment, correct?  
 10 MS. GREENWALD: Objection, form.  
 11 A. Four months after -- I provided  
 12 an evaluation of EPA's assessment to them,  
 13 correct.  
 14 Q. As of -- just to go back to the  
 15 question that was pending, as of October of  
 16 2016, when you were quoted in this article  
 17 as stating that nobody had paid you a cent  
 18 for what you were doing with glyphosate,  
 19 you had by that time submitted three  
 20 separate invoices to plaintiffs' counsel  
 21 billing them for your work on glyphosate,  
 22 correct?  
 23 MS. GREENWALD: Objection, form.  
 24 A. The quote that was in that  
 25 newspaper article that says what you said

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1 it said happened four months, I guess, or  
 2 so after my being paid by plaintiffs'  
 3 counsel to evaluate the EPA risk  
 4 assessment, that is correct.  
 5 Q. And by that time, you had, in  
 6 fact, sent three separate invoices to  
 7 plaintiffs' counsel for your work in the  
 8 glyphosate litigation, correct?  
 9 MS. GREENWALD: Objection, form.  
 10 A. By what time again?  
 11 Q. October of 2016?  
 12 A. October 2016.  
 13 Yes, I had sent three invoices.  
 14 Q. As of June 2017, which is the  
 15 last invoice we have, you have billed  
 16 plaintiffs' counsel somewhere over \$160,000  
 17 for your work in preparing your analyses of  
 18 glyphosate, correct?  
 19 MS. GREENWALD: Objection, form.  
 20 A. I -- I have no idea what the  
 21 total is, but maybe. It's a substantial  
 22 amount of money.  
 23 Q. And since -- the last invoice we  
 24 have is dated, as I said, I guess it's June  
 25 18, 2017, through the time -- through June

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1 13, 2017, and then we have a -- one invoice  
 2 for an airplane ticket.  
 3 You have continued to do work on  
 4 this litigation subsequent to June 13,  
 5 2017, correct?  
 6 You prepared your rebuttal  
 7 report?  
 8 A. I've done work since then, that  
 9 is correct.  
 10 Q. And I take it you have not yet  
 11 billed plaintiffs' counsel for that  
 12 additional work?  
 13 A. Is that privileged?  
 14 Q. No.  
 15 A. No?  
 16 No, I have not.  
 17 Q. Do you have an approximate amount  
 18 of time outstanding for your bill for  
 19 plaintiffs' counsel?  
 20 A. Approximate?  
 21 No. I mean, I have an exact  
 22 somewhere.  
 23 Q. Have you done more than 20 hours  
 24 of work on your rebuttal report?  
 25 A. Yeah.

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1 Q. Have you done more than 40 hours  
 2 of work on your rebuttal report?  
 3 A. Maybe not.  
 4 Q. So we have somewhere on the order  
 5 of another \$15,000 maybe, or is it more?  
 6 You don't know?  
 7 A. I don't know. I don't really pay  
 8 much attention to it.  
 9 Q. Pursuant to the expressed terms  
 10 of your engagement letter with plaintiffs'  
 11 counsel, the work that you did and that you  
 12 were paid for in evaluating the EPA  
 13 assessment of glyphosate is "work for hire  
 14 and the property of the plaintiffs' law  
 15 firms," correct?  
 16 MS. GREENWALD: Objection to  
 17 form.  
 18 A. Let me be clear: I think there  
 19 is a mistake here -- and this is my  
 20 mistake, I should have pointed it out  
 21 earlier -- this is a different EPA  
 22 glyphosate document than the one that I was  
 23 complaining about in October. This is a  
 24 different document.  
 25 This was a single, two-page

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1 release from the Clark subgroup of EPA  
 2 about glyphosate that appeared, I think, in  
 3 March or June or April of 2016, whereas the  
 4 comments made later that year were on EPA's  
 5 draft risk assessment.  
 6 Q. Let's go back to the June 30,  
 7 2016 e-mail.  
 8 You said this was reviewing a  
 9 two-page document?  
 10 A. June 30 --  
 11 Q. 2016 invoice.  
 12 A. It's a two- or three-page  
 13 technical document, yes.  
 14 Q. You have billed plaintiffs'  
 15 counsel for 19 hours in reviewing that  
 16 document, is that correct?  
 17 A. Yes.  
 18 Q. So you spent 19 hours reviewing a  
 19 two-page document?  
 20 MS. GREENWALD: Objection to  
 21 form.  
 22 A. If you have the document, we can  
 23 look at that time, but it is a very  
 24 technical document. It requires that you  
 25 go back and look at the animal experiment,

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1 experimental evidence. It required me  
 2 going back to look at the epidemiology  
 3 experimental evidence. It takes time to  
 4 give a good scientific response.  
 5 Q. So in connection with this work  
 6 and evaluating the EPA glyphosate document,  
 7 you spent 19 hours with -- doing an  
 8 extensive dive into the glyphosate science,  
 9 is that your testimony?  
 10 MS. GREENWALD: Objection to  
 11 form.  
 12 A. It's one memo. I spent 19 hours  
 13 researching it.  
 14 Q. And pursuant to the terms of your  
 15 engagement letter, this 19 hours you spent  
 16 in evaluating glyphosate and evaluating the  
 17 EPA, this EPA assessment was work for hire  
 18 and the property of plaintiffs' law firm,  
 19 correct?  
 20 MS. GREENWALD: Objection, form.  
 21 A. I lost you on that question.  
 22 Q. Let's go back to the engagement  
 23 letter, the beginning of this document, and  
 24 on page 3, numeral 7, it says, any and all  
 25 work product created by you or on your

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1 behalf in whole or in part during the  
 2 course of this engagement authorized by  
 3 this committee shall be considered a work  
 4 for hire and the property of the  
 5 plaintiffs' law firms, correct?  
 6 A. This speaks of work product. It  
 7 doesn't speak of knowledge gained.  
 8 Q. Is the work that you were paid  
 9 for in evaluating EPA assessment of the 19  
 10 hours --  
 11 A. That wasn't the EPA assessment.  
 12 It was a memo.  
 13 Q. In evaluating, as you say in your  
 14 invoice, the EPA glyphosate document, that  
 15 is work for hire and intellectual property  
 16 of the plaintiff law firm, correct?  
 17 MS. GREENWALD: Objection.  
 18 That's not his testimony. He  
 19 asked and answered it.  
 20 A. No. The work product from that  
 21 would be the property of the law firm.  
 22 Q. Is it your testimony that the 19  
 23 hours that you spent in assessing the  
 24 scientific data in connection with this EPA  
 25 document did not play any role whatsoever

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1 in the submissions or the analyses that you  
 2 presented in your submissions to EPA and to  
 3 the European regulators?  
 4 MS. GREENWALD: Objection, form.  
 5 A. Intellectual knowledge gained in  
 6 any endeavor can obviously carry over into  
 7 the next endeavor. I can't possibly give  
 8 you a "no" answer to such a question.  
 9 The work product from that  
 10 evaluation is the property of this firm and  
 11 it was subsequently given to them.  
 12 Q. And the work product that your  
 13 evaluation, for which you were paid by  
 14 plaintiffs' law firm in or about June 2016,  
 15 that work also folded -- was folded into  
 16 the submissions that you provided to the  
 17 EPA and to the European regulators,  
 18 correct?  
 19 MS. GREENWALD: Objection, form.  
 20 A. No.  
 21 Q. Is it your testimony that you did  
 22 not make use of any of the 19 hours of  
 23 evaluation that you conducted and were paid  
 24 for by plaintiffs' law firms in preparing  
 25 your submissions to the EPA and to the

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1 European regulators?  
 2 MS. GREENWALD: Objection, form.  
 3 Asked and answered.  
 4 A. As I said before, intellectual  
 5 gains from reading documents play a role in  
 6 anything I ever write or do in the future.  
 7 Hence, I cannot say "no" to that question.  
 8 Q. But in your submission to the  
 9 EPA, when you submitted your analysis, you  
 10 did not disclose the fact that you had been  
 11 paid by plaintiffs' counsel to review the  
 12 scientific data on glyphosate, correct?  
 13 MS. GREENWALD: Objection, form.  
 14 A. The document I submitted to EPA  
 15 about the scientific failures in their  
 16 evaluation of the scientific evidence for  
 17 glyphosate did not disclose that I worked  
 18 for plaintiffs' law firm.  
 19 Q. You have been -- you have had a  
 20 number of conversations with individual EPA  
 21 officials behind the scenes about  
 22 glyphosate, correct?  
 23 MS. GREENWALD: Objection, form.  
 24 A. On what topic?  
 25 Q. Glyphosate.

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1 MS. GREENWALD: Same objection.  
 2 A. I have spoken with the EPA  
 3 officials on the glyphosate issue.  
 4 Q. And you have had private e-mail  
 5 communications with Jim Jones about  
 6 glyphosate, correct?  
 7 MS. GREENWALD: Objection, form.  
 8 A. I have sent to Jim Jones  
 9 concern -- my concerns about glyphosate.  
 10 Q. In private e-mail communications,  
 11 correct?  
 12 MS. GREENWALD: Objection, form.  
 13 A. It was to his EPA e-mail address,  
 14 which is not a private e-mail address.  
 15 Q. Well, the e-mail that you sent  
 16 was not disclosed publicly. You had a  
 17 private communication with Mr. Jones on  
 18 e-mail, correct?  
 19 MS. GREENWALD: Objection, form,  
 20 asked and answered, argumentative.  
 21 A. I -- she is right, I answered the  
 22 question.  
 23 Q. So did you publicly disclose --  
 24 have you publicly disclosed your e-mail  
 25 communications with Jim Jones at EPA about

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1 glyphosate?  
 2 MS. GREENWALD: Objection, form.  
 3 A. I think they did.  
 4 Q. And is it your understanding that  
 5 every communication you have had with  
 6 Mr. Jones has been disclosed publicly?  
 7 MS. GREENWALD: Objection, form.  
 8 A. That I don't know. But, of  
 9 course, you can FOIA them and you will know  
 10 which ones.  
 11 Q. Have you had telephone  
 12 conversations with Mr. Jones about  
 13 glyphosate?  
 14 A. Not that I recall.  
 15 Q. Who is Jim Jones?  
 16 A. He was the director of the office  
 17 of pesticides and toxic substances, the  
 18 assistant administrator at EPA.  
 19 Q. How do you know Mr. Jones?  
 20 A. I've known Mr. Jones for years.  
 21 I was a government official. He was a  
 22 government official. We were working on  
 23 environmental issues. That's how I knew  
 24 him.  
 25 Q. In your e-mail communications

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1 with Mr. Jones, did you disclose to him the  
 2 fact that you were a paid expert for  
 3 plaintiffs' counsel in this litigation?  
 4 A. I don't recall.  
 5 MR. LASKER: Mark as  
 6 Exhibit 15-22 and 15-23 two e-mail  
 7 communications we have between you and  
 8 Mr. Jones and others at EPA.  
 9 (Exhibit 15-22, e-mail chain  
 10 Bates stamped EPAHQ6149, marked for  
 11 identification, as of this date.)  
 12 (Exhibit 15-23, e-mail chain  
 13 Bates stamped PORTIER0000055 through  
 14 61, marked for identification, as of  
 15 this date.)  
 16 Q. Dr. Portier, Exhibit 15-22 and  
 17 15-23 are two e-mail exchanges, one dated  
 18 May of 2016, the other dated June of 2016,  
 19 that include e-mail communications between  
 20 you and Mr. Jones, correct?  
 21 A. Which document are we talking  
 22 about? Both of them?  
 23 Q. Yes.  
 24 A. The first document is from  
 25 Jones -- to Jones from me it appears, and

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1 the second document is from Anna Lowit to  
 2 me but there is something further down.  
 3 Q. If you go to the beginning of the  
 4 conversation, there's e-mail exchanges. It  
 5 starts off with an e-mail exchange between  
 6 you and Jim Jones, and then some further  
 7 e-mail communications, correct?  
 8 MS. GREENWALD: Objection, form.  
 9 A. I don't know where the start of  
 10 that conversation is. I'm sorry.  
 11 Q. OK. If you look at  
 12 Exhibit 15-23, I believe the first e-mail  
 13 in the chain, and it seems like we got it  
 14 here twice -- nope. It goes back and  
 15 forth.  
 16 But the first chronological  
 17 e-mail that I see in this chain is an  
 18 e-mail at the very end of this on June 23,  
 19 2016, from you to Jim Jones correcting an  
 20 error in the table that you had, I guess,  
 21 sent to him, correct?  
 22 The very last page of the  
 23 document --  
 24 A. I had an area 1 table that I had  
 25 to correct, new version attached, yes.

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1 Q. And you sent that to Mr. Jones on  
 2 June 23, 2016, correct?  
 3 A. Yes.  
 4 Q. And this is at the same time,  
 5 almost exactly the same time, that you  
 6 billed plaintiffs' counsel for the 19 hours  
 7 of work that you had conducted in  
 8 evaluating an EPA document on glyphosate,  
 9 correct?  
 10 MS. GREENWALD: Objection, form.  
 11 A. The dates are going to be close.  
 12 Q. So in May of 2016, you spent 19  
 13 hours for plaintiffs' counsel reviewing an  
 14 EPA glyphosate document and were paid by  
 15 plaintiffs' counsel by that, and then in  
 16 June of 2016, you made a submission to EPA  
 17 with at least one table of an evaluation of  
 18 glyphosate, correct?  
 19 A. I don't know. Probably.  
 20 Q. You produced this e-mail  
 21 communication -- at least the June 2016  
 22 e-mail communication in response to our  
 23 document requests, but we did not have the  
 24 assessment that you actually sent to EPA.  
 25 MR. LASKER: So we would request

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1 that that be produced.  
 2 MS. GREENWALD: That was produced  
 3 all PowerPoints supplied by Chris  
 4 Portier were supplied to you guys.  
 5 MR. LASKER: The PowerPoints,  
 6 yes.  
 7 MS. GREENWALD: Correct. That  
 8 would be --  
 9 MR. LASKER: Is this a PowerPoint  
 10 presentation?  
 11 MS. GREENWALD: PPTX is the root  
 12 of the document attached.  
 13 MR. LASKER: Fair enough. We  
 14 will figure that out.  
 15 Q. Although -- so -- in any event,  
 16 in these communications -- e-mail  
 17 communications, and particularly the  
 18 communication in June of 2016, right after  
 19 you had been paid by plaintiffs' counsel to  
 20 evaluate an EPA document, you do not  
 21 disclose to Mr. Jones that you are a paid  
 22 consultant for plaintiffs' counsel in the  
 23 litigation, correct?  
 24 MS. GREENWALD: Objection, form.  
 25 A. In this e-mail right here, I do

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1 not do that. That is correct.  
 2 Q. Do you recall other e-mail  
 3 communications that you had with Mr. Jones  
 4 during this period of time?  
 5 A. I had at least one more, yes.  
 6 Q. That has not been produced to us  
 7 in this litigation.  
 8 Do you still have copies of that  
 9 communication?  
 10 A. If you didn't get it, I don't  
 11 have it.  
 12 Q. Do you recall the substance of  
 13 this other e-mail communication with  
 14 Mr. Jones?  
 15 A. It had to do with errors I saw in  
 16 the EFSA. It contains much of the stuff I  
 17 was already sending to EFSA, along with  
 18 some linkage to problems with some of the  
 19 things the EPA had done including the memo.  
 20 Q. So in June of 2016, you were  
 21 having a series of e-mails communications  
 22 with Mr. Jones at EPA based upon issues you  
 23 had identified through your paid work for  
 24 plaintiffs' counsel in this litigation,  
 25 correct?

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1 MS. GREENWALD: Objection, form.  
 2 A. It's possible.  
 3 Q. You do not have any recollection,  
 4 sitting here today, of ever disclosing to  
 5 Mr. Jones that you were working for  
 6 plaintiffs' counsel during this time  
 7 period, correct?  
 8 A. I don't have a recollection of  
 9 disclosing or not disclosing. I don't  
 10 really know.  
 11 Q. You also had communications with  
 12 Ann Lowit at EPA, correct?  
 13 A. Yes, that is correct, briefly.  
 14 Q. And that would be in this e-mail  
 15 exchange?  
 16 A. This e-mail exchange and then --  
 17 I don't know what else is in here.  
 18 Q. Do you recall ever disclosing to  
 19 Ann Lowit that you were a paid consultant  
 20 with plaintiffs' counsel suing Monsanto?  
 21 A. No, I don't recall.  
 22 MS. GREENWALD: Objection, form.  
 23 Go on.  
 24 Q. Do you recall having any other  
 25 conversations with any other EPA employees

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1 about glyphosate?  
 2 A. Did I have any conversations --  
 3 yes.  
 4 Q. What other EPA employees did you  
 5 have conversations with?  
 6 A. I think his name is Steve  
 7 Johnson, who is in charge of the EPA  
 8 science advisory panel reviews. I sent him  
 9 correspondence when I sent him my reviews.  
 10 Other EPA employees that I would  
 11 have spoken to?  
 12 I speak with Vincent Cogliano.  
 13 Sometimes, I might have spoken with him.  
 14 Q. Do you recall disclosing to  
 15 either of these EPA officials the fact that  
 16 you were a paid consultant for plaintiffs'  
 17 counsel in this litigation?  
 18 A. I don't know about Steve. I  
 19 don't -- I don't think so.  
 20 Q. Have you had any conversations  
 21 with Tom Burke?  
 22 A. I've had lots of conversations  
 23 with Tom Burke.  
 24 Q. About glyphosate?  
 25 A. I don't recall.

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1 Q. Can you name for me the  
 2 individual -- individuals in the European  
 3 government regulators or government  
 4 officials with whom you have spoken about  
 5 glyphosate?  
 6 A. There is no way I could remember  
 7 them all. I'm terrible with names. No.  
 8 I'm sorry.  
 9 Q. Was it more than five people?  
 10 A. Yes.  
 11 Q. More than ten?  
 12 A. I don't know. I can't  
 13 distinguish between a regulator and a  
 14 politician in Europe. So I have a  
 15 difficult time on working out an answer to  
 16 that question.  
 17 Q. Do you recall disclosing to any  
 18 of those European officials that you were a  
 19 paid consultant for plaintiffs' counsel in  
 20 litigation against Monsanto?  
 21 MS. GREENWALD: Objection to  
 22 form.  
 23 A. Yes.  
 24 Q. Was that in your e-mail -- in  
 25 your e-mail communications with them or in

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1 your private conversations?  
 2 A. I don't know if I used that in my  
 3 e-mail to Andriukaitis, but it is the first  
 4 thing we discussed when I walked in his  
 5 door.  
 6 Q. When was that?  
 7 A. When we met -- whenever the first  
 8 time we met after I wrote that letter. I  
 9 don't know the exact date. I'm sorry.  
 10 Q. In your -- you have -- remind me  
 11 now --  
 12 A. Actually, I'll correct that. I'm  
 13 sorry.  
 14 I told him that beforehand. I  
 15 told his staffer, when we were on the phone  
 16 when she called to invite me, I said, I  
 17 have this linkage. Is this a problem?  
 18 And they said, no.  
 19 Q. You provided testimony in front  
 20 of the European Commission, is that  
 21 correct, or you have been invited to?  
 22 A. I provided testimony to the  
 23 German Bundestag, but I did not provide  
 24 testimony in front of the European  
 25 Parliament.

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1 Q. In your testimony in Germany, did  
 2 you disclose that you were a paid  
 3 consultant for plaintiffs' counsel in this  
 4 litigation?  
 5 A. I can't recall.  
 6 Q. Have you worked with a group  
 7 called the "Health and Environmental  
 8 Alliance" in connection with their work on  
 9 glyphosate for registration in Europe?  
 10 A. I have advised them now and then.  
 11 And they have advised me on issues.  
 12 Q. We talked earlier about that  
 13 issue, about whether you should register as  
 14 a lobbyist or not register as a lobbyist.  
 15 In your conversation with the  
 16 European staffer about whether you should  
 17 register, did you disclose to him the fact  
 18 that you were a paid consultant for  
 19 plaintiffs' counsel in the glyphosate  
 20 litigation?  
 21 MS. GREENWALD: Objection to  
 22 form.  
 23 A. Yes.  
 24 Q. There are a number of other  
 25 organizations that have reviewed glyphosate

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1 during this time period after IARC reaches  
 2 classification, correct?  
 3 MS. GREENWALD: Objection to  
 4 form.  
 5 A. A number of organizations have  
 6 reviewed the scientific literature on  
 7 glyphosate following IARC's review of the  
 8 literature for glyphosate.  
 9 Q. And despite Europe's submissions  
 10 of various analyses, the European Food  
 11 Safety Agency has continued to reach a  
 12 conclusion that glyphosate does not pose a  
 13 risk for cancer, correct?  
 14 MS. GREENWALD: Objection, form.  
 15 A. That is correct.  
 16 Q. And the European Chemical Agency,  
 17 ECA, has continued to conclude that  
 18 glyphosate does not pose a risk of cancer  
 19 in humans, correct?  
 20 MS. GREENWALD: Objection, form.  
 21 A. ECA has for the first time  
 22 concluded that glyphosate shows no risk for  
 23 cancer in humans.  
 24 Q. The -- obviously, the German  
 25 regulators, who you spoke with, they have

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1 continued to conclude that glyphosate did  
 2 not pose a risk for cancer, correct?  
 3 MS. GREENWALD: Objection, form.  
 4 A. That's not correct.  
 5 Q. The BFR has now concluded that  
 6 glyphosate causes cancer, is that your  
 7 testimony?  
 8 MS. GREENWALD: Objection, form.  
 9 A. There are more than one German  
 10 agency dealing with glyphosate. BFR has  
 11 not changed their mind.  
 12 Q. That glyphosate does not pose a  
 13 risk for cancer, correct?  
 14 A. Correct.  
 15 Q. The Canadian regulators have  
 16 concluded that glyphosate does not pose a  
 17 risk for cancer, correct?  
 18 A. I don't know.  
 19 Q. The World Health Organization,  
 20 JPMR, has concluded that glyphosate through  
 21 food does not pose a risk for cancer,  
 22 correct?  
 23 MS. GREENWALD: Objection, form.  
 24 A. I'd have to look at their  
 25 conclusion. It's a little more detailed

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1 and nuanced than that.  
 2 Q. Your general understanding though  
 3 is that the JPMR in conducting its analysis  
 4 did not raise a concern that glyphosate  
 5 causes cancer, correct?  
 6 MS. GREENWALD: Objection, form.  
 7 A. Again, I would have to look at  
 8 JMPR's document and see.  
 9 Q. The Japanese public health  
 10 regulators have concluded that glyphosate  
 11 does not cause cancer, correct?  
 12 A. I have no idea.  
 13 Q. The Australian public health  
 14 regulators have concluded that glyphosate  
 15 does not cause cancer, correct?  
 16 A. I think I might have read a news  
 17 article on that, but other than that, I  
 18 have no idea.  
 19 Q. The New Zealand public health  
 20 regulators have concluded that glyphosate  
 21 does not cause cancer, correct?  
 22 A. I think so. I got some  
 23 information from one group about that. I  
 24 don't know if that's concluded or not.  
 25 Q. You actually appeared in a radio

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1 program in New Zealand urging the  
 2 regulators in New Zealand to find  
 3 glyphosate as a carcinogenic, didn't you?  
 4 A. I might have.  
 5 Q. In response to our document  
 6 request for this deposition, you produced a  
 7 series of slide decks for presentations  
 8 that you had given to various scientific  
 9 agencies, correct?  
 10 MS. GREENWALD: Objection, form.  
 11 A. I have produced a slide deck of  
 12 any -- exactly what you asked for, any  
 13 presentation I did on glyphosate.  
 14 Q. And at each of those scientific  
 15 methods you presented some version of the  
 16 pooled analyses that you conducted on  
 17 glyphosate that are the same types of  
 18 analyses you were proffering in this  
 19 litigation, correct?  
 20 MS. GREENWALD: Objection, form.  
 21 A. They're not exactly the same.  
 22 Q. They are the same type of pooled  
 23 analyses, correct?  
 24 And you have been revising them  
 25 as you have gone along, correct?

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1 MS. GREENWALD: Objection, form.  
 2 A. There are pooled analyses in  
 3 these slides.  
 4 Q. And some of those pooled  
 5 analyses, in fact, are exactly the same as  
 6 the analyses you have submitted in this  
 7 litigation, correct?  
 8 MS. GREENWALD: Objection, form.  
 9 A. The studies that went into the  
 10 pooled analyses are exactly the same as the  
 11 studies in this litigation.  
 12 The method by which I pooled them  
 13 and do a trend test of the overall response  
 14 from the pooled data is in the slides as  
 15 well as in this litigation.  
 16 Q. Did you make a disclaimer --  
 17 well, first of all, none of your slide  
 18 decks themselves provide a written  
 19 disclaimer that you are working as an  
 20 expert for plaintiffs in glyphosate  
 21 litigation, correct?  
 22 MS. GREENWALD: Objection, form.  
 23 A. If you say so. I haven't looked.  
 24 Q. Did you make a disclaimer at the  
 25 beginning of each of these scientific

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1 meetings when you presented this data that  
 2 you were a paid expert consultant for  
 3 plaintiffs' counsel in private litigation  
 4 against Monsanto?  
 5 A. I can't be certain for every one  
 6 of them.  
 7 Q. You have also given numerous  
 8 interviews to media outlets and various  
 9 bloggers commenting on glyphosate issues,  
 10 correct?  
 11 MS. GREENWALD: Objection, form.  
 12 A. I've done interviews with all  
 13 sorts of people on glyphosate issues.  
 14 Q. And have you disclosed to each of  
 15 these media outlets your role as a paid  
 16 expert consultant for plaintiffs' counsel  
 17 in this litigation?  
 18 A. I can't be certain.  
 19 Q. Well, for example -- strike that.  
 20 You have also written a number of  
 21 commentaries about glyphosate in the  
 22 scientific press, correct?  
 23 A. I've written two, I believe.  
 24 Q. Well, let's look at one of the  
 25 first of those.



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1 MR. LASKER: This is -- we will  
 2 mark this as --  
 3 MS. GREENWALD: 24.  
 4 MR. LASKER: So it is 15-24. I'm  
 5 sorry.  
 6 (Exhibit 15-24, article from  
 7 Horizons, dated March 7, 2016 with  
 8 attachment, marked for identification,  
 9 as of this date.) marked  
 10 Q. Dr. Portier, this is an article  
 11 you wrote for the Swiss science magazine  
 12 Horizons, in which you debated that the  
 13 head of the pesticides unit at the European  
 14 Food Safety Authority about the safety of  
 15 glyphosate, correct?  
 16 A. This article appeared in a Swiss  
 17 magazine called Horizons, and yes, there  
 18 was pro and con, and Jose Tarazona did the  
 19 con and I did the pro.  
 20 Q. This was March 2016, one year  
 21 after you had signed on as a paid  
 22 consultant -- paid expert for plaintiffs'  
 23 counsel in this litigation, correct?  
 24 MS. GREENWALD: Objection, form.  
 25 A. This is -- yeah, about a year.

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1 Q. And in this article, there is  
 2 a -- you identify yourself as the former  
 3 director of the U.S. National Institute of  
 4 Environmental Health, correct?  
 5 A. I certainly would never have  
 6 identified myself as that. That's  
 7 incorrect.  
 8 Q. There is -- you do not have any  
 9 disclosure anywhere in this article about  
 10 the fact that you had been for a year a  
 11 paid expert for plaintiffs' counsel in  
 12 litigation against Monsanto, correct?  
 13 MS. GREENWALD: Objection, form.  
 14 A. There does not appear to be  
 15 anything on this page that suggests I am a  
 16 paid consultant for this law firm on  
 17 glyphosate issues.  
 18 Q. And let's look at, as 15-25 --  
 19 this is ...  
 20 (Exhibit 15-25, article entitled,  
 21 "Re: Tarazona et al.: Glyphosate  
 22 toxicity and carcinogenicity: a review  
 23 of the scientific basis of the European  
 24 Union assessment," marked for  
 25 identification, as of this date.)

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1 Q. This is a reply that you  
 2 published in the journal "Archives of  
 3 Toxicology," correct?  
 4 A. This is a letter to the editor in  
 5 the journal "Archives of Toxicology."  
 6 Q. And in this letter you are again  
 7 addressing the European Union's assessment  
 8 of glyphosate and its difference with IARC  
 9 regarding glyphosate, correct?  
 10 A. I don't know if I was talking  
 11 about its difference with IARC. Give me a  
 12 moment, please.  
 13 No, I don't believe this was  
 14 discussing the differences with IARC. I  
 15 believe this was only discussing the  
 16 scientific problems with the EFSA  
 17 glyphosate risk assessment and pointing out  
 18 to the authors of that evaluation, that  
 19 they missed a number of positive rodent  
 20 findings.  
 21 Q. But this is a -- again, an  
 22 article or a letter that you had published  
 23 in the Archives of Toxicology presenting  
 24 your analysis of the glyphosate science,  
 25 correct?

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1 MS. GREENWALD: Objection, form.  
 2 A. No. It is noting problems with  
 3 the EFSA risk assessment and some of the  
 4 analysis I have done for glyphosate.  
 5 Q. And this letter was submitted in  
 6 May of 2017, correct?  
 7 A. Probably, yes.  
 8 Q. As of this date, you had been  
 9 working as a paid expert for plaintiffs'  
 10 counsel for more than two years, correct?  
 11 MS. GREENWALD: Objection, form.  
 12 A. As of May 2017, I was working for  
 13 plaintiffs' counsel, correct.  
 14 Q. And you had billed plaintiffs'  
 15 counsel, and we can do the math, but  
 16 somewhere around \$150,000 as of this date  
 17 for your work on glyphosate, correct,  
 18 plaintiffs' counsel?  
 19 A. I had billed them. That is  
 20 correct.  
 21 Q. And you do not disclose anywhere  
 22 in this letter to the editor in the journal  
 23 Archives of Toxicology the fact that you  
 24 were a paid expert for plaintiffs' counsel  
 25 in private litigation against Monsanto, do

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1 you?  
 2 MS. GREENWALD: Objection to  
 3 form.  
 4 A. This journal doesn't ask for  
 5 that. I don't know.  
 6 Q. Dr. Portier --  
 7 A. It's not on the document.  
 8 Q. So just so the record is --  
 9 A. To answer your question, it is  
 10 not on the document.  
 11 Q. In your letter to the editor that  
 12 was published in Archives of Toxicology in  
 13 2017 -- in June of 2017, you do not  
 14 disclose the fact that you were -- you are  
 15 a paid expert for plaintiffs' counsel in  
 16 litigation against Monsanto, correct?  
 17 MS. GREENWALD: Objection, form.  
 18 A. In Exhibit 15-25, I do not  
 19 disclose that I was a paid consultant for  
 20 this law firm in this litigation.  
 21 Q. In 2016, you made a presentation  
 22 about glyphosate to the Collegium  
 23 Ramazzini.  
 24 A. No, I didn't make a presentation.  
 25 MR. LASKER: Let's mark -- this

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1 will be Exhibit 26.  
 2 (Exhibit 15-26, article entitled,  
 3 "The glyphosate saga: an example of  
 4 influence of unsound science and  
 5 interest groups in public health  
 6 decision making," marked for  
 7 identification, as of this date.)  
 8 A. Yes.  
 9 Q. This is -- Exhibit 15-26 is a  
 10 poster presentation that was presented --  
 11 it was called "Ramazzini Days."  
 12 What is Ramazzini Days?  
 13 A. Ramazzini Days is something that  
 14 Ramazzini Institute holds once a year  
 15 where -- it is a scientific conference.  
 16 Q. At this scientific conference,  
 17 there was a poster presentation regarding  
 18 glyphosate, and you are one of the  
 19 coauthors of that poster presentation,  
 20 correct?  
 21 MS. GREENWALD: Objection, form.  
 22 A. The document 15-26, I am one of  
 23 the coauthors.  
 24 Q. That is a poster presentation  
 25 that was presented at Ramazzini Days,

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1 correct?  
 2 MS. GREENWALD: Objection, form.  
 3 A. Yes, I guess.  
 4 Q. And this presentation, you are  
 5 listed as an author along with five  
 6 individuals who are identified as Ramazzini  
 7 fellows, correct?  
 8 A. One, two, three, four, five, that  
 9 is correct.  
 10 Q. As of this date, you are not a  
 11 Ramazzini fellow, correct?  
 12 A. As of this date, I am not -- I  
 13 was not a -- well, I don't know. I  
 14 honestly don't know.  
 15 Q. You have recently become  
 16 selected --  
 17 A. I am a Ramazzini fellow --  
 18 Q. OK.  
 19 A. -- yes.  
 20 I guess by this date I wasn't  
 21 because I'm not listed as one.  
 22 Q. So it was sometime in the last  
 23 year that you became a Ramazzini fellow, is  
 24 that fair?  
 25 A. I would think so, yes.

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1 Q. And one of the other scientists  
 2 that you were -- that you're presenting  
 3 with here is Philip Landrigan, correct?  
 4 A. That is correct.  
 5 MS. GREENWALD: Objection to  
 6 form.  
 7 Q. Philip Landrigan actually  
 8 assisted, helped you, in preparing that  
 9 open letter that you submitted to the  
 10 European regulators in November of 2015,  
 11 correct?  
 12 MS. GREENWALD: Objection to  
 13 form.  
 14 A. Philip Landrigan's name is on  
 15 that letter, I believe. I would have to  
 16 check to make sure.  
 17 And yes, he did provide comments.  
 18 Q. What other, if any,  
 19 collaborations have you had with Philip  
 20 Landrigan relating to glyphosate?  
 21 MS. GREENWALD: Objection to  
 22 form.  
 23 A. Probably a few things. I can't  
 24 recall.  
 25 Q. Have you consulted with

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1 Dr. Landrigan about further research  
 2 relating to glyphosate?  
 3 A. No.  
 4 Q. Have you communicated with  
 5 Mr. Landrigan about European regulators'  
 6 assessment of glyphosate beyond the open  
 7 letter in November of 2015?  
 8 MS. GREENWALD: Objection, form.  
 9 A. Say it again, please.  
 10 Q. Have you consulted with Philip  
 11 Landrigan about the European registration  
 12 of glyphosate apart from that letter in  
 13 November of 2015?  
 14 MS. GREENWALD: Objection, form.  
 15 A. So first, I don't consult with  
 16 Philip Landrigan.  
 17 Q. Communicate?  
 18 A. We collaborate or we communicate,  
 19 so --  
 20 Q. That's a better word.  
 21 A. -- let me make that clear.  
 22 Q. So let me reask it.  
 23 Have you collaborated with Philip  
 24 Landrigan about glyphosate registration in  
 25 Europe outside of that November 2015 letter

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1 that we have already discussed?  
 2 A. Not that I recall.  
 3 Q. Have you collaborated with Philip  
 4 Landrigan related to the EPA's assessment  
 5 of glyphosate?  
 6 MS. GREENWALD: Objection to  
 7 form.  
 8 A. Not that I recall.  
 9 Q. Have you collaborated with  
 10 Mr. Landrigan about assessments of the  
 11 glyphosate science?  
 12 MS. GREENWALD: Object to form.  
 13 A. Mr. -- Dr. Landrigan is a  
 14 cosignatory of the open letter, and that  
 15 open letter discusses the science around  
 16 glyphosate.  
 17 So I guess the answer to that  
 18 question is yes.  
 19 Q. You said you had a number of  
 20 other collaborations with Mr. -- with  
 21 Dr. Landrigan, if I understood correctly,  
 22 regarding glyphosate --  
 23 A. No.  
 24 Q. OK.  
 25 A. Sorry, none.

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1 Q. In your poster presentation at  
 2 Ramazzini Days, in the conclusion, you  
 3 state that -- you talk about economically  
 4 motivated activities having influenced the  
 5 glyphosate science, correct?  
 6 MS. GREENWALD: Objection, form.  
 7 A. I should pay more attention to  
 8 what my coauthors write sometimes.  
 9 That is what it says.  
 10 Q. You do not disclose anywhere in  
 11 this poster presentation your role as a  
 12 paid expert for plaintiffs' counsel in  
 13 private litigation against Monsanto, do  
 14 you?  
 15 MS. GREENWALD: Objection, form.  
 16 A. Not specific. I list myself as  
 17 an environmental health consultant.  
 18 Q. Again, just so the record is  
 19 clear, you do not disclose the fact that  
 20 you were a paid consultant for plaintiffs'  
 21 counsel in private litigation against  
 22 Monsanto?  
 23 A. That is correct.  
 24 Q. Now, you're -- the point you're  
 25 making in this poster presentation instead

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1 is about what you characterize as an  
 2 improper influence of corporate money on  
 3 scientific research, is that correct?  
 4 MS. GREENWALD: Objection, form.  
 5 A. I don't --  
 6 Q. In the conclusion?  
 7 MS. GREENWALD: Same objection.  
 8 A. That's what the -- I am sorry,  
 9 let's be clear.  
 10 First, I want to make something  
 11 clear: You asked me if I made a  
 12 presentation to them. Baur -- Xavier  
 13 Baur made the presentation. I did not  
 14 attend this meeting.  
 15 Now, you just asked me -- if you  
 16 could repeat the question.  
 17 Q. In the poster presentation -- and  
 18 you are a coauthor of the poster?  
 19 A. Correct.  
 20 Q. In the poster presentation, the  
 21 concern is being raised about potential  
 22 improper influence of corporate money on  
 23 scientific research, correct?  
 24 MS. GREENWALD: Objection, form.  
 25 A. That's one little bit at the tail

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1 end, correct.  
 2 Q. And you and the other authors are  
 3 calling upon the Collegium Ramazzini to  
 4 take a stand against corporate funding of  
 5 scientific research --  
 6 MS. GREENWALD: Objection to  
 7 form.  
 8 Q. -- as part of this presentation,  
 9 correct?  
 10 MR. SNOO: Objection to form.  
 11 A. Actually, no. We encouraged the  
 12 Collegium Ramazzini to again support an  
 13 IARC evaluation of carcinogenicity.  
 14 Q. In the earlier paragraph, right  
 15 before where you are reading, you talk  
 16 about:  
 17 "Glyphosate is a one example of  
 18 inappropriate corporate influence of public  
 19 health regulation by the use of unsound  
 20 scientific reviews" --  
 21 A. But your question said --  
 22 Q. -- "and would call for increased  
 23 sensitivity, full transparency and  
 24 implementation of effective rules governing  
 25 decision-making bodies," correct?

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1 MS. GREENWALD: Objection, form.  
 2 A. But we are not calling for the  
 3 Ramazzini Institute to do that, or  
 4 Collegium Ramazzini, which was your  
 5 question to me.  
 6 Q. So you are calling for scientists  
 7 more broadly, is that fair?  
 8 MS. GREENWALD: Objection to  
 9 form.  
 10 Q. Or regulators?  
 11 MS. GREENWALD: Same objection.  
 12 A. We are calling for an increased  
 13 sensitivity, full transparency and the  
 14 implementation of effective rules governing  
 15 decision-making bodies. That's what we are  
 16 calling for. That's what we said.  
 17 Q. Am I correct in my understanding  
 18 then Collegium Ramazzini does not take  
 19 money from private corporations for its  
 20 scientific research?  
 21 A. I have no idea.  
 22 Q. During your time in government at  
 23 NTP, you worked on collaborative efforts  
 24 between the NTP and the Collegium  
 25 Ramazzini, correct?

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1 A. I don't recall.  
 2 We certainly did some work with  
 3 them trying to help them improve their  
 4 cancer bioassays. That I do recall.  
 5 Q. And in your CV --  
 6 MR. LASKER: And you can mark  
 7 that as 15-27.  
 8 (Exhibit 15-27, curriculum vitae,  
 9 marked for identification, as of this  
 10 date.)  
 11 Q. If you look at the fifth page  
 12 under your U.S. Government service  
 13 activities, and it's about three-quarters  
 14 down the page under U.S. Government service  
 15 activities, you are listed as an organizer,  
 16 formal collaborative agreements between NTP  
 17 and Ramazzini Foundation from 2001 to 2006,  
 18 correct?  
 19 A. That is correct.  
 20 Q. And so for this five- or six-year  
 21 period then, the NTP and Ramazzini  
 22 Foundation were involved in collaborative  
 23 agreements relating to toxicological  
 24 studies?  
 25 MS. GREENWALD: Objection, form.

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1 A. It was more related to pathology  
 2 and the storage of data from toxicological  
 3 studies.  
 4 Q. During this period, you were the  
 5 organizer of these agreements.  
 6 Did the Ramazzini Foundation  
 7 conduct any research for NTP?  
 8 A. I don't believe they did.  
 9 Q. During this period, did the  
 10 Ramazzini Foundation conduct any research  
 11 that was funded by the U.S. Government?  
 12 MS. GREENWALD: Objection, form.  
 13 A. They did get some funding from  
 14 NIEHS or NTP, but, boy, I cannot for the  
 15 life of me remember. I think they got some  
 16 funding.  
 17 Q. Are you aware that the Collegium  
 18 Ramazzini has announced that it will be  
 19 conducting studies on glyphosate with  
 20 respect to genotoxicity and oxidative  
 21 stress?  
 22 A. Yes, I am aware of that.  
 23 Q. Are you involved in that research  
 24 effort?  
 25 A. No.

1 Q. Have you had any conversations  
 2 with the folks at Collegium Ramazzini about  
 3 that research?  
 4 A. Yes.  
 5 Q. What has been the nature of your  
 6 conversations?  
 7 A. Part of it they were asking me to  
 8 join them and analyze their data at the  
 9 end. I declined.  
 10 Part of it was just general  
 11 questions about the science and what's  
 12 already been done with glyphosate.  
 13 Q. And in your conversation with  
 14 Collegium Ramazzini, did you disclose the  
 15 fact that you were a paid consultant for  
 16 plaintiffs' counsel in litigation against  
 17 Monsanto?  
 18 A. It is the Ramazzini Institute.  
 19 They are different entities.  
 20 But yes, I did disclose to them.  
 21 Q. Is that the reason that you  
 22 decided not to participate in their  
 23 scientific evaluation?  
 24 A. Partly. There are other reasons.  
 25 Q. What were the other reasons?

1 there.  
 2 A. 15-20? Oh, boy. I'm not good at  
 3 keeping things in order here.  
 4 Q. This is your submission to EPA in  
 5 October of 2016, correct?  
 6 A. Yeah, it looks like that.  
 7 Q. And then on page 7, about  
 8 two-thirds down the page, you're talking  
 9 about whether there is an association  
 10 between glyphosate exposure and the risk of  
 11 non-Hodgkins lymphoma.  
 12 Do you see that, and that's what  
 13 starts the summary?  
 14 A. Start with "Summary," and how far  
 15 do you want me to read?  
 16 Q. First of all, I'm asking if you  
 17 see that section, which you obviously do.  
 18 The end of that paragraph, you  
 19 state, with regard to glyphosate in NHL,  
 20 "So is causality plausible here? Yes,  
 21 absolutely. Is it demonstrated? No,  
 22 clearly not."  
 23 That was your statement, correct?  
 24 A. If you could wait.  
 25 This is strictly discussing the

1 A. I'm busy. I'm retired. They  
 2 wanted me to come down to Bologna and give  
 3 a talk and other things and I just wasn't  
 4 interested.  
 5 Q. Dr. Portier, you have stated that  
 6 you do not believe that causality between  
 7 glyphosate formulations and NHL has been  
 8 demonstrated, correct?  
 9 MS. GREENWALD: Objection, form.  
 10 A. What I believe is written in the  
 11 expert report.  
 12 Q. Well, let me just ask this  
 13 question: It is true that you do not  
 14 believe that causality between glyphosate  
 15 formulations and NHL have been  
 16 demonstrated, correct?  
 17 MS. GREENWALD: Objection, form.  
 18 A. Causality is an interesting --  
 19 it's a spectrum, but if you're using  
 20 causality to mean 100 percent, absolutely  
 21 certain, then I would have concern. But my  
 22 conclusion is it probably causes NHL.  
 23 Q. Let's take a look next in line.  
 24 This is Exhibit 15-20. It is already  
 25 marked. So it's one of the exhibits in

1 epidemiology data, and the question was  
 2 whether the epidemiology data, by itself,  
 3 demonstrates causality, and the answer to  
 4 the question is no.  
 5 Q. And that is your opinion,  
 6 correct?  
 7 MS. GREENWALD: Objection, form.  
 8 A. That is only for the epidemiology  
 9 data, and for the epidemiology data to  
 10 exhibit clear causality, it would have had  
 11 to be sufficient instead of limited in the  
 12 IARC review.  
 13 I still believe it's limited and  
 14 not sufficient by itself to demonstrate  
 15 causality.  
 16 Q. OK, fair enough.  
 17 You are a proponent of a  
 18 principle called the "precautionary  
 19 principle," correct?  
 20 MS. GREENWALD: Objection to  
 21 form.  
 22 A. I have been in debates with  
 23 others on the precautionary principle where  
 24 I've had to choose one side or the other.  
 25 But I'm not a proponent and I

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1 don't hate it. I'm not clear on what it is  
 2 in the way it is applied.  
 3 Q. Well, let me ask you this --  
 4 well, first of all, you were a member of a  
 5 group called "Critical Scientists  
 6 Switzerland," correct?  
 7 A. Yes, I am.  
 8 Q. And one of the goals of Critical  
 9 Scientists Switzerland is promoting the  
 10 precautionary principle, correct?  
 11 A. I suppose it is, yes.  
 12 Q. And in your assessment of  
 13 glyphosate, you have talked about public  
 14 protective decisions, correct?  
 15 MS. GREENWALD: Objection, form.  
 16 A. I have no idea -- I certainly do  
 17 talk about public protective science -- use  
 18 of science to protect the public.  
 19 Q. And in respect specifically to  
 20 the glyphosate, and, for example, in your  
 21 submissions to EPA, you have called upon  
 22 them to apply this public protective  
 23 approach in their assessment of the  
 24 glyphosate science, correct?  
 25 MS. GREENWALD: Objection, form.

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1 A. I don't recall that. You would  
 2 have to show me. I'm sorry.  
 3 Q. So we are still on Exhibit 20.  
 4 And if we could look at page 11.  
 5 And here you're talking about  
 6 your comment on the rat studies, correct?  
 7 A. That's what it says, yes.  
 8 Q. And then the bottom of the page,  
 9 the second paragraph on the bottom, the  
 10 last line, you state that the public  
 11 protective decision in this case should be  
 12 to conclude these tumors arose as a  
 13 function of exposure to glyphosate,  
 14 correct?  
 15 A. It's the purpose of EPA to  
 16 protect the public and they have to make  
 17 that decision, and in this case, they  
 18 should have included these tumors as a  
 19 function of exposure to glyphosate, yes.  
 20 Q. Again, in your discussion with  
 21 EPA, you're calling upon them to apply this  
 22 protective approach in their assessment of  
 23 glyphosate, correct?  
 24 MS. GREENWALD: Objection to  
 25 form.

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1 A. I'm calling them to conclude  
 2 these tumors arose as a function of  
 3 exposure to glyphosate.  
 4 Q. Based upon the fact that EPA is  
 5 a --  
 6 A. Public health agency.  
 7 Q. And should therefore be applying  
 8 a public protective methodology, or a  
 9 methodology that is protective of the  
 10 public in making its assessments about  
 11 carcinogenicity, correct?  
 12 MS. GREENWALD: Objection to  
 13 form.  
 14 A. It's a long question but I  
 15 will -- I think you were reading way more  
 16 into this sentence than really is there.  
 17 They are a public health agency.  
 18 It's their job to protect the public. The  
 19 correct decision here, the public-protected  
 20 decision, should be to conclude these  
 21 tumors arose as a function of exposure to  
 22 glyphosate.  
 23 Q. And your understanding, when  
 24 there is -- if there is uncertainty in the  
 25 data but there is data that is suggestive,

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1 for a regulator buying -- making a  
 2 public-protective decision, they should  
 3 lean in favor of binding an association, is  
 4 that fair to say?  
 5 MS. GREENWALD: Objection to  
 6 form.  
 7 A. No, I don't -- I don't believe  
 8 that is a general rule I would hold.  
 9 Having been a regulator myself,  
 10 it's -- there are many facets to making a  
 11 decision. And you worry about public  
 12 health but decisions are complicated.  
 13 Q. With respect to carcinogenicity,  
 14 you have also stated your belief that it is  
 15 glyphosate and not the surfactants in the  
 16 formulated products that are causing the  
 17 effects, correct?  
 18 MS. GREENWALD: Objection to  
 19 form.  
 20 A. I can tell you what I believe.  
 21 I believe that glyphosate has an  
 22 effect, and I believe the surfactants also  
 23 have an effect, but the effect seen in  
 24 human epidemiology is clearly partly due to  
 25 glyphosate.

1 Q. You have also stated your belief,  
 2 with respect to carcinogenicity, that it is  
 3 glyphosate and not the surfactants in the  
 4 formulated products that are causing the  
 5 effects, correct?  
 6 MS. GREENWALD: Objection, form  
 7 and asked and answered.  
 8 A. There is a lot of evidence here.  
 9 So you have to break it down for me by the  
 10 type of evidence you want me to discuss.  
 11 Q. We are going to provide you  
 12 with -- do you recall being interviewed  
 13 during one of the times that you went to  
 14 Europe to talk about the European Food  
 15 Safety Authority's assessment of  
 16 glyphosate?  
 17 A. I've been interviewed dozens of  
 18 times.  
 19 Q. During the break we will ask you  
 20 to listen to one of those interviews.  
 21 MS. GREENWALD: Counsel, it has  
 22 to be on the record. I'm not going to  
 23 have him look at something on a break.  
 24 That's not the way it works in  
 25 this litigation. You guys have done it

1 against us --  
 2 MR. LASKER: Well, we have had  
 3 our people review things during the  
 4 breaks so they could answer questions  
 5 after the break.  
 6 MS. GREENWALD: Well, that's your  
 7 choice.  
 8 We have also had depositions  
 9 where we have taken a couple-minute  
 10 break and then your counsel holds it  
 11 against our time.  
 12 So if you want him to do it, we  
 13 will do it on the record during your  
 14 own time.  
 15 MR. LASKER: We will get that  
 16 keyed up in a moment then.  
 17 Q. In presenting your opinions in  
 18 your expert report, you have presented them  
 19 in the context of the Bradford Hill  
 20 criteria, correct?  
 21 A. Yes.  
 22 Q. And the question that a scientist  
 23 must answer under the Bradford Hill  
 24 criteria in deciding whether one can reach  
 25 a causation opinion is "Is there any other

1 way of explaining the set of facts before  
 2 us," correct?  
 3 MS. GREENWALD: Objection, form.  
 4 A. It's a paraphrase probably, or  
 5 something along those lines, but yes.  
 6 Q. You agree that this is the  
 7 appropriate methodology to be followed in  
 8 reaching a causation opinion with respect  
 9 to glyphosate or glyphosate formulations  
 10 and non-Hodgkins lymphoma, correct?  
 11 MS. GREENWALD: Objection to  
 12 form.  
 13 A. The Bradford Hill criteria with  
 14 modifications have been accepted by many  
 15 authorities as the way to approach a  
 16 causality argument.  
 17 Q. My question was about you though.  
 18 Do you agree that the appropriate  
 19 methodology to be followed in reaching a  
 20 causation opinion with respect to  
 21 glyphosate is the Bradford Hill criteria  
 22 including the question is there any other  
 23 way of explaining the set of facts before  
 24 us?  
 25 MS. GREENWALD: Objection, form,

1 asked and answered.  
 2 A. I think that quote is in my  
 3 expert report. And the approach I took in  
 4 the expert report, I believe, is the  
 5 correct approach for glyphosate.  
 6 Q. You still didn't answer my  
 7 question.  
 8 Do you believe the correct  
 9 approach, correct methodology in reaching a  
 10 causation opinion with respect to  
 11 glyphosate or glyphosate formulations and  
 12 NHL is to ask the question is there any  
 13 other way of explaining the set of facts  
 14 before us?  
 15 MS. GREENWALD: Same objection,  
 16 form, and asked and answered.  
 17 A. I believe that the approach I use  
 18 is the correct approach. That's my answer.  
 19 That question is too simple. The  
 20 approach is much more complicated.  
 21 Bradford Hill was just using it as a means  
 22 for people to understand the concept of  
 23 what he was trying to get through, but this  
 24 is -- the whole criteria is very  
 25 complicated and much greater than that one

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1 sentence.

2 Q. So in conducting your assessment

3 of the glyphosate science, has it been your

4 methodology to look to see whether there is

5 any other way of explaining the set of

6 facts before us?

7 MS. GREENWALD: Objection, form.

8 A. It's -- part of the Bradford Hill

9 criteria is -- the philosophy of Bradford

10 Hill is that question.

11 I didn't ask that question

12 specifically on every single piece of

13 evidence I looked at.

14 Q. Did you ask that question with

15 respect to the glyphosate science as a

16 whole?

17 MS. GREENWALD: Objection to

18 form.

19 A. Glyphosate --

20 Q. Science as a whole --

21 MS. GREENWALD: Objection.

22 Q. -- with respect to

23 carcinogenicity.

24 A. As a whole?

25 MS. GREENWALD: Same objection.

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1 A. Yes.

2 Q. Dr. Portier, I would like to ask

3 you about -- let's go back to the question

4 of the interview that you've had, and we

5 will play for you -- this is a televised

6 interview that you had in Europe.

7 MR. LASKER: And let's get this

8 so the court reporter can hear it.

9 MS. GREENWALD: Do you have a

10 transcript of it?

11 MR. LASKER: We have a thumb

12 drive.

13 MS. GREENWALD: Do you have a

14 transcript?

15 MR. LASKER: We don't have a

16 transcript. We have a thumb drive.

17 A. My hearing is not great.

18 Q. Let's play the videotape.

19 That's you on the screen, right?

20

21 A. Looks like it.

22 MS. GREENWALD: And, Dr. Portier,

23 if you can't hear it, we should stop it

24 sooner than later.

25 MR. LASKER: It's pretty short.

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1 MS. GREENWALD: I don't want to

2 play games here either. So let's see

3 if you can hear it sufficiently, and

4 all of us, actually, in the room.

5 (Videotape plays.)

6 MS. GREENWALD: I can't hear it.

7 So you have to start it over.

8 MR. LASKER: Let's do this after

9 the break.

10 MS. GREENWALD: We would also

11 like some authentication that this is

12 actually an accurate -- if you could

13 give us the link and we can look at it,

14 we'd just have some confirmation of

15 what it is.

16 MR. LASKER: We can do that off

17 the record, and then we will put it on

18 the record, too. That's fine.

19 Q. Dr. Portier, when did you first

20 reach your conclusion that glyphosate

21 probably causes non-Hodgkins lymphoma in

22 humans?

23 A. When did I first reach that

24 conclusion?

25 Well, I agreed with the IARC

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1 monograph conclusion. So I guess it was at

2 the end of the IARC monograph.

3 Q. And then do you recall when you

4 first reviewed the data tables for the

5 various animal cancer bioassays that you

6 discuss in your report that were provided

7 with the Greim arbitration?

8 A. Not really. I can't say exactly

9 when I reviewed those supplemental tables.

10 Q. Was it before or after the date

11 that you submitted the open letter to the

12 European regulators in November of 2015?

13 A. I think it was probably after

14 that.

15 Q. Was it before or after the date

16 that you submitted your evaluations or you

17 submitted -- provided submissions to EPA in

18 October of 2016?

19 A. I can't be certain.

20 Q. In your expert report, you

21 address the animal cancer bioassays under

22 the Bradford Hill criteria biological

23 plausibility, correct?

24 MS. GREENWALD: Objection to

25 form.



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1 A. I address it there and in two  
 2 other places, correct.  
 3 Q. And you agree that animal cancer  
 4 bioassays are intended to test whether  
 5 glyphosate can cause cancer in mammals,  
 6 thus supporting the concept that  
 7 chemicals -- let me strike that.  
 8 It is your opinion as set forth  
 9 in your expert report that animal cancer  
 10 bioassays are intended to test whether  
 11 glyphosate can cause cancer in mammals,  
 12 thus supporting the concept that the  
 13 chemical could cause cancer in humans,  
 14 correct?  
 15 MS. GREENWALD: Objection to  
 16 form.  
 17 A. That is part of what I believe  
 18 from animal cancer studies.  
 19 There is a second part to that  
 20 because they can be, under certain  
 21 conditions, tumor specific for humans.  
 22 Q. You would agree that an  
 23 evaluation of human health risks, sound  
 24 human data, whenever available, are  
 25 preferred to animal data, correct?

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1 MS. GREENWALD: Objection, form.  
 2 A. In any endeavor, looking at  
 3 mammalian health, the target population,  
 4 doing everything you can in the target  
 5 population that you -- things I can do in  
 6 the target population are important and  
 7 should be considered. Things that I can't  
 8 do in the target populations, I will use  
 9 other scientific models to look at.  
 10 As a general rule, if I have the  
 11 exact same study and one is in humans and  
 12 one is in rodents, I'm going to take the  
 13 human one as more important.  
 14 Q. And I think it is consistent with  
 15 what you just said, animal and in vitro  
 16 studies are particularly important for you  
 17 to supply evidence missing from human  
 18 studies, is that fair?  
 19 MS. GREENWALD: Objection, form.  
 20 A. In vitro?  
 21 Q. Well, let's go with just animal  
 22 studies.  
 23 MS. GREENWALD: Same objection.  
 24 Q. Animal studies might provide  
 25 support for an assessment, but they are

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1 mainly used to supply evidence missing from  
 2 human studies, correct?  
 3 MS. GREENWALD: Objection, form.  
 4 A. No.  
 5 (Exhibit 15-28, document  
 6 entitled, "Principles for modeling  
 7 dose-response for risk assessment of  
 8 chemicals," marked for identification,  
 9 as of this date.)  
 10 A. I didn't think anybody ever read  
 11 that document.  
 12 Q. One thing that came out of this,  
 13 right?  
 14 A. That's amazing.  
 15 Q. So 15-28, this is a report of a  
 16 committee that you chaired on principles  
 17 for modeling dose-response for the risk  
 18 assessment of chemicals, correct?  
 19 A. Did I chair it?  
 20 Q. Or maybe you served on this  
 21 committee. I don't remember who chaired,  
 22 frankly.  
 23 A. I don't know either.  
 24 Q. You worked on this committee,  
 25 correct?

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1 A. I worked on this committee that  
 2 produced this report. That is correct.  
 3 Q. And on the beginning of this  
 4 report -- and I recognize it is a long  
 5 report, but on page Roman X at the  
 6 beginning, it is sort of the summary  
 7 section --  
 8 A. Where?  
 9 Q. It's Roman X.  
 10 A. Yes.  
 11 Q. And the final paragraph on that  
 12 page states:  
 13 "In the evaluation of human  
 14 health risks, sound human data whenever  
 15 available are preferred to animal data.  
 16 Animal and in vitro studies provide support  
 17 and are used mainly to supply evidence  
 18 missing from human studies."  
 19 Do you agree with that?  
 20 A. No. I realize I was on the  
 21 committee but I don't agree with the  
 22 statement.  
 23 Q. There is also a statement in this  
 24 report at page 31, which is normal 31, not  
 25 Roman. This is the end of the second full

<p style="text-align: right;">Page 158</p> <p>1 paragraph under 4.6, the last sentence:  2 "For dose response analyses based  3 upon laboratory data using animals, there  4 is an additional problem of extrapolating  5 from animals to humans."  6 Do you agree with that statement?  7 MS. GREENWALD: Objection, form.  8 A. This has to do with calculating  9 risk --  10 Q. And do you agree --  11 A. -- and in the context of  12 calculating risk, that statement is  13 correct.  14 Q. And page 34, Section 5.1 is a  15 statement:  16 "It has always been a challenge  17 to extrapolate from effects observed in  18 experimental animal bioassays to potential  19 effects in humans in order to protect  20 humans from potentially harmful chemical  21 exposures."  22 Do you agree with that statement?  23 A. I'm trying to find it.  24 Q. 5.1, the first paragraph.  25 A. OK.</p>	<p style="text-align: right;">Page 160</p> <p>1 A. As far as I know, there are only  2 three cases of how this happens, so I --  3 it -- in the three cases, there are  4 different mechanisms.  5 Q. There are differences in  6 mechanisms of action between rats and mice,  7 and between different strains of mice and  8 rats, that will impact whether or not a  9 chemical could cause cancer in that animal,  10 correct?  11 A. There are mechanisms which could  12 impact the degree to which the chemical  13 causes cancer in the animal. Metabolism  14 could cause differences. Many things.  15 Q. And scientists actually use  16 different animal models to try and support  17 the concept that exposure to a chemical can  18 be linked to a specific type of cancer in  19 humans, correct?  20 MS. GREENWALD: Objection to  21 form.  22 A. Cancer -- there is numerous  23 models that are used to assess the  24 carcinogenic potential of chemicals in  25 mammals.</p>
<p style="text-align: right;">Page 159</p> <p>1 Again, this has to do with risk,  2 not hazard. And in the context of risk,  3 not hazard, this is indeed a true  4 statement.  5 Q. There are certain mechanisms of  6 action with respect to rodent  7 carcinogenicity that do not apply to  8 humans, correct?  9 MS. GREENWALD: Objection, form.  10 A. There have been -- the mechanisms  11 apply to humans. The components of the  12 mechanism don't exist in humans.  13 So there are cases where  14 chemicals have caused cancer in rodents and  15 the mechanism by which they do it does not  16 work in humans.  17 Q. And there are differences between  18 rodents and humans -- strike that.  19 These differences between rodents  20 and humans can vary from one type of cancer  21 to another --  22 MS. GREENWALD: Objection to  23 form.  24 Q. -- is that fair to say?  25 MS. GREENWALD: Objection form.</p>	<p style="text-align: right;">Page 161</p> <p>1 Q. And different animal models will  2 be used for different types of cancer,  3 correct?  4 A. I don't really know that that  5 statement is true.  6 Which -- different types of  7 cancer in humans? Or different types of  8 cancer in the animals you're going to do  9 the study in?  10 I don't know the context of your  11 question.  12 Q. Let's do it either way.  13 There are animal models that are  14 used to assess whether a substance can  15 cause a specific type of cancer in rodents,  16 correct?  17 A. Yes.  18 Q. And there are different rodent  19 models that are used to try and make an  20 assessment as to whether or not an exposure  21 can cause a certain type of cancer in  22 humans, correct?  23 MS. GREENWALD: Objection, form.  24 A. Not that I'm aware of as a  25 general screening tool.</p>

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1 Q. OK. Moving -- so moving away  
 2 from a general screening tool -- let me  
 3 just back up.  
 4 So the cancer bioassays that we  
 5 are going to be discussing and you discuss  
 6 in your report are general screening  
 7 bioassays, correct?  
 8 A. That is correct with the  
 9 exception of one of them.  
 10 Q. And there are then other animal  
 11 models that are used subsequent to a  
 12 screening study that will focus on  
 13 potentially specific types of cancer,  
 14 correct?  
 15 MS. GREENWALD: Objection, form.  
 16 A. You are talking about in rodents?  
 17 Q. Yes.  
 18 A. After exposure to the chemical?  
 19 So let me see if I am -- I am  
 20 going to talk a little bit so I can get  
 21 this straight in my head. Excuse me.  
 22 So the chemical gets done in a  
 23 screening and an animal in the screening  
 24 gets the tumor. Why would a scientist move  
 25 from the, let's say, Wistar rat I saw a

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1 tumor in to a different animal when I'm  
 2 already getting tumors in the Wistar rats?  
 3 In answer to the question, I  
 4 don't think there are that many cases where  
 5 they switched off for a specific reason for  
 6 a specific tumor.  
 7 Q. In your expert report, you cite  
 8 to a number of articles regarding the  
 9 current state of play with respect to  
 10 identifying rodent models that could be  
 11 used to analyze the possibility of NHL in  
 12 humans, correct?  
 13 MS. GREENWALD: Objection to  
 14 form.  
 15 A. I see what your question is  
 16 about. Now, that's the difference. OK.  
 17 The rodent models for NHL are  
 18 developed to get therapies for NHL for  
 19 humans. They are not developed for the  
 20 purpose of identifying tumors that arise in  
 21 humans from exposure to chemicals.  
 22 They induce the NHL in the animal  
 23 and then try to fix it.  
 24 Q. So with respect to mice, you cite  
 25 to a 2009 book chapter by Herbert Morse

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1 called "Mice models of human B lymphoid  
 2 neoplasm," correct?  
 3 A. I believe I do. Yes.  
 4 (Exhibit 15-29, article entitled,  
 5 "Mouse models of human B lymphoid  
 6 neoplasms," marked for identification,  
 7 as of this date.)  
 8 Q. In this book chapter,  
 9 specifically at page 3 -- and this will be  
 10 on the left column at the end of the  
 11 column -- Dr. Morse states that  
 12 species-specific differences in the immune  
 13 system and molecular circuitry required for  
 14 transformation make it difficult to model  
 15 NHL in mice, correct?  
 16 MS. GREENWALD: Objection, form.  
 17 A. This is the last paragraph --  
 18 MS. GREENWALD: I can find it for  
 19 you.  
 20 Q. End of the --  
 21 MS. GREENWALD: I found it. It's  
 22 right here.  
 23 A. "Could thus make it difficult to  
 24 model some human diseases in mice."  
 25 He is talking about genetically

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1 modified mice here, yes.  
 2 Q. And Dr. Morse, if you turn to  
 3 page 2 and then carry over to page 3, one  
 4 of the issues that Dr. Morse notes is that  
 5 the murine leukemia virus can cause  
 6 lymphomas in mice through a mechanism that  
 7 has no direct parallel to NHL in humans,  
 8 correct?  
 9 MS. GREENWALD: Objection, form.  
 10 A. Everything he has written here is  
 11 correct.  
 12 Q. So there are -- just to be clear,  
 13 so I'm clear, the murine leukemia virus can  
 14 cause lymphomas in mice through a mechanism  
 15 that has no direct parallels to NHL in  
 16 humans, correct?  
 17 MS. GREENWALD: Objection, form.  
 18 A. It's -- there is a parallel in  
 19 humans. It just doesn't happen with that  
 20 virus in humans.  
 21 Q. So what Dr. Morse says is these  
 22 contributions to disease pathogenesis --  
 23 that's the cause of disease in the mouse --  
 24 have no direct parallels in human B  
 25 lymphomas, correct?

1 MS. GREENWALD: Objection to  
 2 form.  
 3 A. He is talking specifically about  
 4 the murine leukemia virus, but the  
 5 mechanism by which the murine leukemia  
 6 virus causes NHL in -- causes these B  
 7 lymphomas in the mice exist in humans.  
 8 It's just not activated by this particular  
 9 pathogen.  
 10 Q. Dr. Morse also notes -- and this  
 11 is the first full paragraph on that left  
 12 column on page 3, starting "Second," that  
 13 there are significant differences between  
 14 mouse and human immune systems in their  
 15 development, structure, phenotype and  
 16 function?  
 17 A. Correct.  
 18 Q. And this is significant because  
 19 NHL in humans has been associated with  
 20 immune system disorders, correct?  
 21 MS. GREENWALD: Objection, form.  
 22 A. I'm not absolutely certain.  
 23 Q. Are you not aware of an  
 24 association between HIV and non-Hodgkins  
 25 lymphoma?

1 following paragraph, starting "Finally,"  
 2 that the genetic and epigenetic alterations  
 3 required for neoplastic transformation  
 4 sometimes differ for mouse and human,  
 5 correct?  
 6 A. They do sometimes differ, yes.  
 7 Q. So when we are talking about  
 8 alterations, we are talking about genetic  
 9 changes that are required for cancer to  
 10 form, correct?  
 11 A. Are you talking about epigenetic  
 12 and genetic?  
 13 Q. Right. So these are genetic and  
 14 epigenetic changes that are required for  
 15 cancer to occur, correct?  
 16 MS. GREENWALD: Objection to  
 17 form.  
 18 A. I'm not certain what he is saying  
 19 here because neoplastic transformation can  
 20 mean transformation of a carcinoma into a  
 21 metastatic tumor, it could mean  
 22 transformation from an adenoma to  
 23 carcinoma.  
 24 So I'm not exactly certain what  
 25 he is talking about here, but there are

1 A. Yes, I am.  
 2 Q. So it is correct that HIV in  
 3 humans has been associated with immune  
 4 system disorders, correct?  
 5 MS. GREENWALD: Objection, form.  
 6 A. It is true that NHL in humans --  
 7 correct.  
 8 Q. And there are significant  
 9 differences between mouse and humans'  
 10 immune systems, correct?  
 11 MS. GREENWALD: Objection to  
 12 form.  
 13 A. There are differences between  
 14 mouse and human immune systems, that is  
 15 correct.  
 16 Q. And Dr. Morse further states,  
 17 that same paragraph, that the spleen is the  
 18 major secondary lymphoid organ in the  
 19 mouse, whereas lymph nodes fill that niche  
 20 in humans, correct?  
 21 A. That I don't know.  
 22 Q. You don't know one way or the  
 23 other?  
 24 A. No. I'm sorry.  
 25 Q. And Dr. Morse also states in the

1 genetic and epigenetic alterations that are  
 2 required for both of those processes, and  
 3 sometimes they differ for mice and humans.  
 4 Q. And it is also genetic and  
 5 epigenetic alterations that would be  
 6 required for a normal cell to be mutated  
 7 that would sometimes differ from mouse and  
 8 human, correct?  
 9 MS. GREENWALD: Objection to  
 10 form.  
 11 A. Sometimes differ, yes, correct.  
 12 Q. And now Dr. Morse states in this  
 13 paper that you cite in your report that the  
 14 best-studied mouse strains -- and this is  
 15 on page 2 -- for potential use as models  
 16 for human B-cell lymphomas are the NFS.V  
 17 congenic mice and the AX -- I'm sorry --  
 18 AKXD recombinant inbred strains, correct?  
 19 MR. LASKER: On the phone, can  
 20 you put your phone on mute?  
 21 Thank you.  
 22 Q. I will state that again.  
 23 On page 2, Dr. Morse states that  
 24 the best-studied mouse strains for  
 25 potential uses --

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1 MS. GREENWALD: Hey, guys, if  
 2 you're not going to go on mute, we're  
 3 going to have to disconnect the line.  
 4 Q. OK, we'll try that one more time.  
 5 Dr. Morse states that the  
 6 best-studied mouse strains for potential  
 7 use as models for human B-cell lymphomas  
 8 are the NFS.V plus congenic mice and AKXD  
 9 recombinant inbred strains, correct?  
 10 MS. GREENWALD: Objection to  
 11 form.  
 12 A. Technically, these are not  
 13 strains. These are transgenic mouse  
 14 models. They derive from certain strains.  
 15 I don't know what strains they derive from.  
 16 But he says these two mouse  
 17 entities or types are the best models. He  
 18 would know.  
 19 Q. Now, none of the glyphosate  
 20 studies that we are going to be talking  
 21 about were conducted in either of these  
 22 mice strains?  
 23 A. Again, you are mistaken with what  
 24 this means.  
 25 Q. I'm not asking what it means.

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1 A. No one would ever test in these  
 2 strains because these congenic and  
 3 transgenic mice all get NHL. You could  
 4 never detect NHL or any type of tumor like  
 5 that if you use these because these are  
 6 not -- they have already been produced to  
 7 induce the tumors.  
 8 Q. Can you cite to any -- again,  
 9 this is a document that you cited in your  
 10 expert report with respect to mouse models  
 11 for non-Hodgkins lymphoma.  
 12 Can you cite to any publication  
 13 that points to CD1 or Swiss Albino mice as  
 14 appropriate mouse models for human  
 15 non-Hodgkins lymphoma?  
 16 MS. GREENWALD: Objection, form.  
 17 A. For the production --  
 18 Q. Yes.  
 19 A. -- of lymphomas from exposure to  
 20 a chemical?  
 21 Q. No. Can you cite to any source  
 22 document, any published document, that  
 23 suggests that CD1 or Swiss Albino mice are  
 24 appropriate mouse models for assessing the  
 25 potential for a substance to cause NHL in

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1 humans?  
 2 MS. GREENWALD: Objection, form.  
 3 A. No, probably not.  
 4 I -- I'm hesitating because the  
 5 problem is OECD says these mice, CD1 mice,  
 6 are good mice for studying chemicals for  
 7 producing cancer. Hence, that document in  
 8 essence is recommending if you are going to  
 9 look for cancer, NHL is a cancer, then  
 10 that's the right model.  
 11 That's why I am hesitating.  
 12 That's not what he is talking about here,  
 13 but that's why I was hesitating. Sorry.  
 14 Q. But specifically, can you cite to  
 15 any publication that suggests that CD1 mice  
 16 or Swiss Albino mice are appropriate mouse  
 17 models for human non-Hodgkins lymphoma?  
 18 MS. GREENWALD: Objection, form  
 19 and asked and answered.  
 20 A. I just answered that.  
 21 I can point to OECD and their  
 22 guidance that this is an appropriate model  
 23 for screening for cancer, and NHL is a  
 24 cancer.  
 25 Q. Beyond the OEC document talking

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1 about cancers generally, can you point to  
 2 any document that is talking about  
 3 non-Hodgkins lymphoma in particular --  
 4 MS. GREENWALD: Objection --  
 5 Q. -- with respect to CD1 mice or  
 6 Swiss Albino mice?  
 7 MS. GREENWALD: Objection to  
 8 form. Asked and answered.  
 9 A. I can't cite a single publication  
 10 for any cancer where a specific mouse model  
 11 is proposed to evaluate a chemical effect  
 12 to cause cancer because of the mouse model.  
 13 So the answer to your question is  
 14 I cannot cite anything specific to those  
 15 mouse models producing malignant lymphomas  
 16 and being the best model around.  
 17 Q. Dr. Morse includes a chart in his  
 18 chapter on page 2 that identifies potential  
 19 parallel neoplasm or cancers in human and  
 20 mice, correct?  
 21 A. Yes.  
 22 Q. Dr. Morse does not suggest that  
 23 any tumors in mice other than certain  
 24 B-cell lymphomas would have a potential  
 25 relationship to the development of

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1 non-Hodgkins lymphoma in humans, does it?  
 2 MS. GREENWALD: Objection to  
 3 form.  
 4 A. Yeah, you've lost me. Sorry.  
 5 Q. Dr. Morse does not suggest that  
 6 there are any types of tumors in mice other  
 7 than certain B-cell lymphomas that have a  
 8 parallel to NHL in humans?  
 9 MS. GREENWALD: Objection, form.  
 10 A. His article is about B-cell  
 11 lymphomas. This table was all about B-cell  
 12 lymphomas.  
 13 Q. Dr. Morse does not suggest, for  
 14 example, that there is any relationship  
 15 between venal tumors in mice and the  
 16 development of NHL in humans, correct?  
 17 A. Renal tumors in mice? Is that  
 18 what you were questioning me?  
 19 I didn't understand that at all.  
 20 Does he suggest that kidney  
 21 tumors would -- kidney tumors in the mouse  
 22 would predict or be directly related to  
 23 this tumor in humans? No.  
 24 Q. And would you -- with respect to  
 25 different types of tumors in different

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1 organs, would you agree that evidence of  
 2 renal tumors in a mouse would not be  
 3 directly relevant to the development of  
 4 non-Hodgkins lymphomas in humans, correct?  
 5 MS. GREENWALD: Objection to  
 6 form.  
 7 A. I'm not sure.  
 8 We did a paper on this, and I  
 9 thought it came out recently, but I  
 10 can't -- I can't tell.  
 11 And we looked at whether this  
 12 tumor in this mouse seems to associate with  
 13 this tumor and this human. And I don't  
 14 remember if that particular case popped out  
 15 or not.  
 16 So I can't answer the question  
 17 very well. Sorry.  
 18 Q. So if I understand correctly, you  
 19 have done an assessment of certain tumor  
 20 types in mice to determine whether or not  
 21 they are predictive of certain tumor types  
 22 in humans?  
 23 MS. GREENWALD: Objection to  
 24 form.  
 25 A. We have done a paper that looks

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1 at all of the known human carcinogens from  
 2 the IARC list, 101 chemicals minus -- I  
 3 think it is about 86, 85 chemicals.  
 4 So these are chemicals that we  
 5 know they cause cancer in humans and we  
 6 know where they cause cancer in humans, so  
 7 each of them had cancer bioassays also  
 8 done -- well, some of them didn't, so we  
 9 had to throw those out.  
 10 But most of them had cancer  
 11 bioassays and so we could see what cancers  
 12 arose in animals, what cancers arose in  
 13 humans, and we could just look at the  
 14 frequency of agreement.  
 15 Q. Are you aware of any published  
 16 article that conducts an analysis to test  
 17 whether the development of renal tumors in  
 18 mice is predictive of NHL in humans?  
 19 MS. GREENWALD: Objection to  
 20 form.  
 21 A. Um, no.  
 22 THE VIDEOGRAPHER: I'm  
 23 approaching the end of the videotape.  
 24 MR. LASKER: We will take a  
 25 break.

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1 THE VIDEOGRAPHER: The time is  
 2 12:32 p.m. We are off the record.  
 3 (Luncheon recess)  
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1 AFTERNOON SESSION  
 2 1:20 p.m.  
 3 THE VIDEOGRAPHER: The time is  
 4 1:20 p.m. We are on the record.  
 5 BY MR. LASKER:  
 6 Q. Good afternoon, Dr. Portier.  
 7 A. I hope you enjoyed your lunch.  
 8 Q. Wonderful.  
 9 Before the break, we were  
 10 discussing when you first looked at the  
 11 data tables for the animal cancer bioassays  
 12 that were provided with the Greim  
 13 publication.  
 14 Would I be correct in my  
 15 understanding that you would have reviewed  
 16 those data tables prior to your submission  
 17 to EPA in which you presented a pooled  
 18 analysis of the data from those animal  
 19 studies?  
 20 MS. GREENWALD: Objection,  
 21 form.  
 22 A. If I remember correctly, all of  
 23 the pooled analysis in the data I submitted  
 24 to EPA were the mouse lymphomas and the  
 25 hemangiosarcomas and the kidney tumors and

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1 the answer to your question is no, I'd  
 2 probably not reviewed it before then  
 3 because all those came from EFSA review.  
 4 Q. When you, in your pooling of data  
 5 with respect to -- let's actually show him  
 6 the October 4, 2016. It has already been  
 7 marked.  
 8 It is 15-20, you can look at  
 9 15-20.  
 10 MS. GREENWALD: They are not  
 11 all here.  
 12 THE WITNESS: It's the bottom one  
 13 because I reordered them just now.  
 14 A. Yes, OK. Let's see what pooled  
 15 analyses I did. OK, so EPA's -- I did not  
 16 pool the rat studies here.  
 17 Q. So is it your recollection then  
 18 that you would have first reviewed or if we  
 19 were trying to get to the day where you  
 20 first reviewed the Greim supplement, it  
 21 would be at the time that you had pooled  
 22 analysis for some of the rat studies?  
 23 A. That's when I seriously got into  
 24 looking at Greim's very carefully because  
 25 in order to do the pooling in any of these

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1 studies, I have to pull in nonsignificant  
 2 findings from the other studies and none of  
 3 the regulatory agencies provide  
 4 nonsignificant findings.  
 5 So when I decided to pool the rat  
 6 studies, that's when I really had to dig in  
 7 there.  
 8 Q. I don't know if we have three  
 9 copies of this now.  
 10 MR. LASKER: Let's go off the  
 11 record for a minute.  
 12 THE VIDEOGRAPHER: The time is  
 13 1:25 p.m. We are off the record.  
 14 (Recess)  
 15 THE VIDEOGRAPHER: The time is  
 16 1:27 p.m. We are on the record.  
 17 Q. Dr. Portier, you note in your  
 18 expert report that because of the large  
 19 number of evaluations that have been  
 20 done -- the large number of glyphosate  
 21 rodent studies that have been done, that  
 22 raises a concern that false positives could  
 23 be exaggerated, correct?  
 24 A. Let me break down your sentence  
 25 for a second. Exaggerated I think is the

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1 wrong term.  
 2 Q. Why don't we mark the revised  
 3 report. This is next in line.  
 4 (Exhibit 15-30, expert report of  
 5 Christopher J. Portier marked for  
 6 identification, as of this date.)  
 7 Q. Just for the record, Dr. Portier,  
 8 Exhibit 15-30 is your revised expert report  
 9 that was provided to us on or about  
 10 June 27, 2017, and on page 50 of your  
 11 report, that second paragraph, midway  
 12 through, you state, "Because of the large  
 13 number of evaluations done in an individual  
 14 animal carcinogenicity study, there is  
 15 concern that the false positive rates could  
 16 be exaggerated." Correct?  
 17 A. That's what I said. Surprised I  
 18 used exaggerated.  
 19 Q. Well, the point, in any event,  
 20 that you're making there is that if 20  
 21 evaluations are done and a finding is  
 22 deemed significant at a p-value of less  
 23 than .05, then you would expect that one of  
 24 those evaluations would report out as being  
 25 positive simply due to chance, correct?

1 MS. GREENWALD: Objection,  
 2 form.  
 3 A. That's what I wrote and that is  
 4 correct.  
 5 Q. So a false positive then is when  
 6 an individual test or trend meets the p  
 7 less than .05 standard, but it is, in fact,  
 8 due to chance rather than a carcinogenicity  
 9 effect of a tested compound, correct?  
 10 A. A false positive is when there is  
 11 no effect and you falsely declare it's  
 12 positive either by statistical evaluation  
 13 or whatever. That would be a false  
 14 positive.  
 15 Q. And the point you're making here  
 16 and, in particular, you state, for example,  
 17 that there were -- on page 50, you list 329  
 18 total sites for rats and 16.5 that would be  
 19 expected. Do you see that?  
 20 A. That is correct.  
 21 Q. And that again, that is the same  
 22 point you're making that you would expect 1  
 23 out of 20 of those tests to report with a p  
 24 less than .05 simply due to chance,  
 25 correct?

1 A. Correct.  
 2 Q. And the reason that complicates  
 3 the analysis of the glyphosate data is  
 4 because there are so many evaluations that  
 5 have been conducted in the animal studies,  
 6 correct?  
 7 MS. GREENWALD: Objection to  
 8 form.  
 9 A. The problem of false positives  
 10 affects every study. But where you have,  
 11 for example, with glyphosate, hundreds of  
 12 analyses that can be conducted, you're  
 13 going to be expecting to have a number of  
 14 findings p less than .05 simply due to  
 15 chance, correct.  
 16 MS. GREENWALD: Objection to  
 17 form.  
 18 A. "Expectation" is the important  
 19 word there. You expect to see it. That  
 20 doesn't mean you necessarily saw it but you  
 21 do expect it.  
 22 Q. So you're making the point here  
 23 on page 50 is you have 329 total sites as  
 24 you set forth on table 15 that could be  
 25 examined or in the rat studies, and from

1 that, by chance alone, you would expect 16  
 2 or 17 to report out with a p less than .05,  
 3 correct?  
 4 A. I'm -- that's correct. You know  
 5 this table changed --  
 6 Q. I do understand that. I  
 7 understand.  
 8 A. Thank you.  
 9 Q. You have further broken this  
 10 down, down test by sex and by strain to  
 11 look at what you would expect -- how many  
 12 trends you would expect to see with ps less  
 13 than .05 by chance and then comparing them  
 14 to what you actually observe in the data,  
 15 correct?  
 16 A. That is correct.  
 17 Q. And let's pull out your rebuttal  
 18 report. And we will mark this as 15-31.  
 19 (Exhibit 15-31, Rebuttal Report  
 20 of Christopher J.Portier marked for  
 21 identification, as of this date.)  
 22 Q. And I think this statement is the  
 23 same in both your initial report and in  
 24 your rebuttal report, but it appears at  
 25 page 7 on your rebuttal report.

1 You are discussing the number of  
 2 trends that you see in the data or that you  
 3 report in the data as compared to the  
 4 number of trends that you would expect  
 5 simply by chance. Correct?  
 6 MS. GREENWALD: Objection,  
 7 form.  
 8 A. At the bottom of page 7, I  
 9 discussed the new modified table 15 which  
 10 discusses what we were discussing earlier.  
 11 Same table.  
 12 Q. And what you state with respect  
 13 to the rats -- and I want to focus on that  
 14 now -- is with the exception of male  
 15 Sprague Dawley rats, the observed number of  
 16 tumors are at or near the expected number  
 17 for the different sex strain groups in  
 18 mice, correct?  
 19 A. That's correct.  
 20 Q. For female Sprague Dawley rats,  
 21 you observed the number of trends that  
 22 would be expected due to chance, correct?  
 23 A. I believe so, yes.  
 24 Q. For male Wistar rats, you found  
 25 or observed the number of trends p less



<p style="text-align: right;">Page 186</p> <p>1 than .05 that you expect to see due to 2 chance, correct? 3 A. That is correct. 4 Q. And for the male Wistar rats, 5 likewise, you observe the number of trends 6 of p less than .05 you would expect due to 7 chance, correct? 8 A. That is correct. 9 Q. But you nonetheless opine, based 10 upon your analysis, that the data shows 11 that glyphosate causes hepatocellular 12 adenomas and skin keratoacanthomas in male 13 Wistar rats and it causes mammary gland 14 adenomas and adenocarcinomas in female 15 Wistar rats, correct? 16 MS. GREENWALD: Objection to 17 form. 18 A. I don't know about opining, but I 19 certainly discuss those tumors and come to 20 a conclusion that they are probably caused 21 by glyphosate. 22 Q. So your conclusion is that the 23 tumors that you identified for Wistar rats 24 that have trends less than .05, which is 25 the same number you would expect due to</p>	<p style="text-align: right;">Page 188</p> <p>1 Q. Due to chance? 2 A. Due to chance. 3 Q. But your opinion is, in fact, 4 this is evidence that glyphosate caused 5 those tumors in those rats, correct? 6 MS. GREENWALD: Objection, 7 form. 8 A. What is "this"? What is "this is 9 evidence"? 10 Q. The trends that you observed of p 11 less than .05 for Wistar rats which are 12 the same trends you would expect to see due 13 to chance, in your opinion, is evidence 14 that glyphosate caused those tumors in 15 Wistar rats. Correct? 16 MS. GREENWALD: Objection, 17 form. 18 A. It's part of the evidence. Yes. 19 Q. You reached your rat causation 20 opinions through the application of a 21 pooling methodology, correct? 22 A. Yes, I did. 23 Q. And you agreed that methods for 24 combining analyses of multiple animal 25 cancer bioassays are not available in the</p>
<p style="text-align: right;">Page 187</p> <p>1 chance, is, in fact, evidence of causation, 2 correct? 3 MS. GREENWALD: Objection to 4 form. 5 A. In fact -- they are part of the 6 evaluation of causation. The skin 7 keratoacanthomas were also seen in the 8 Sprague Dawley rats which is the reason I 9 did not decide that they were just random 10 chance and the mammary gland carcinomas and 11 adenomas and carcinomas, because it's the 12 same progression of tumor, there is greater 13 evidence that it remains. 14 So a decision to argue for a 15 positive finding is not just statistical. 16 It's also tied to the actual biology. 17 Q. Well, Dr. Portier, that wasn't my 18 question. 19 You observed the number p less 20 than .05 trends for Wistar rats that would 21 be expected due solely to chance, correct? 22 MS. GREENWALD: Objection, 23 asked and answered. 24 A. I observed the same number as 25 expectation.</p>	<p style="text-align: right;">Page 189</p> <p>1 scientific literature, correct? 2 MS. GREENWALD: Objection, 3 form. 4 A. Say again. 5 Q. You agree that methods for the 6 combined analysis of multiple animal cancer 7 bioassays are not available to the 8 scientific literature? 9 MS. GREENWALD: Same 10 objection. 11 A. I believe I wrote that, but it is 12 now incorrect. 13 Q. At the time that you drafted your 14 revised expert report, it was your 15 understanding that methods for the combined 16 analysis of multiple animal cancer 17 bioassays are not available in the 18 scientific literature, correct? 19 A. That is correct. 20 Q. And because of that, you 21 developed the pooling methodology that you 22 used for the purposes of your glyphosate 23 analysis, correct? 24 A. Oh, I can't take credit for 25 developing it, no.</p>

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1 Q. Can you cite -- first of all,  
 2 have you ever published a paper in which  
 3 you used this pooling methodology that you  
 4 use in this case?  
 5 A. I'd have to go back and look.  
 6 The pooling methodology is simply taking  
 7 information from multiple laboratories or  
 8 multiple experiments and putting it  
 9 together and doing one analysis, and I  
 10 believe I have, using the same technology,  
 11 taken data from multiple experiments and  
 12 done the analysis.  
 13 So I can't take credit for it,  
 14 nor can I say I never did it.  
 15 Q. Let me ask you again. Can you  
 16 cite to my -- first of all, have you ever  
 17 published a paper in which you use this  
 18 pooling methodology?  
 19 MS. GREENWALD: Objection,  
 20 asked and answered.  
 21 A. I think I have.  
 22 Q. Can you cite to which paper that  
 23 is?  
 24 A. I would have to go look at the  
 25 papers.

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1 Q. Can you cite, sitting here today,  
 2 to any published paper by any scientist  
 3 using this pooling methodology in analyzing  
 4 animal cancer bioassay data?  
 5 A. Yes.  
 6 Q. Which article?  
 7 A. The someone asked me to look --  
 8 so Mike Dourson is going to be the new  
 9 assistant administrator for EPA and I was  
 10 asked to look at some of his papers and he  
 11 does it in two of his papers.  
 12 Q. Can you say the name again?  
 13 A. Mike Dourson, D-O-U-R-S-O-N.  
 14 Q. Let's take a look at how you  
 15 applied the pooling methodology in this  
 16 case.  
 17 Now, we already talked about the  
 18 fact that you opine, based upon your  
 19 pooling analysis, that glyphosate causes  
 20 mammary gland tumors in female Wistar rats,  
 21 correct?  
 22 A. Wistar rats, I think so, yes.  
 23 Q. We can look at your expert report  
 24 at page 28. And this is 15-30. Starting  
 25 at page -- 15-30, you're talking about the

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1 Brammer study.  
 2 A. Yes.  
 3 Q. And then you have on the next  
 4 page, 28 is Brammer, 30 is Suresh, and 31  
 5 is -- I'm sorry, it bounces around a little  
 6 bit. 32 is Wood, correct?  
 7 A. Yes.  
 8 Q. Those are the three studies in  
 9 Wistar rats, correct?  
 10 A. Yes.  
 11 Q. So in the Brammer study reported  
 12 on page 28, there were more mammary tumors  
 13 found in the female Wistar rats that were  
 14 not treated with glyphosate than were found  
 15 in any of the three treated groups  
 16 individually, correct?  
 17 A. More mammary grand adenomas and  
 18 carcinomas in the control group than the  
 19 treated groups, yes.  
 20 Q. And then the second Wistar study  
 21 is Suresh. That's reported in page 30 of  
 22 your expert report, correct?  
 23 A. Yes.  
 24 Q. In that study, the data finds a  
 25 statistically significant inverse trend or

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1 negative trend for mammary tumors with  
 2 increased doses of glyphosate, correct?  
 3 MS. GREENWALD: Objection,  
 4 form.  
 5 A. I don't actually know. I just  
 6 see the p trend. I don't know what the  
 7 slope was.  
 8 Q. But the p-value, if you have a  
 9 p-value of .970 for a positive trend, that  
 10 translates also to a trend of .03 for a  
 11 negative trend. That's the way the math  
 12 works, right?  
 13 A. Probably. I would want to look  
 14 at the statistic to be sure, but probably,  
 15 yes.  
 16 Q. So with that understanding, the  
 17 Suresh study found an inverse trend, a  
 18 negative trend for mammary glands that  
 19 would be significant to p equals .03,  
 20 correct?  
 21 MS. GREENWALD: Objection,  
 22 form.  
 23 A. I am not sure.  
 24 Q. The Suresh study found more  
 25 mammary gland tumors in the controls than

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1 in the highest dose group, correct?  
 2 A. That is correct.  
 3 Q. And if the p trend for mammary  
 4 gland adenomas and carcinomas in Suresh is  
 5 an inverse trend, p equals .03, that would  
 6 mean that the incidence of mammary gland  
 7 tumors in female Wistar rats decreased as  
 8 the dose increased by a statistical  
 9 measure, correct?  
 10 MS. GREENWALD: Objection,  
 11 form.  
 12 A. Because of the high response in  
 13 the control, yes, that's probably the case.  
 14 Q. The third study you have for  
 15 Wistar rats is the Wood study and that is a  
 16 study that found a -- you report a  
 17 statistically positive trend increasing  
 18 tumors for mammary gland tumors, correct?  
 19 A. For mammary gland adenocarcinomas  
 20 and mammary gland adenocarcinomas and  
 21 adenomas combined. Yes.  
 22 Q. So for the three Wistar rat  
 23 studies for mammary tumors, we have one  
 24 study, the first one study we looked at, by  
 25 Brammer, where there were more tumors found

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1 in the controls than in any of the treated  
 2 groups.  
 3 We have a second study by Suresh  
 4 that reported what appears to be a  
 5 statistically significant negative trend,  
 6 meaning less tumors, less mammary gland  
 7 tumors as the dose increases. And we have  
 8 a third study that shows an increased trend  
 9 of more tumors with more dose. Correct?  
 10 MS. GREENWALD: Object to the  
 11 form.  
 12 A. We have the Brammer study which  
 13 is negative; the Suresh study which is  
 14 negative; and the Wood study which is  
 15 positive.  
 16 Q. Just to be clear again, the  
 17 Suresh study appears to be statistically  
 18 significant negative, correct?  
 19 A. Correct.  
 20 Q. Now, when you pooled these  
 21 studies together, and you report that -- I  
 22 think on page 33 -- when you pooled the  
 23 three studies together, you did not find  
 24 any increased risk of mammary tumors in  
 25 female Wistar rats, correct?

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1 A. OK, say the question again.  
 2 Q. When you pooled the three Wistar  
 3 rat studies together, you did not find any  
 4 increased risk of mammary tumors in female  
 5 Wistar rats with treatment for glyphosate,  
 6 correct?  
 7 A. Yes, I got a p-value well above  
 8 .05.  
 9 Q. To reach your causation  
 10 opinion -- and you did reach an opinion  
 11 that glyphosate causes mammary tumors in  
 12 Wistar female rats. We just talked about  
 13 that. To reach that opinion, you removed  
 14 Suresh from your pooling analysis, correct?  
 15 MS. GREENWALD: Objection to  
 16 form.  
 17 A. First, I want to check the  
 18 conclusion. So I'm very clear on what I  
 19 said.  
 20 Q. On page 52, you state that  
 21 glyphosate causes mammary gland adenomas  
 22 and adenocarcinomas in female Wistar rats,  
 23 right? That's your opinion in your expert  
 24 report, correct, Dr. Portier?  
 25 A. Yes, yes. It should have said

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1 limited. I'm sorry, that was a -- that was  
 2 a mistake. That's in this paragraph on  
 3 page 33.  
 4 Q. To reach your opinion to support  
 5 the idea that there is a causation with  
 6 mammary tumors in Wistar rats, you dropped  
 7 the Suresh study from your pooling analysis  
 8 completely, correct?  
 9 A. I did a sensitivity analysis in  
 10 which I removed the one study that might  
 11 have not matched the other two. And I did  
 12 a separate pooling. That is correct.  
 13 Q. So by removing the statistically  
 14 significant negative trend, decreasing  
 15 tumors with increasing glyphosate use, in  
 16 Suresh, you were able to pool the two other  
 17 studies to opine that there was a positive  
 18 trend for mammary tumors in Wistar rats  
 19 with glyphosate, correct?  
 20 MS. GREENWALD: Objection to  
 21 form.  
 22 A. When, with justification, I  
 23 removed the Suresh study, I could see a  
 24 significant finding; and, hence, I said  
 25 there was limited support for that tumor.

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1 Q. Well, you're stating that now.  
 2 A. No, it's right there.  
 3 Q. In your expert report?  
 4 A. Page 33.  
 5 Q. Page 52.  
 6 A. Page 33, "Given the mixed results  
 7 for the pooling from this tumor, I conclude  
 8 there is limited support for the notion  
 9 that glyphosate can cause mammary gland  
 10 adenomas and adenocarcinomas in Wistar  
 11 rats."  
 12 I've already conceded that in the  
 13 final conclusion I should have used the  
 14 word "limited" for that tumor.  
 15 Q. If you had instead removed the  
 16 Wood study from your analysis and pooled  
 17 instead the Suresh study and the Brammer  
 18 study, you would have reported a  
 19 statistically significant protective effect  
 20 of glyphosate against mammary tumors,  
 21 wouldn't you have?  
 22 MS. GREENWALD: Objection,  
 23 form.  
 24 A. That, I do not know.  
 25 Q. You didn't conduct that

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1 sensitivity analysis?  
 2 A. I had no reason to believe the  
 3 Wood study was different from the Animoto  
 4 study, or whatever we are talking about.  
 5 Wood and -- Wood and Animoto was the two I  
 6 pooled, correct? Wood and Brammer, Wood  
 7 and Brammer.  
 8 I had no reason to believe that  
 9 Wood was different than Brammer. But I had  
 10 reason to believe that Suresh was different  
 11 than the other two.  
 12 Q. With respect to mammary tumors,  
 13 what was your basis for concluding that  
 14 Suresh was different than Wood and Brammer?  
 15 A. When a -- when a strain of  
 16 animals shows any tumor, whether it's the  
 17 adenocarcinomas or the liver tumors, at a  
 18 rate which is incredibly different than the  
 19 others, it suggests that the strains are  
 20 not -- they are not exactly operating the  
 21 same.  
 22 The hepatocellular adenomas  
 23 and carcinomas in the Suresh data set -- I  
 24 believe it was the hepatocellular adenomas  
 25 and carcinomas were substantially larger in

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1 the control population, substantially, than  
 2 either of the other two studies. That  
 3 raises a flag that suggests that those  
 4 studies are not replicates of each other  
 5 and one should be careful when combining  
 6 them.  
 7 Q. In the mammary gland tumors, you  
 8 had, in the Wood study, eight out of 51  
 9 with tumors in the high dose group and that  
 10 is significantly different than what you  
 11 found in the other two studies, in Suresh  
 12 and Brammer, correct?  
 13 MS. GREENWALD: Objection,  
 14 form.  
 15 A. There were different doses.  
 16 That's -- they are not equivalent  
 17 connections and I don't know if they were  
 18 statistically significant or not. They  
 19 were different. There is no doubt about  
 20 it.  
 21 Q. You used a similar pooling  
 22 methodology to reach your opinion that  
 23 glyphosate causes hepatocellular adenomas  
 24 in male Wistar rats, correct?  
 25 A. I believe I did.

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1 Q. Neither the Suresh study or Wood  
 2 study found any increased incidence of  
 3 hepatocellular adenomas in male Wistar  
 4 rats, correct?  
 5 A. OK, let's see here. I was  
 6 looking at the wrong ones. The first  
 7 paragraph under joint analysis.  
 8 Q. It might be easier to look at the  
 9 tables, 28, 30 and 32. Neither the Suresh  
 10 study nor the Wood study found any  
 11 increased incidence in hepatocellular  
 12 adenomas in male Wistar rats, correct?  
 13 A. No statistically significant  
 14 increased incidence, that is correct.  
 15 Q. And when you pooled the results  
 16 of the three Wistar rat studies, you  
 17 likewise did not find a positive trend for  
 18 hepatocellular adenomas, correct?  
 19 A. I'm trying to find where I did  
 20 the pooling and talked about whether it is  
 21 significant or not.  
 22 I didn't pool all three studies.  
 23 I'm sorry, I didn't pool them here. I  
 24 don't see an analysis of the pooled three  
 25 studies because the hepatocellular adenomas

1 seen in the Suresh study were 48 percent in  
2 controls; whereas the other two studies,  
3 the hepatocellular adenomas were down in  
4 the 0 to 1 percent to 2 percent range.  
5 Hence, pooling all three of them would be a  
6 mistake from the start. So I never even  
7 bothered.

8 Q. You reach your causation opinion  
9 based on a pooling that dropped the Suresh  
10 study out of the analysis, correct?

11 MS. GREENWALD: Objection,  
12 form and asked and answered.

13 A. I didn't drop the Suresh -- I  
14 didn't drop the Suresh out of the analysis,  
15 I never put it in.

16 Q. And in your discussion of that  
17 analysis, or your reasoning there for not  
18 including or -- in your evaluation, the  
19 hepatocellular adenomas, you state that, to  
20 reject a finding based upon only one in  
21 three being positive is the same as  
22 rejecting a coin being fair if, in three  
23 flips of the coin, the result is one head  
24 and two tails, correct?

25 MS. GREENWALD: Objection,

1 about is rejecting a coin being fair,  
2 correct?

3 MS. GREENWALD: Objection to  
4 the form.

5 A. No, the rejection of a coin being  
6 fair here is that it's impossible to do it  
7 with only three flips.

8 Q. Right.

9 A. It's not that I can't reject a  
10 coin being fair. Of course I can if I do a  
11 large enough sample size.

12 So it's the concept that you  
13 can't do this that is being brought up  
14 there.

15 Q. In scientific analyses, you start  
16 off with a null hypothesis and then you try  
17 to reject that hypothesis, correct? That's  
18 the scientific methodology?

19 A. Correct. Well, you don't try to  
20 reject the hypothesis. If the data pops  
21 that way, it rejects the hypothesis.

22 Q. So for a coin toss, is the null  
23 hypothesis that the coin is fair and you  
24 are trying to reject that, correct?

25 MS. GREENWALD: Objection,

1 form.

2 A. I do write that in here.

3 Q. And you -- so you state that to  
4 reject causation based upon the findings of  
5 one positive trend and two null findings  
6 for hepatocellular adenomas, then it is the  
7 same as rejecting a coin as being fair if  
8 in three flips of the coin, the result is  
9 one head and two tails, correct?

10 A. Yes. The rest of it says you  
11 can't -- it simply is not possible and  
12 there is a better way to address these  
13 findings.

14 Q. And your pooling methodology for  
15 the glyphosate animal studies then seeks to  
16 determine whether the data is sufficient to  
17 reject a finding of causation for  
18 glyphosate and cancer in rodents, correct?

19 A. No. The pooling is there to  
20 evaluate whether, for this tumor, having  
21 seen a positive in one or two studies, does  
22 that positive stay when you group it with  
23 all the rest of the studies that it should  
24 be appropriately grouped with.

25 Q. And the analogy you are talking

1 form.

2 A. If that's your hypothesis, yes.

3 Q. For glyphosate and the animal  
4 studies, the null hypothesis is that  
5 glyphosate does not cause tumors, correct?

6 MS. GREENWALD: Some  
7 objection, form.

8 A. The null hypothesis is that it  
9 does not cause an increase in tumors, that  
10 is correct.

11 Q. And your assessment, though, is  
12 looking to see whether the data is  
13 sufficient to reject the possibility that  
14 glyphosate does cause tumors, correct?

15 MS. GREENWALD: Objection,  
16 form.

17 A. No, the test is to see whether  
18 the rejection of the null hypothesis from  
19 the one study is -- remains or is -- goes  
20 away when I pool the data.

21 Q. So you are pooling the data to  
22 see if you can support -- strike that.

23 So you are pooling the data of  
24 those two studies without the third study  
25 to see if you can then reject the finding

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1 in the third study, is that correct?  
 2 MS. GREENWALD: Objection,  
 3 form, asked and answered.  
 4 A. No.  
 5 Q. You also exclude the Suresh study  
 6 from your pooling analysis to support your  
 7 opinion in your rebuttal report that there  
 8 is a suggestion that glyphosate causes  
 9 pituitary tumors in -- strike that.  
 10 I want to get that right. Yes.  
 11 At page 6 of your rebuttal report, you also  
 12 exclude the Suresh study from your pooling  
 13 analysis to support your opinion that there  
 14 is a suggestion that glyphosate causes  
 15 pituitary tumors in female Sprague Dawley  
 16 rats, correct?  
 17 MS. GREENWALD: Objection to  
 18 form.  
 19 A. I did not include -- I don't know  
 20 if I did the three. I don't think I --  
 21 I'm -- yes, that is -- I believe that's  
 22 correct.  
 23 Q. Now, you used that same pooling  
 24 methodology to conclude that there was a  
 25 statistically significant positive trend

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1 for skin keratoacanthomas in male Wistar  
 2 rats, correct? And that's initially your  
 3 revised report at page 32.  
 4 A. Page 32?  
 5 Q. I'm sorry. Page 31.  
 6 A. That is correct.  
 7 Q. So for skin keratoacanthomas,  
 8 pooling the Wood and Brammer studies alone  
 9 did not result in a statistically  
 10 significant positive trend for male Wistar  
 11 rats, correct?  
 12 A. It resulted in a p-value for  
 13 trend of 0.053 which was barely not  
 14 statistically significant.  
 15 Q. So for your skin keratoacanthoma  
 16 causation opinion, you did pool, include  
 17 the Suresh study in your pooling analysis  
 18 to come up with a statistically significant  
 19 finding, correct?  
 20 MS. GREENWALD: Objection,  
 21 form.  
 22 A. I believe I wasn't that marginal.  
 23 Let me look at my summary.  
 24 Q. Page 35.  
 25 A. I've got you. I'm sorry, I'm

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1 just checking my -- yes. That must be what  
 2 I used in my table 8.  
 3 Q. So you dropped or did not include  
 4 Suresh for your pooling methodology when it  
 5 resulted in a finding of no increased trend  
 6 for mammary gland or hepatocellular tumors,  
 7 but then included Suresh in your pooling  
 8 analysis to calculate a positive trend for  
 9 skin keratoacanthomas, correct?  
 10 MS. GREENWALD: Objection to  
 11 form.  
 12 A. No.  
 13 Q. Did you not include Suresh in  
 14 your analysis for skin keratoacanthomas?  
 15 A. In all of them, maybe all of them  
 16 except hepatocellular adenomas, I did  
 17 analyses with Suresh included and without  
 18 Suresh included. All of those analyses  
 19 play a role in my decision about whether  
 20 this is a real tumor finding or a chance  
 21 tumor finding and how much support there  
 22 is.  
 23 Q. And in your finding of a positive  
 24 trend, as you reported in your final  
 25 opinion, to find a positive trend for

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1 mammary gland tumors and hepatocellular  
 2 adenomas, you used a pooling only of the  
 3 Wood and Brammer study, and to reach your  
 4 opinion with respect to keratoacanthomas,  
 5 you used a pooling of all three studies,  
 6 correct?  
 7 MS. GREENWALD: Objection,  
 8 form.  
 9 A. I used all of the analyses that  
 10 it had done to that time.  
 11 Q. For mammary gland tumors and the  
 12 hepatocellular adenomas, to find a  
 13 statistically significant positive trend,  
 14 you found that only when you pooled just  
 15 the two studies, Brammer and Wood, correct?  
 16 A. As I mentioned before, I saw an  
 17 almost statistically significant p equals  
 18 p.053 in the combined analysis.  
 19 I do not characterize it as  
 20 negative. I characterize that as almost  
 21 significant.  
 22 Q. Just to be clear, we are talking  
 23 about mammary gland tumors and  
 24 hepatocellular adenomas. Is it your  
 25 testimony now that you found an almost

1 significant trend with those two tumors  
 2 when you combined the three studies? I  
 3 think you are confusing it now for skin --

4 A. I am sorry, for skin  
 5 keratoacanthomas.

6 Q. No, let me -- for mammary gland  
 7 adenomas and hepatocellular adenomas -- I  
 8 am sorry, for mammary gland tumors and for  
 9 hepatocellular adenomas, you opined to a  
 10 statistically significant increased trend  
 11 by pooling just Wood and Brammer, correct?

12 MS. GREENWALD: Objection,  
 13 form.

14 A. For mammary gland adenomas and  
 15 adenocarcinomas combined.

16 Q. And hepatocellular adenomas for  
 17 those two tumors, you reported a -- or you  
 18 opined to a statistically significant  
 19 increased trend by pooling Brammer and Wood  
 20 and not including Suresh, correct?

21 MS. GREENWALD: Objection,  
 22 form.

23 A. For those two tumors, I saw --  
 24 not for -- for hepatocellular adenomas, I  
 25 did not pool the three. So I do not know

1 Q. All three of the studies were  
 2 pooled to get that statistically  
 3 significant trend, correct?

4 A. No. The statistically  
 5 significant -- you're confusing my decision  
 6 to say this is glyphosate-related with any  
 7 given one test or not. If you look through  
 8 here, you will see is that there are  
 9 subtleties involved in this.

10 In this case, when pooled with  
 11 the Suresh study, it was highly -- it was  
 12 highly -- no, it was statistically  
 13 significant for the keratoacanthomas, and  
 14 when it was not pooled, it was almost  
 15 statistically significant for the  
 16 keratoacanthomas. Therefore, I decided  
 17 that there is a -- there is fire here and  
 18 there is probably something going on. And  
 19 that's why I made the decision to say that  
 20 it was causal.

21 Q. And you reported that trend as  
 22 statistically significant in your tables,  
 23 correct?

24 A. In the table 8, I put three dots  
 25 for the triple. I should have put one.

1 what the result of that pooling would be.  
 2 When I pooled the two, yes, I saw  
 3 significant p-value. For that tumor.

4 Q. And for mammary gland tumors,  
 5 when you pooled the three, you didn't see a  
 6 statistically significant trend, but when  
 7 you pooled the two, you did?

8 A. That is correct.

9 Q. And that was the basis for your  
 10 opinion with respect to mammary gland  
 11 tumors, correct?

12 MS. GREENWALD: Objection,  
 13 form.

14 A. That's the basis for my opinion  
 15 that there is limited support for the  
 16 notion that glyphosate can cause mammary  
 17 gland adenomas and adenocarcinomas in  
 18 Wistar rats.

19 Q. And for skin keratoacanthomas,  
 20 where you report a statistically  
 21 significant trend on your table, that is  
 22 based upon the pooling all three of the  
 23 studies, correct, including Suresh?

24 A. As I said before, it's based upon  
 25 everything that went on in that evaluation.

1 Q. Let's look at your pooling  
 2 methodology for Sprague Dawley rats in your  
 3 rebuttal report and this is page 6.

4 You opine that the Sprague Dawley  
 5 rat study suggests a potential for  
 6 glyphosate to cause adrenal cortical tumors  
 7 in female rats, correct? That's page 6.

8 MS. GREENWALD: Objection, form.

9 Q. Second paragraph, first full  
 10 paragraph on page 6, returning to table 2.

11 A. So ask your question again,  
 12 please.

13 Q. Through -- in your rebuttal  
 14 report, you opine that the Sprague Dawley  
 15 rat studies suggest a potential for  
 16 glyphosate to cause adrenal cortical tumors  
 17 in female rats, correct?

18 MS. GREENWALD: Objection,  
 19 form.

20 A. That is correct.

21 Q. When you pooled the results for  
 22 the four Sprague Dawley studies, your  
 23 pooling methodology reported a  
 24 statistically significant negative trend  
 25 for glyphosate and adrenal cortical tumors,

1 correct?

2 A. That is, I believe, correct.

3 Q. So in other words, you found, by  
4 pooling the studies, that there was a  
5 decrease in the incidence of adrenal  
6 cortical tumors with an increased dose of  
7 glyphosate and that was statistically  
8 significant, correct?

9 A. No. What I found was that the --  
10 because of the hypothesis rates of this  
11 tumor in Lankas, et al., 1981 and the lower  
12 rates in the others, you end up with a  
13 negative trend because of that high rate of  
14 tumors. And that's why you have the  
15 negative trend. I would never have called  
16 that pooled analysis a negative trend  
17 because it was clear to me that that pooled  
18 analysis was flawed.

19 Q. OK. But just to be clear, page  
20 10 of your rebuttal expert report, you  
21 present the data the -- your pooled  
22 analyses for adrenal cortical carcinomas in  
23 female Sprague Dawley rats -- correct?  
24 Adrenal cortical carcinomas?

25 A. I'm sorry, I'm kind of slow, yes,

1 respect to kidney adenomas in male rats.  
2 Correct?

3 MS. GREENWALD: Objection,  
4 form.

5 A. Again, the Lankas study was 26  
6 months and the rest were 24. That is  
7 reason to exclude it.

8 Q. And, in fact, though, if you  
9 looked at the four Sprague Dawley rat  
10 studies and that would be on pages 26 to 27  
11 of your expert report -- I am sorry.

12 A. Wistar rats. It starts on 24 --  
13 anyway, OK.

14 Q. So for Lankas, we were going to  
15 talk about the kidney adenomas, you did not  
16 find increased instance of kidney adenomas  
17 with increased dose of glyphosate, correct?

18 A. That is correct.

19 Q. And then if we look at the Stout  
20 and Reucker study, the second Sprague  
21 Dawley study, it's a 24-month study you do  
22 not find an increased incidence of kidney  
23 adenomas with increased dose of glyphosate,  
24 correct?

25 A. That is correct.

1 I present that, yes.

2 Q. In your original pooled analysis,  
3 you have a p of .-- 0.997 which translates  
4 to an inverse trend with a p of .003.  
5 That's statistically significant, correct?

6 A. For negative, it has a negative  
7 trend. That is correct.

8 Q. And despite the fact that your  
9 pooling analysis finds this statistically  
10 significant inverse trend with p equal to  
11 .003, your ultimate opinion is that these  
12 studies suggest a potential for glyphosate  
13 to cause adrenal cortical tumors, correct?

14 MS. GREENWALD: Objection,  
15 form.

16 A. I concluded that because the  
17 Lankas study is 26 months instead of 24 and  
18 because the tumor rates seen in that study  
19 far exceed the others, that it doesn't  
20 belong in that pooled analysis and I made  
21 my conclusion based upon pooling the other  
22 three studies.

23 Q. Well you talk about dropping the  
24 Lankas Sprague Dawley study. You used that  
25 same approach to reach an opinion with

1 Q. If you look at the Atkinson study  
2 which is the third study for kidney  
3 adenomas in male Sprague Dawley rats, you  
4 did not find an increased incidence of  
5 kidney adenomas with increased exposure to  
6 glyphosate, correct?

7 A. That is correct.

8 Q. So three of the four. And in  
9 fact, three of the four Sprague Dawley  
10 studies did not find any kidney adenomas  
11 whatsoever in either the middle or highest  
12 glyphosate dose groups tested, correct?

13 A. I'm looking for the fourth study.  
14 I'm sorry.

15 Q. The fourth study would be  
16 table --

17 A. Table 6, and I wanted to look at  
18 that.

19 That would be correct. Three of  
20 the four did not have, by themselves, a  
21 positive finding for this tumor.

22 Q. Well, my question was a little  
23 bit different. Three of the four Sprague  
24 Dawley studies did not find any kidney  
25 adenomas whatsoever in either the high dose



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1 or middle dose glyphosate group, correct?  
 2 A. I believe that is correct. This  
 3 is a very rare tumor.  
 4 Q. But using your methodology, you  
 5 opined that that data proves that  
 6 glyphosate caused kidney adenomas in male  
 7 Sprague Dawley rats, correct?  
 8 A. I believe that's what I said and  
 9 I believe that is the case, yes.  
 10 Q. So now you dropped Lankas from  
 11 your analysis for adrenal cortical tumors  
 12 and kidney adenomas, but you highlight the  
 13 findings of Lankas with respect to other  
 14 tumors that were seen in that study?  
 15 A. In the Lankas study. Other  
 16 tumors that were seen in the Lankas study.  
 17 Q. Yes.  
 18 A. That is correct.  
 19 Q. So for example, with thyroid  
 20 C-cell tumors in female rats and in testes  
 21 interstitial tumors in male rats, those  
 22 tumors were found in the Lankas study but  
 23 not found in the other three studies,  
 24 correct?  
 25 A. That is correct.

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1 Q. And in your expert report, you  
 2 state that Lankas might be informative on  
 3 causation with respect to these tumor types  
 4 because there was a 26-month study while  
 5 the other three studies were for 24 months,  
 6 correct?  
 7 A. That is correct.  
 8 Q. You also opine, in your expert  
 9 report, that glyphosate causes thyroid  
 10 C-cell tumors in male Sprague Dawley rats,  
 11 correct? You can look at page 52 if you  
 12 want.  
 13 A. Thank you.  
 14 Thyroid C-cell adenomas and  
 15 carcinomas combined in male Sprague Dawley  
 16 rats.  
 17 Q. So the answer is yes, you do  
 18 opine that glyphosate causes thyroid C-cell  
 19 tumors in male Sprague Dawley rats,  
 20 correct?  
 21 MS. GREENWALD: Objection to  
 22 form.  
 23 A. That's what it says, correct.  
 24 Q. Now, let me mark for you your  
 25 initial expert report. We will make this

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1 32.  
 2 (Exhibit 15-32, Original Expert  
 3 Report of Dr. Christopher J. Portier  
 4 marked for identification, as of this  
 5 date.)  
 6 Q. So Exhibit 32 is the expert  
 7 report you submitted in this case in May of  
 8 2017, correct?  
 9 I'll represent to you it was  
 10 May 1, unless there is some disagreement  
 11 there.  
 12 You revised this expert report in  
 13 your July report, correct?  
 14 A. That is correct.  
 15 Q. Now, at page 53 of your May --  
 16 your first expert report. I'm sorry, not  
 17 53. 34, of your May 2017 expert report,  
 18 you're talking about the findings for  
 19 thyroid C-cell tumors, correct?  
 20 A. That is correct.  
 21 Q. And at that point in time, you  
 22 didn't have data from the Lankas study,  
 23 correct?  
 24 A. That is correct.  
 25 Q. And you concluded, based upon

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1 your analysis of the three other studies,  
 2 that there was -- the evidence is weak that  
 3 glyphosate causes thyroid C-cell tumors in  
 4 male Sprague Dawley rats. Correct?  
 5 A. That is correct.  
 6 Q. And if we go now to your revised  
 7 expert report, that same page on Exhibit --  
 8 page 34 on your revised expert report, here  
 9 you now have data from the Lankas study and  
 10 you note that pooling all four studies  
 11 yields a significant trend of p equals  
 12 .041. Correct?  
 13 A. I have to find it. I'm sorry.  
 14 That appears to be correct.  
 15 Q. So you're no longer saying that  
 16 the evidence is weak, correct?  
 17 A. That is correct. But --  
 18 Q. And that is because you're now  
 19 including the Lankas study --  
 20 MS. GREENWALD: He was  
 21 finishing a sentence.  
 22 A. That is correct. But you are  
 23 right, that is an error. This should  
 24 remain weak. This is -- this is not my  
 25 intention, I'm -- you have -- you're

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1 correct.

2 Q. So you are now opining that you

3 should not have included the Lankas study

4 in this pooling analysis?

5 A. No, I should not have concluded

6 that this was evidence -- that it should

7 have been weak or limited evidence that

8 glyphosate causes thyroid C-cell tumors. I

9 should have put that in there.

10 Q. In your revised report, to reach

11 a statistically significant finding for

12 thyroid C-cell adenomas, you included the

13 Lankas study in your pooling methodology,

14 didn't you?

15 MS. GREENWALD: Objection to

16 form.

17 A. I had done both since I did it in

18 my previous one. But here, it seems I

19 pooled all four. That is correct.

20 Q. You had pooled all three in your

21 May report and, then to reach a

22 statistically significant finding in your

23 July report, you pool all four, correct?

24 MS. GREENWALD: Objection,

25 form.

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1 A. No, no.

2 Q. You didn't pool all four studies

3 in your July expert report?

4 A. I did, but I didn't do it to

5 achieve statistical significance.

6 Q. In your rebuttal report, you also

7 discuss pooled analysis in Sprague Dawley

8 rats for skin keratoacanthomas and basal

9 cell tumors. I think this is based on page

10 6 of your report.

11 A. Which one are we looking at?

12 Q. I am sorry, your rebuttal expert

13 report. So this is 15-31.

14 A. Page 6?

15 Q. Yes.

16 A. I -- OK, what are we looking at

17 here.

18 Q. So you report that for skin

19 keratoacanthomas, you are reporting a

20 pooled finding of an increased trend for

21 increased skin keratoacanthomas for Sprague

22 Dawley rats, correct? On page 6 of your

23 rebuttal report, on the bottom, the second

24 paragraph from the end.

25 Page 6, second paragraph from the

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1 bottom, pooling the remaining new findings

2 in Sprague Dawley rats. Do you see that?

3 A. It seems that's what I did,

4 that's correct.

5 Q. Which of the four Sprague Dawley

6 rat studies did you pool for your

7 positive -- reported positive reports in

8 skin keratoacanthomas?

9 MS. GREENWALD: Objection to

10 form.

11 A. It does not say.

12 Q. I know it does not say. That's

13 why I am asking you.

14 A. I would have to go back.

15 Q. Basal cell tumors, you also

16 report a pooled finding. Which of the four

17 Sprague Dawley rat studies did you include

18 in your pooling analysis for basal cell

19 tumors?

20 A. Again, I don't know. I would

21 have to go back and look.

22 Q. Basal cell tumors, those in mice

23 are the same basal cell tumors in humans?

24 Is that a similar tumor?

25 A. It's -- it arises from the same

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1 place.

2 Q. And basal cell tumors, as I know

3 all too well, in humans are generally

4 caused by exposure to sunlight, correct?

5 MS. GREENWALD: Objection to

6 form.

7 A. Can I go back to your previous

8 question about what was pooled and correct

9 that?

10 Q. Sure.

11 A. Thank you. All four studies were

12 pooled for that evaluation.

13 Q. Is that for both the evaluations?

14 A. What was the skin

15 keratoacanthomas -- and what was the other

16 one?

17 Q. Basal cell.

18 A. Actually -- I did both poolings.

19 OK, like I did before, three and four.

20 Q. Where is your --

21 A. Table 2, page 10.

22 Q. OK. What is 3 and what's 4?

23 A. So Lankas, Ekemoto, Atkinson and

24 Stout and Reucker is Sprague Dawley rats,

25 the first big block that's pooling all

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1 four. Oh, no, I didn't show the pooled  
 2 three here, I'm sorry.  
 3 Q. You are looking Wistar rats I  
 4 think?  
 5 A. I was looking at Wistar rats.  
 6 Q. Just so the record is clear --  
 7 A. I don't have anything here that  
 8 says when I pooled -- just one minute.  
 9 I don't say here when I pooled  
 10 only three instead of the four, so I can't  
 11 answer the question.  
 12 Q. At least as reported in table 2,  
 13 you are relying upon a pooling analysis of  
 14 all four of the Sprague Dawley rat studies  
 15 including Lankas for those two tumor types?  
 16 A. I can't answer the question.  
 17 Q. Fair enough.  
 18 A. I thought I could. Sorry.  
 19 Q. Basal cell tumors, those are  
 20 caused primarily by exposure to the sun,  
 21 correct?  
 22 MS. GREENWALD: Object to  
 23 form.  
 24 A. I don't know. Skin cancers  
 25 are -- certain skin cancers are caused

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1 primarily by the sun, but I don't know if  
 2 that is a basal cell -- is the same thing.  
 3 Q. Do you know of any evidence or  
 4 can you cite to any publication that states  
 5 that an oral ingestion, eating study, of  
 6 any substance can result in a basal cell  
 7 tumor? Can cause a basal cell tumor?  
 8 A. Probably. It's well known that  
 9 rats and mice, after they eat, lick their  
 10 skin, and so it's well known that you get  
 11 some degree of absorption on the skin in  
 12 these types of studies.  
 13 Q. So your sense then would be to  
 14 the extent that there are skin tumors  
 15 reported in these studies that might be  
 16 attributed to the glyphosate, it would be  
 17 because of rats licking their skin?  
 18 A. You couldn't rule it out. It  
 19 could be either one and to give you an  
 20 example, we saw an increase in skin tumors  
 21 from oral ingestion of dioxin.  
 22 Q. And was that an oral gavage or a  
 23 feeding study?  
 24 A. It was an unusual study. I just  
 25 don't remember. It was probably an oral

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1 gavage.  
 2 Q. That would be a liquid ingestion  
 3 as opposed to a solid ingestion of the  
 4 chemical?  
 5 A. Yes, and forced into the stomach  
 6 of the animal so it would not be licking  
 7 itself and putting it on the skin.  
 8 Q. With respect to this potential  
 9 licking of the skin, you would not be able  
 10 to actually determine what the dose was for  
 11 any of the animals in these studies,  
 12 correct?  
 13 MS. GREENWALD: Objection,  
 14 form.  
 15 A. You could figure out with some  
 16 degree of accuracy an estimate of how much  
 17 was going on the skin from studies people  
 18 have done in looking at the issue. Nobody  
 19 has done that, but you probably could.  
 20 Q. But as of today, nobody has  
 21 conducted the study that would allow you to  
 22 determine what dose of glyphosate might  
 23 have been licked on to the skin of these  
 24 mice in the various treatment groups,  
 25 correct?

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1 A. That is correct.  
 2 Q. So you would not be able to come  
 3 up with any trend based upon dose of  
 4 glyphosate applied to the skin using these  
 5 studies, correct?  
 6 A. No, that's not true. Almost  
 7 certainly the dose to the skin is going to  
 8 be concentration dependent because the  
 9 animals will, on average, all do the same  
 10 amount of grooming. And so as you double  
 11 the dose, you're going to probably double  
 12 the amount that gets on the skin. So I  
 13 could do a trend test for that.  
 14 Q. Do you have any evidence of your  
 15 review of the studies that looked at the  
 16 grooming habits of these rats with respect  
 17 to whether the grooming habits were the  
 18 same across treatment groups?  
 19 A. There is no evidence either way  
 20 in almost any study about grooming habits,  
 21 it's not recorded.  
 22 Q. Let's turn to the mice, mouse  
 23 studies, mice studies, mouse studies.  
 24 You used the same pooling  
 25 methodology that you applied with the rat

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1 studies in reaching your causation opinions  
 2 in mice, correct?  
 3 A. Yes.  
 4 Q. In your rebuttal report -- again,  
 5 if you look at page 7, you state that the  
 6 observed findings of p less than .05 in  
 7 Swiss Albino mice, both male and female,  
 8 and female CD-1 mice would be consistent  
 9 with what would be expected due solely to  
 10 chance, correct?  
 11 A. I'm not sure where you are  
 12 reading at.  
 13 Q. At the bottom of page 7 in your  
 14 rebuttal report. Yeah.  
 15 A. Now, what's the question?  
 16 Q. So you state in your rebuttal  
 17 expert report that the observed findings of  
 18 p less than 0.05 trends in Swiss Albino  
 19 mice, both male and female, and female CD-1  
 20 mice are consistent with what would be  
 21 expected due solely to chance, correct?  
 22 MS. GREENWALD: Objection to  
 23 form.  
 24 A. That's not what I said.  
 25 Q. You state that in female CD-1

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1 mice and Swiss Albino mice, the expected  
 2 and observed numbers are approximately  
 3 equal, correct?  
 4 A. That is for the expected and  
 5 observed number of p values less than 0.05,  
 6 that is correct.  
 7 Q. Right. Just to be clear then,  
 8 you state in your rebuttal expert report  
 9 that the observed findings of p less than  
 10 0.05 trends in Swiss Albino mice and female  
 11 CD-1 mice are consistent with what would be  
 12 expected due solely to chance, correct?  
 13 MS. GREENWALD: Objection to  
 14 form.  
 15 A. No, that's not what I wrote. I  
 16 wrote what I wrote. It says they are  
 17 approximately equal. That is all it says.  
 18 Q. So the number of observed trends  
 19 that you saw in female CD-1 mice and in  
 20 Swiss Albino mice are approximately equal  
 21 to what you would expect to see due to  
 22 chance, correct?  
 23 MS. GREENWALD: Objection,  
 24 form, asked and answered.  
 25 A. I answered it.

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1 Q. Is that correct?  
 2 MS. GREENWALD: Objection,  
 3 same two objections.  
 4 A. I answered the question already.  
 5 Q. I am going to ask it again  
 6 because I don't believe you did.  
 7 In female CD-1 mice and Swiss  
 8 Albino mice, the number of trends you would  
 9 expect to see due to chance and the number  
 10 of trends you, in fact, did see are  
 11 approximately equal, correct?  
 12 MS. GREENWALD: Objection,  
 13 form.  
 14 A. That is correct.  
 15 Q. Now, based upon your pooling  
 16 methodology, you opine that glyphosate  
 17 causes a number of tumors in CD-1 mice,  
 18 correct?  
 19 A. Due to the data I'm looking at,  
 20 which includes the pooling analysis and the  
 21 individual analysis and other things, I am  
 22 convinced that a number of tumors in the  
 23 CD-1 mouse are positive.  
 24 Q. So your causation opinion with  
 25 respect to CD-1 mice is looking at four

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1 studies, correct?  
 2 MS. GREENWALD: Objection,  
 3 form.  
 4 Q. The four mouse studies?  
 5 MS. GREENWALD: Objection,  
 6 form.  
 7 A. There are four mouse studies that  
 8 were acceptable for use in the causation  
 9 evaluation, that is correct.  
 10 Q. And two of the studies were 18  
 11 months in duration and two of them were 24  
 12 months in duration, correct?  
 13 A. That is correct.  
 14 Q. In your pooling analysis, you  
 15 conduct pooling of the two 18-month studies  
 16 and then you conduct pooling of the two  
 17 24-month studies and you also conduct  
 18 pooling of all four studies combined?  
 19 MS. GREENWALD: Objection to  
 20 form.  
 21 A. I don't know that I did all four  
 22 studies combined all the time, but I  
 23 probably pooled them all the time in all  
 24 four as well.  
 25 Q. If your pooling methodology

1 reported a positive trend for tumor type in  
 2 any one of those three pooled analyses, you  
 3 ultimately opined that the glyphosate  
 4 causes that type of tumor in CD-1 mice,  
 5 correct?

6 MS. GREENWALD: Object to  
 7 form.

8 A. No.

9 Q. Are there any tumor types that  
 10 resulted in a positive trend in either the  
 11 18-month studies or 24-month study or the  
 12 four studies combined that you do not opine  
 13 was caused by glyphosate?

14 MS. GREENWALD: Objection,  
 15 form.

16 A. You've lost me a little bit  
 17 there. I would have to look. I'm sorry.  
 18 I'd have to look carefully.

19 My guess would be, looking at  
 20 it -- no, I'd have to look. I'm sorry, I  
 21 can't guess.

22 Q. Now, in connection with -- strike  
 23 that.

24 When you look at the 24-month  
 25 study through your pooling methodology, you

1 the two 24-month studies are pooled,  
 2 correct?

3 A. That is correct.

4 Q. And there is no positive trend  
 5 when all four studies are pooled, correct?

6 A. It's a marginal trend, but it's  
 7 not statistically significant at the .05  
 8 level.

9 Q. And you opine through this  
 10 analysis that the data establishes that  
 11 glyphosate causes malignant lymphoma in  
 12 male CD-1 mice, correct?

13 MS. GREENWALD: Objection to  
 14 form.

15 A. My opinion is glyphosate causes  
 16 malignant lymphoma in male CD-1 mice.

17 Q. When you applied your pooling  
 18 methodology so the data on hemangiosarcomas  
 19 in male CD-1 mice from the two 24-month  
 20 studies, you likewise do not find an  
 21 increased trend, correct?

22 A. It doesn't reach the level of  
 23 statistical significance, that is correct.

24 Q. Now, in your expert report -- and  
 25 this is at page, your initial expert

1 did not find an increased trend for any  
 2 type of tumor in CD-1 mice, correct?

3 A. I would have to look at it and  
 4 make sure of that.

5 Q. So why don't we look at page 11  
 6 of your revised expert report.

7 A. OK.

8 Q. I am sorry, not your revised.  
 9 Your rebuttal.

10 A. Rebuttal.

11 Q. We were on the same page  
 12 physically and mentally.

13 A. So looking at the mouse studies  
 14 here, none of them reached a level of  
 15 statistical significance. That is correct.  
 16 They -- one of them is marginally, two of  
 17 them are marginally -- no. One, one is  
 18 marginally significant.

19 Q. For example, for malignant  
 20 lymphoma in male CD-1 mice, your pooling  
 21 methodology reports a positive trend when  
 22 the two 18-month studies were pooled,  
 23 correct?

24 A. That is correct.

25 Q. There is no positive trend when

1 report, the revised one, 15-30, at page 48,  
 2 you suggest another approach in analyzing  
 3 those two studies for hemangiosarcomas and  
 4 first I want to make sure that you are on  
 5 page 48?

6 A. Yes, I am.

7 Q. The top for hemangiosarcomas in  
 8 male and pooling the two 18-month studies  
 9 and then pooling the two 24-month studies,  
 10 correct?

11 A. That's correct.

12 Q. And you note, again, pooling the  
 13 two 24-month studies did not result in a  
 14 statistically significant increased trend  
 15 for hemangiosarcomas, correct?

16 A. That is correct.

17 Q. Then you state if you were to  
 18 remove the findings in the high dose group  
 19 in one of the 24-month studies and then  
 20 pool the two 24-month studies without the  
 21 high dose group, then your pooling of the  
 22 24-month studies would be a statistically  
 23 significant increased trend, correct?

24 A. I note that there is an aberrant  
 25 result in the highest dose of the Knezevich

1 and Hogan study and I looked at the  
 2 sensitivity of the pooled analysis to  
 3 removal of that aberrant result.  
 4 Q. And now if you followed the same  
 5 methodology and ignored the findings of  
 6 hemangiosarcoma in the highest dose group  
 7 of the highest dose group of the Atkinson  
 8 study or the Wood study your pooling  
 9 methodology would not have resulted in any  
 10 trend for hemangiosarcomas in the 18-month  
 11 study, correct?  
 12 MS. GREENWALD: Objection to  
 13 form.  
 14 A. That's possibly true, yes.  
 15 Q. You also conducted -- you don't  
 16 present that data though in your expert  
 17 report?  
 18 A. This is a -- this is the pooling  
 19 evaluation here. There is reason -- that's  
 20 just simply an observation on my part.  
 21 That is all it is. This is not used as  
 22 part of my overall evaluation.  
 23 Q. It was important enough for you  
 24 to put it in your expert report?  
 25 A. Because I did it.

1 Q. But you didn't do the same  
 2 analysis removing the high dose group from  
 3 either Atkinson or Wood studies, correct?  
 4 A. I saw no reason to do it.  
 5 Q. That would not have resulted in a  
 6 positive trend, would it have?  
 7 MS. GREENWALD: Objection,  
 8 form, asked and answered.  
 9 A. I do not know, but I saw no  
 10 reason to do it.  
 11 Q. In fact, it would have removed a  
 12 trend that you wanted to rely upon,  
 13 wouldn't it?  
 14 MS. GREENWALD: Objection,  
 15 asked and answered, form.  
 16 Q. You don't know?  
 17 A. I -- first, I don't know if it  
 18 would remove the trend. Probably it would.  
 19 But that's not the point here. The reason  
 20 for pooling -- for looking at it here is  
 21 the classic things you do. It's a  
 22 sensitivity analysis to see how sensitive  
 23 the findings are to what appears to be an  
 24 aberrant result. That was all that was  
 25 done here. And it seemed to be very

1 sensitive to that high dose point.  
 2 Q. You conducted a historical trend  
 3 analysis for hemangiosarcomas in male mice  
 4 in the Sugimoto study, correct? That's  
 5 page 42 of your initial or July 2017  
 6 report, 15-30.  
 7 A. Yes, it starts on page 41. OK.  
 8 Q. So you calculated that while the  
 9 concurrent control trend -- you calculated  
 10 that while the concurrent control trend  
 11 analysis for hemangiosarcomas in male mice  
 12 in Sugimoto is not statistically  
 13 significantly increased, you did find a  
 14 significant increase in your historical  
 15 trend analysis, correct?  
 16 A. For hemangiosarcomas, the trend  
 17 test was marginally significant and  
 18 historical control evaluation was  
 19 significant.  
 20 Q. That p trend, that p hist. trend  
 21 is listed as one of your statistically  
 22 significant trends in your table 15,  
 23 correct?  
 24 MS. GREENWALD: Objection,  
 25 form.

1 A. Yes, that is correct.  
 2 Q. Now, hemangiosarcomas are one of  
 3 those types of tumors that you have stated  
 4 must be combined as systemic tumors,  
 5 correct?  
 6 A. Yes, that is correct.  
 7 Q. So whether hemangiosarcomas in  
 8 the liver or kidney or in the spleen, for  
 9 the purposes of the trend analysis, they  
 10 are all grouped together, correct?  
 11 A. No, they -- from what I  
 12 understand, they group it slightly  
 13 differently than that. I'm sorry. I have  
 14 to go and try to figure it out myself, but  
 15 I don't know exactly.  
 16 But they tend not to pool liver  
 17 and kidney hemangiosarcomas with the other  
 18 hemangiosarcomas, I think it has something  
 19 to do with the origin of the cells for the  
 20 hemangiosarcoma.  
 21 Q. So is it your understanding then,  
 22 in reporting hemangiosarcomas, you would  
 23 separately analyze, for trend analysis,  
 24 liver and kidney -- I am sorry, which one  
 25 did you say it was?

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1 A. I think it is liver and kidney,  
 2 but I would ask my pathologist first. I  
 3 would trust him to tell me how to combine  
 4 these things.  
 5 Q. For the Sugimoto study then, is  
 6 it your understanding that the  
 7 hemangiosarcomas that you found were not in  
 8 the liver or kidney?  
 9 A. I don't honestly know. I -- I  
 10 can't be absolutely certain. You asked me  
 11 about systemic tumors and combining them.  
 12 But in this case, I have no clue.  
 13 Q. So for the purposes of the  
 14 historical trend analysis then for the  
 15 Sugimoto study for hemangiosarcomas to find  
 16 a historical incidence of hemangiosarcomas  
 17 then, you would look at all the  
 18 hemangiosarcomas in controlled animals in  
 19 the historical database?  
 20 A. That you -- yes, you look at all  
 21 the historical hemangiosarcomas in the  
 22 historical controlled database, that is  
 23 correct.  
 24 Q. Now, you note in your report that  
 25 the historical control rate for

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1 hemangiosarcomas based on Giknis and  
 2 Clifford is zero out of 1424, correct?  
 3 Actually, you have two different  
 4 numbers. Zero, 1424 on your footnote, and  
 5 I think you have zero out of 1149 in your  
 6 text. One of those two, right?  
 7 A. Yeah, it's one of those two. I'm  
 8 sorry.  
 9 Q. The key point that you're making  
 10 here is the fact that hemangiosarcomas was  
 11 never seen in historical controls should  
 12 strongly support any positive finding as in  
 13 the Sugimoto study as being significant  
 14 correct?  
 15 A. Biologically significant, that is  
 16 correct.  
 17 Q. Let's take a look at the Giknis  
 18 and Clifford report.  
 19 (Exhibit 15-33, report entitled,  
 20 "Spontaneous Neoplastic Lesions in the  
 21 Crl:CD1 Mouse" marked for  
 22 identification, as of this date.)  
 23 Q. This is the source of your  
 24 information on historical control for  
 25 hemangiosarcomas, correct?

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1 MS. GREENWALD: Objection to  
 2 form.  
 3 A. This is the Giknis and Clifford  
 4 paper that I referenced, yes.  
 5 Q. Let's take a look at table 5 on  
 6 page 21 and 22. Actually, first of all,  
 7 just to set the stage, on page 5 of this  
 8 report they have a summary of the  
 9 individual studies and information,  
 10 correct? So this identifies the 18-month  
 11 study and 24-month studies, correct?  
 12 A. That is correct.  
 13 Q. So studies 1 through 26, those  
 14 are the 18-month studies, correct?  
 15 A. That -- yes, that is correct.  
 16 Q. And those are the -- that's the  
 17 data set we would be looking at for this  
 18 historical control?  
 19 A. I believe so, yes.  
 20 Q. If we looked at pages 21 and 22,  
 21 this has the instance of neoplasm by study  
 22 for selected organs in males, correct? So  
 23 these are the male historical database?  
 24 Historical controls?  
 25 A. That is correct.

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1 Q. And you, in coming up with your  
 2 statement that there were no  
 3 hemangiosarcomas in these historical  
 4 controls, you were looking at the whole  
 5 body, multiple organ line, third from the  
 6 bottom, correct?  
 7 A. That is correct.  
 8 Q. There is another line item for  
 9 hemangiosarcomas in the liver, correct?  
 10 A. That is correct.  
 11 Q. And there were, in fact, 12  
 12 historical control animals in the 18-month  
 13 studies with hemangiosarcomas in the liver,  
 14 correct?  
 15 A. That is correct.  
 16 Q. And again, you don't know with  
 17 Sugimoto whether the hemangiosarcomas were  
 18 in the liver or other organs, correct?  
 19 MS. GREENWALD: Objection,  
 20 form.  
 21 A. Typically it's whole body  
 22 hemangiosarcomas, but I can't be certain  
 23 exactly what they did.  
 24 Q. So for determining what the  
 25 historical control instances of

1 hemangiosarcomas, we should be looking --  
 2 including these 12 hemangiosarcomas in the  
 3 liver, correct?

4 MS. GREENWALD: Objection,  
 5 form.

6 A. No. I would not recommend that.  
 7 The typical pathological approach is whole  
 8 body hemangiosarcomas, and from my  
 9 understanding, that is what we were  
 10 analyzing.

11 Q. And you would not include liver  
 12 hemangiosarcomas. Is that your  
 13 understanding?

14 MS. GREENWALD: Objection,  
 15 asked and answered.

16 A. That is my understanding, but the  
 17 only way to verify that is if I have the  
 18 individual animal pathology data.

19 Q. You don't have that for Sugimoto?

20 A. Is that a Monsanto study? No, I  
 21 don't have it.

22 Q. Are there any other organs where  
 23 hemangiosarcomas would not be included in  
 24 the historical control rate?

25 A. You really have to ask that

1 were in the 12-month study -- I'm sorry,  
 2 the 18-month study and how many were in the  
 3 24-month study, correct?

4 A. That is correct.

5 Q. Is it your -- to the extent that  
 6 there were spleen hemangiosarcomas in  
 7 18-month historical controls, should  
 8 that -- those hemangiosarcomas be included  
 9 in your historical control incidence for  
 10 Sugimoto?

11 MS. GREENWALD: Objection to  
 12 form.

13 A. You would really have to ask a  
 14 pathologist.

15 Q. So you don't know one way or the  
 16 other?

17 A. I don't know one way or the other  
 18 what Sugimoto did. All I know, he  
 19 characterized it the way he characterized  
 20 it.

21 Q. In the Giknis paper, Giknis and  
 22 Clifford paper also reports on  
 23 hemangiosarcomas in other tissues. It  
 24 reports hemangiosarcomas in the testes, in  
 25 the skin, in the pancreas, and in the lymph

1 question of the pathologist.

2 Q. Let's look at table 3 in the  
 3 Giknis and Clifford report. And  
 4 specifically at page 12.

5 Now, this has data for all 46 of  
 6 the studies, it doesn't break it out, but  
 7 for the spleen, there are 28  
 8 hemangiosarcomas in these studies, correct?

9 A. That's what it says.

10 Q. Just to put this in context, page  
 11 9, they report the data for liver  
 12 hemangiosarcomas, correct?

13 A. Yes, they do.

14 Q. So there were 29 hemangiosarcomas  
 15 in the liver in the control animals in the  
 16 46 studies, correct?

17 A. That's what it says.

18 Q. And we know from table 5 that 12  
 19 of those were in the 18-month studies,  
 20 correct?

21 A. Twelve of the 29 were in the  
 22 18-month studies, that is correct.

23 Q. And with the spleen, we know we  
 24 have 29 hemangiosarcomas among all 46  
 25 studies, but we don't know how many of them

1 nodes. And if you want you can go through  
 2 the page 11, 12, and 13, you will see  
 3 listings of the other hemangiosarcomas.

4 To the extent that those  
 5 hemangiosarcomas appeared in the 18-month  
 6 studies, do you know if those should be  
 7 included in your historical control rate  
 8 for Sugimoto?

9 A. I can't know how many of those  
 10 appeared in the 18-month studies from this  
 11 document. So I can't -- I can't answer the  
 12 question in reality.

13 Q. And so then would it be fair to  
 14 say that you, without additional  
 15 information that you do not have, cannot  
 16 state what the appropriate historical  
 17 control rate for hemangiosarcomas should be  
 18 for the Sugimoto study?

19 MS. GREENWALD: Objection,  
 20 form.

21 A. No, I can tell you what is  
 22 characterized -- we can look up what OECD  
 23 requires for this tumor, for this  
 24 combination, if they require something for  
 25 this combination, and that could be looked



<p style="text-align: right;">Page 250</p> <p>1 at here assuming that Sugimoto followed 2 OECD guidelines. 3 I don't -- I know he followed the 4 OECD guidelines. I just haven't looked at 5 the issue. 6 Q. Do you know if the 7 hemangiosarcomas in Sugimoto were in the 8 liver or spleen or testes or the pancreas 9 or any other tissues where hemangiosarcomas 10 were found in the control animals? 11 MS. GREENWALD: Objection, 12 asked and answered. 13 A. The hemangiosarcomas were 14 characterized as whole body 15 hemangiosarcomas which is the same 16 characterization in this document for a 17 specific class of tumors. 18 Q. I asked a different question. 19 Do you know if the 20 hemangiosarcomas in the Sugimoto study, the 21 two hemangiosarcomas, do you know in what 22 tissue of the animal they occurred? 23 MS. GREENWALD: Objection, 24 form, asked and answered. 25 A. Again, they were characterized as</p>	<p style="text-align: right;">Page 252</p> <p>1 page 38 of your report. 2 A. Page 38. Knezevich and Hogan. 3 Q. So now we are talking about 4 hemangiomas in female CD-1 mice and the 5 first question is for the Knezevich study, 6 there was no finding of an increased trend 7 in hemangiomas in female CD-1 mice, 8 correct? 9 A. That's correct. 10 Q. In fact, the trend is above .5 so 11 it actually leans in the negative 12 direction, correct? 13 MS. GREENWALD: Objection to 14 form. 15 A. Hard to say. 16 Q. The Atkinson study, and this is 17 reported on page 39, likewise does not find 18 evidence of an increased risk of hemangioma 19 in female CD-1 mice, correct? 20 A. That is correct. 21 Q. The Wood study on page 41, 22 likewise, does not find evidence of an 23 increased trend in hemangiomas in female 24 CD-1 mice, correct? 25 A. The Wood study, given the</p>
<p style="text-align: right;">Page 251</p> <p>1 whole body hemangiosarcomas. I do not know 2 what tissue they came in, but they fell in 3 that general category. 4 Q. If they were in the liver -- 5 A. They wouldn't be a whole body 6 hemangiosarcoma. 7 Q. That's your understanding? 8 A. That's my understanding. Since 9 Giknis and Clifford come from a contract 10 lab that does these types of things all the 11 time, I'm assuming that is a common 12 classification for a category of tumors, 13 multiorgan -- multiorgan hemangiosarcoma. 14 Q. You separately opine that 15 glyphosate causes these hemangiomas in 16 female CD-1 mice, correct? 17 MS. GREENWALD: Objection, form. 18 A. The data supports a finding of me 19 hemangiomas in female whatever it was. 20 Q. CD-1 mice? 21 A. CD-1 mice. I'm sorry there is so 22 many things here. 23 Q. Let's walk through the findings 24 for this tumor type for the four CD-1 mouse 25 studies. The first is Knezevich study,</p>	<p style="text-align: right;">Page 253</p> <p>1 historical controls, I would say it does 2 show -- 3 Q. On page 41? 4 A. I don't have -- you're right, 5 you're right, my mistake. There is no 6 significant trend here, positive trend. 7 That is correct. 8 Q. So the one study in CD-1 mice 9 that you find with an increased trend and 10 what forms the basis of your pooled 11 analysis finding is the Sugimoto study 12 which you report on page 42, correct? 13 A. The Fujimoto study when -- 14 Q. Sugimoto. 15 A. Sugimoto, when combined with the 16 Wood, et al., study has a significant 17 increase in hemangiomas combined. And then 18 the Wood study itself is also significant 19 for hemangiomas. 20 Q. You mean the Sugimoto? 21 A. Sugimoto, God. Sorry, long day. 22 Q. Three of the four CD-1 mice 23 studies do not find any evidence of an 24 increased risk of hemangiomas in CD-1 25 female mice, correct?</p>

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1 A. The 24-month studies have to be  
 2 handled differently than the 18-month  
 3 studies. So in the 18-month studies, you  
 4 have one positive study and one study  
 5 without a positive trend.  
 6 The study without the positive  
 7 trend has a lower exposure and the highest  
 8 exposure group. The study with the  
 9 positive trend has higher doses.  
 10 When you combine them together  
 11 with the doses and the responses, you  
 12 maintain a significant response. That's  
 13 what the data tells you.  
 14 Q. Dr. Portier, that was not my  
 15 question.  
 16 There are four CD-1 mouse  
 17 studies, correct?  
 18 A. There are four CD-1 mouse  
 19 studies.  
 20 Q. The two 24-month studies do not  
 21 report any positive trend with hemangiomas  
 22 in female mice, correct?  
 23 A. That is correct.  
 24 Q. The Wood 18-month does not find  
 25 any increased trend in hemangiomas in

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1 female CD-1 mice, correct?  
 2 A. It -- it found some, but not an  
 3 increase, that is correct.  
 4 Q. So the only CD-1 mouse study that  
 5 found any increased trend of hemangiomas in  
 6 female CD-1 mice was the Sugimoto study,  
 7 right?  
 8 A. That is correct.  
 9 Q. And using -- if you had followed  
 10 that same methodology that you followed in  
 11 doing your sensitivity analysis for  
 12 hemangiosarcomas and you knocked off the  
 13 aberrant finding in that high dose group in  
 14 one of the studies, you would not have  
 15 found any increased trend for hemangiomas  
 16 in any of the CD-1 mice studies, correct?  
 17 MS. GREENWALD: Objection,  
 18 form.  
 19 A. If, individually, one study at a  
 20 time, I had knocked this off, then this  
 21 significant finding might go away probably.  
 22 No, it would go away, it would not be  
 23 there.  
 24 Q. So if you followed the same  
 25 sensitivity analysis methodology that you

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1 used for hemangiosarcomas, you could look  
 2 at the hemangiomas and conclude there was  
 3 no increased trend for hemangiomas,  
 4 correct?  
 5 MS. GREENWALD: Objection to  
 6 form.  
 7 A. That is not true.  
 8 Q. Did you do a sensitivity analysis  
 9 knocking off the high dose group in  
 10 Sugimoto the way that you knocked out the  
 11 high group in Knezevich for  
 12 hemangiosarcomas?  
 13 MS. GREENWALD: Objection to  
 14 form.  
 15 A. I have done that analysis. For  
 16 some of the presentations I had where the  
 17 regulatory agencies were saying that the  
 18 doses were too high. And I believe I have  
 19 an example in there where there is -- well,  
 20 this is hemangiomas, they didn't have them  
 21 at the time. I haven't done the analysis,  
 22 no.  
 23 Q. You opine that glyphosate causes  
 24 kidney tumors in male CD-1 mice, correct?  
 25 A. I believe, yes. That is correct.

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1 Q. Now, neither of the 24-month CD-1  
 2 mouse studies reports a statistically  
 3 significant increased trend for kidney  
 4 tumors in male CD-1 mice, correct?  
 5 A. OK, let's see. That would be  
 6 tables 9 and 10. Kidney hemangiomas,  
 7 kidney sarcomas, the 24-month studies?  
 8 Q. Yes, that would be Knezevich and  
 9 Atkinson.  
 10 A. Knezevich using historical  
 11 control test is significant.  
 12 Q. We are going to go to concurrent  
 13 control. We will get to historical control  
 14 in a second.  
 15 My question is with respect to  
 16 statistically significant trends which  
 17 would be p less than .05, neither of the  
 18 24-month CD-1 studies report a  
 19 statistically significant increased trend  
 20 for kidney tumors in male CD-1 mice,  
 21 correct?  
 22 A. If significance is defined as  
 23 0.05, that is correct.  
 24 Q. In its monograph for working  
 25 group 112, the IARC working group stated

1 that the finding for Knezevich was  
2 statistically significant to the p equals  
3 .05 level, correct?

4 A. I'd have to look. I'm sorry.

5 Q. Do you recall that there was a  
6 calculation that was conducted using the  
7 approximate trend test?

8 A. That, I do recall. The decision  
9 was twofold, but yes.

10 Q. And the IARC monograph, the IARC  
11 working group, using the approximate trend  
12 test, reported that the findings for kidney  
13 tumors in Knezevich was statistically  
14 significant at p equals .05, correct?

15 A. For the trend test, yes, that is  
16 correct.

17 Q. Your analysis now is that the  
18 Knezevich study does not have a p less than  
19 0.05 trend for kidney tumors, correct?

20 MS. GREENWALD: Objection,  
21 form. That's not his testimony.

22 A. It -- could you say it again? I  
23 don't know --

24 Q. Your expert analysis now is that  
25 the Knezevich study for renal tumors does

1 A. That's not true.

2 Q. I'm sorry. Top of page 37, I am  
3 reading, "I will use the study by Giknis  
4 and Clifford 2000 since it best covers the  
5 range of studies we have for CD-1 mice,  
6 correct?"

7 A. It says that. But before that,  
8 it says, "These studies have virtually  
9 identical rates for the important tumor  
10 seen in CD-1 mice," which refers to not one  
11 historical control but three.

12 Q. OK, but for the purposes of your  
13 historical trend analysis, for the  
14 Knezevich and Hogan study, for kidney  
15 adenomas and carcinomas, you used a  
16 historical rate from Giknis and Clifford,  
17 correct?

18 A. That is for kidneys?

19 Yes, that is correct.

20 Q. And you agree that in any  
21 analysis using historical controls, the  
22 data should be from studies in the same  
23 time frame, for the same animal strain,  
24 preferably from the same laboratory or same  
25 supplier, and preferably reviewed by the

1 not report a p less than .05 finding,  
2 correct?

3 MS. GREENWALD: Same  
4 objection.

5 A. The p-value is reported in that  
6 study from the exact test and that p-value  
7 is not less than 0.05. But I do report the  
8 p-value.

9 Q. Yes, I understand.  
10 the -- you've been talking about  
11 the historical trend analysis for  
12 Knezevich, for renal tumors. Just  
13 mentioned that, correct?

14 A. Correct.

15 Q. And in your p hist. analysis for  
16 the Knezevich study, you again rely upon  
17 the data from that 2000 report by Giknis  
18 and Clifford, correct?

19 A. I would have to look.

20 Q. It's page 37 of your --

21 A. Give me a moment, please.

22 So 36 onward on to 37?

23 Q. Yes. We were talking about  
24 historical control data and you use Giknis  
25 and Clifford?

1 same pathologist, correct?

2 MS. GREENWALD: Objection,  
3 form.

4 A. If possible. And when possible,  
5 that would be assuming that the historical  
6 control data set is a valid and useful data  
7 set, that would probably be the best  
8 approach.

9 Q. You also agree that historical  
10 control data should be taken from studies  
11 that are of the same duration as the study  
12 in interest, correct?

13 A. Where possible, absolutely.

14 Q. And as a general matter, you  
15 would expect a higher incidence of tumors  
16 in historical controls as the duration of  
17 the study increases, correct?

18 A. On average, yes.

19 Q. So all things being equal, you  
20 would want to use 24-month study,  
21 historical control data, to compare to a  
22 24-month study, correct?

23 A. All things being equal, yes, if  
24 you could get it.

25 MS. GREENWALD: When there is

1 a natural breaking point, I need a  
2 comfort break.  
3 MR. LASKER: This would be right  
4 now is fine.  
5 MS. GREENWALD: I don't want  
6 to -- is now OK?  
7 MR. LASKER: Now is perfectly  
8 fine.  
9 THE VIDEOGRAPHER: The time is  
10 3:03 p.m.  
11 (Recess)  
12 THE VIDEOGRAPHER: The time is  
13 3:18 p.m. We are on the record.  
14 BY MR. LASKER:  
15 Q. Dr. Portier, let's go back to  
16 that Giknis and Clifford 2000 report. It's  
17 right on the top of your pile there. Left  
18 hand. There it is.  
19 And this, again, is the source of  
20 the historical control data that you used  
21 for your p-hist. analysis of the Knezevich  
22 kidney tumor findings, correct?  
23 A. This is the source of the mean  
24 historical control response that was  
25 applied in the analysis that appears in the

1 paper.  
2 It's not the only historical  
3 controls group I looked at.  
4 Q. But just to be clear, this is the  
5 source of the data that you used for your  
6 p-hist. analysis of the kidney tumors in  
7 Knezevich, correct?  
8 A. That -- in the published  
9 document, yes, that is correct.  
10 Q. Where did you get, by the way --  
11 strike that.  
12 The Charles River posts its  
13 historical trend data on its website,  
14 correct? That's where you got this?  
15 For example, this 2000 report is  
16 right on their website, correct?  
17 A. Whatever it says in my references  
18 is where I got this from. It is a website.  
19 Or does it even say? Let's see.  
20 Giknis and Clifford, which one is that?  
21 But anyway, I believe it is their  
22 website, that is correct.  
23 Q. So this report provides  
24 historical control data, and it's on page 1  
25 from 51 studies initiated between January

1 1987 and December of 1996, correct?  
2 That's by a common study  
3 parameters on the top on page 1?  
4 Page 1, common study parameters,  
5 the 51 studies included?  
6 A. Oh, yes, there it is. Thank you.  
7 Q. Were initiated between January  
8 1987 and December of 1996, correct?  
9 A. That is correct.  
10 Q. So this is -- the Knezevich study  
11 was a two-year study, completed report in  
12 1983, so these studies in this 2000 report  
13 for the historical control data were all  
14 initiated maybe 6 to 16 years after the  
15 Knezevich study, correct?  
16 MS. GREENWALD: Objection, form.  
17 A. They were after the Knezevich and  
18 Hogan study, that is correct.  
19 Q. Between 6 and 16 years after,  
20 correct?  
21 A. Probably, yes.  
22 Q. And if it was available, you  
23 agree that it would be more reliable to use  
24 historical control data for studies  
25 conducted closer in time to Knezevich,

1 correct?  
2 MS. GREENWALD: Objection, form.  
3 A. Not necessarily correct.  
4 Q. If you had a choice between  
5 historical control data in CD-1 mice for  
6 Charles River, for example, that was closer  
7 in time to the Knezevich study, you would  
8 like to look at that historical control  
9 data, correct?  
10 A. I would look at it, but I would  
11 have to evaluate whether I thought it was  
12 better or worse than this particular  
13 dataset.  
14 Q. Have you looked at any Charles  
15 River data to determine whether they have  
16 data on historical controls for a time  
17 period closer to Knezevich?  
18 A. I didn't find them.  
19 If I had, I would have used them  
20 probably.  
21 Q. In fact, in your submission to  
22 regulators --  
23 A. I will point out that the  
24 regulators use this as well, as well as  
25 your expert.

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1 Q. In your submission to regulators,  
 2 you have stated that attempting to compare  
 3 animals ranging over 16 years for  
 4 historical control data is inappropriate  
 5 because of the known drift in strains over  
 6 time, correct?  
 7 A. I probably said something like  
 8 that, that is correct.  
 9 Q. Now, the historical control data  
 10 that you use in your analysis, your p-hist.  
 11 analysis in your expert report is listed on  
 12 page 10 of the Giknis and Clifford paper,  
 13 1533, correct?  
 14 A. What are we looking at here?  
 15 Q. This is the kidney historical  
 16 control data. It's the third tumor typed  
 17 down on page 10, kidney.  
 18 A. I'm sorry, I have to make sure  
 19 that kidney is not one of the one where  
 20 they give the individual tumor incidence?  
 21 They do not.  
 22 Yes, that is it.  
 23 Q. And if you look at this data, you  
 24 have .37 for kidney adenomas and .16 for  
 25 adenocarcinomas, total is .43. And that

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1 is, I believe, the historical control data  
 2 that you used for your p-hist. analysis or  
 3 the number that you use for your historical  
 4 controls, correct?  
 5 A. I use .27 for the kidney  
 6 adenomas, .15 is what it says here for the  
 7 kidney carcinomas --  
 8 Q. We will give you that one.  
 9 A. -- and then the joint historical  
 10 rate is .44 percent.  
 11 Q. Now, for this historical control  
 12 data, that would be a mix of 24-month and  
 13 18-month studies --  
 14 A. That is correct.  
 15 Q. -- from the Giknis paper?  
 16 So to the extent it includes the  
 17 18-month study -- well, you would agree if  
 18 you had the data broken down, it would be  
 19 more reliable to use historical control  
 20 data drawn solely from 24-month studies,  
 21 correct?  
 22 MS. GREENWALD: Object to form.  
 23 A. If the -- this is a 24-month  
 24 study, I would prefer to have 24 month only  
 25 historical controls.

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1 Q. Now, the Charles River website,  
 2 I've gone to that website and it does have  
 3 an earlier report.  
 4 MR. LASKER: So let's mark that  
 5 as the next in line.  
 6 (Exhibit 15-34, Charles River  
 7 report dated March of 1995, marked for  
 8 identification, as of this date.)  
 9 spontaneous neoplastic lesions in the  
 10 CD-1BR mouse marked for identification,  
 11 as of this date.)  
 12 Q. This is a report dated March 1995  
 13 prepared for Charles River Laboratory by  
 14 Dr. Lang, correct?  
 15 A. That seems to be what it says.  
 16 Q. If you look at page 4, it has a  
 17 listing of the different studies -- CD-1  
 18 mouse studies used to obtain historical  
 19 control data, correct?  
 20 A. That is correct.  
 21 Q. And there are ten 24-month  
 22 studies in CD-1 mice that were used in  
 23 generating historical control data,  
 24 correct?  
 25 A. That is correct.

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1 Q. The ten studies were initiated  
 2 between 1981 and 1990, correct?  
 3 A. No, 1983 --  
 4 Q. Look at --  
 5 A. I am sorry. Yes, 1981 and 1990,  
 6 correct.  
 7 Q. So these studies were initiated  
 8 between 1981 and 1990, correct?  
 9 A. That is correct.  
 10 Q. So this covers the time period of  
 11 Knezevich and then forward a period of  
 12 years, correct?  
 13 A. That is correct.  
 14 Q. And on page 23 of this report, we  
 15 have data broken down just for the 24-month  
 16 CD-1 mice studies, correct?  
 17 A. This might not cover Knezevich.  
 18 I'm sorry, I want to correct my previous  
 19 answer.  
 20 It partially covers Knezevich,  
 21 but because of the length of time it takes  
 22 to run a study, Knezevich probably started  
 23 in 1979 or so.  
 24 Q. These studies are closer in time  
 25 to Knezevich certainly than the studies in

<p style="text-align: right;">Page 270</p> <p>1 the Giknis and Clifford 2000 report, 2 correct? 3 A. Correct. 4 Q. And on page 23, the Lang report 5 sets forth historical control data 6 specifically for the 24-month CD-1 mouse 7 studies, correct? 8 A. That's what table C1 says. 9 Q. And on page 24, they report the 10 historical control data for kidney tumors, 11 correct? 12 A. Renal adenomas and renal cell 13 carcinomas are reported, that is correct. 14 Q. And the historical control data 15 reported in these studies, 24-month 16 studies, closer to time to the Knezevich 17 study, report a mean historical control 18 rate for kidney tumors, adenomas and 19 carcinomas combined, of 2.3 percent, 20 correct? 21 MS. GREENWALD: Objection, form. 22 A. Maybe. When you combine them, 23 you could have multiple adenomas and 24 carcinomas in the same animal, so you would 25 have -- the highest it would be would be</p>	<p style="text-align: right;">Page 272</p> <p>1 closer to time to Knezevich is more than 2 five times greater than the historical 3 control rate that you used for your p-hist. 4 trend analysis, correct? 5 MS. GREENWALD: Objection, form. 6 A. That were used by me and the EPA 7 and EFSA, and that is correct. 8 Q. And to be fair, EPA and EFSA did 9 not conduct a p-hist. trend analysis, 10 correct? 11 A. That is correct. 12 Q. You are the only one who has 13 conducted a p-hist. trend analysis, 14 correct? 15 MS. GREENWALD: Objection to 16 form. 17 A. For these data, that is correct. 18 Q. And the historical control rate 19 that you used to conduct that p-hist. 20 analysis is five times lower than the 21 historical control rate reported in this 22 Lang 1995 study that covers CD-1 mouse 23 studies of the same duration and closer in 24 time to the Knezevich study, correct? 25 MS. GREENWALD: Objection, form.</p>
<p style="text-align: right;">Page 271</p> <p>1 2.3 percent. It could be as low as 1.34 2 percent for the combined. 3 Q. The data that you used from the 4 2000 Giknis report to get your combined 5 data, you added the incidence from the 6 adenomas and the carcinomas in the 2000 7 Giknis and Clifford report. 8 We just went through that, 9 correct? 10 A. Yes, I did it -- correct. 11 Q. For this data, using the same 12 methodology that you used to come up with a 13 historical control rate for your Knezevich 14 paper, the historical control rate is 15 actually about five times greater than the 16 control rate that you used for your p-hist. 17 trend analysis, correct? 18 A. It is 2.3 percent. 19 Q. Compared to .42 or .44 percent, 20 correct? 21 A. Right. Yeah. 22 Q. So the actual -- or I am sorry, 23 the historical control incidence of kidney 24 tumors -- the mean historical control 25 incidence from these 24-month studies</p>	<p style="text-align: right;">Page 273</p> <p>1 A. Yes, that's correct. 2 Q. You also agree that the 3 historical control rates for kidney tumors 4 in CD-1 mice may not even apply to the 5 Knezevich study because additional sections 6 were taken of the kidney tumors in that 7 study, correct? 8 A. I retract that statement 9 actually. I thought about that when I was 10 rereading it. 11 The thing is the extra sections 12 produced nothing. There were no new 13 tumors. There were no new findings at all. 14 And so since it's still based upon the 15 original findings, I would say this 16 historical control set is applicable. 17 Q. If there had been additional 18 sectioning of the -- first of all, when you 19 say you retract that statement, you are 20 retracting a statement that appears in your 21 expert report, correct? 22 A. Whatever I'm doing, the statement 23 that says because of the taking of three 24 liver slices, these historical controls may 25 not be appropriate, I'm now saying I</p>

1 believe these historical controls are  
2 appropriate because the three extra  
3 sections did not change anything.

4 Q. So just so we are clear, in your  
5 expert report, which is 1530 on page 37 --  
6 so this is your expert report.

7 A. Um-hm.

8 Q. You state, with respect to your P  
9 trend analysis for Knezevich for kidney  
10 tumors, and it's about one-third down the  
11 page:

12 "These historical control rates  
13 may not apply to this analysis because a  
14 reevaluation of the kidney tumors  
15 considered additional sections and no  
16 information is available on how additional  
17 sections affect historical control rates in  
18 this strain of mice. Differences have been  
19 seen in other settings."

20 Correct?

21 A. That is correct.

22 Q. And that is a statement that you  
23 are now retracting today, correct?

24 A. I'm certainly not retracting the  
25 statement that says this has been seen in

1 other settings. These historical -- what I  
2 am retracting is "may not apply."

3 Q. And for -- just so I understand,  
4 the point that you were making in your  
5 expert report is that if the historical  
6 control animals had been -- there had been  
7 additional sections taken of those animals,  
8 there might have been additional tumors  
9 found in those animals, correct?

10 A. Correct.

11 Q. And if you were then doing an  
12 apples-to-apples comparison of studies with  
13 similar numbers of sectioning, you would  
14 want to compare the findings in Knezevich  
15 after those multiple sections with  
16 control -- historical controls after the  
17 multiple sections, correct?

18 MS. GREENWALD: Objection, form.

19 A. If the multiple sections had  
20 altered the numbers, I would want to do  
21 that. Failing to alter the numbers then  
22 means that they are appropriate against the  
23 original pathology, which is the final  
24 pathology. Therefore, they are  
25 appropriate.

1 Q. If it was the case that multiple  
2 sections of historical control animals  
3 found additional kidney tumors, is it your  
4 testimony that those additional tumors  
5 should not be considered as relevant  
6 historical controls to the Knezevich study?

7 A. You have lost me a little bit.  
8 I'm sorry.

9 Q. I'll say it again.

10 If the historical control  
11 animals -- those studies where you got the  
12 historical control data -- had undergone  
13 additional sectioning and found additional  
14 tumors -- you got that part?

15 A. Um-hm.

16 Q. In trying to identify what the  
17 historical control rate was as compared to  
18 the Knezevich study, would you have  
19 considered those additional tumors found in  
20 the historical control animals?

21 A. I certainly would have looked at  
22 it.

23 Q. And that was the basis of your  
24 original statement that you have in your  
25 expert report as to why the historical

1 control rates that you have from Charles  
2 River might not apply, because you don't  
3 know that there was additional sectioning  
4 of those animals, correct?

5 MS. GREENWALD: Objection to  
6 form.

7 A. I assume -- in fact, I'm certain  
8 that under OECD guidelines, there is  
9 guidance on how to section kidney tumors.  
10 And the kidney tumors that were done in  
11 Giknis and Clifford were certainly done  
12 under OEC guidelines because of the nature  
13 of that laboratory.

14 The previous ones I don't know  
15 about because it was earlier. But they are  
16 all done the same way.

17 Q. And they are just -- there  
18 wouldn't be additional sectioning?

19 A. There wouldn't be additional  
20 sectioning because they would be doing  
21 whatever the guidelines say.

22 Q. The 24-month Atkinson study --  
23 and this is in your report at page 39 -- it  
24 reports -- and you report in your expert  
25 report -- a statistically significant

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1 negative trend for kidney tumors in CD-1  
 2 mice with increased dose of glyphosate,  
 3 correct?  
 4 A. Yes, I would guess that's the  
 5 case.  
 6 Q. And the -- you recently told a  
 7 blogger by the name of Carey Gillam that  
 8 when the findings for renal tumors in these  
 9 two 24-month mouse studies, Knezevich and  
 10 Atkinson, are combined, there is a  
 11 statistically significant increased trend,  
 12 correct?  
 13 MS. GREENWALD: Objection, form.  
 14 A. I don't know. I would have to  
 15 see.  
 16 (Exhibit 15-35, e-mail chain  
 17 dated June 7, 2017, marked for  
 18 identification, as of this date.)  
 19 Q. For the record, Exhibit 15-35 is  
 20 an e-mail exchange that you provided to us  
 21 between you and Carey Gillam, correct?  
 22 A. What's the question again? I  
 23 finally got to read it.  
 24 Q. You told Ms. Gillam in June of  
 25 2017 that when the results of these two

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1 24-month mouse studies are combined, there  
 2 is a statistically significant increased  
 3 trend, correct?  
 4 A. Correct, but I think that is  
 5 wrong. I think I probably intended the two  
 6 18-month studies.  
 7 Q. OK.  
 8 A. Or she might have --  
 9 Q. In looking at your revised  
 10 report -- and this is in connection -- just  
 11 to be clear, you're talking about the 1983  
 12 study, which is the Monsanto study,  
 13 correct?  
 14 A. The first sentence is definitely  
 15 talking about the 1983 Knezevich and Hogan  
 16 study.  
 17 Q. That is a 24-month study,  
 18 correct?  
 19 A. That is a 24-month study.  
 20 Q. That is the context in which you  
 21 are telling Carey Gillam that when the two  
 22 24-month studies are combined, meaning the  
 23 Monsanto study and the Atkinson study, the  
 24 kidney tumors are statistically  
 25 significant, correct?

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1 A. Yeah, that seems to be the case,  
 2 yes. That's correct.  
 3 Q. But that was a mistake, correct?  
 4 A. That when they are combined, they  
 5 are marginally statistically significant,  
 6 not -- without the term "marginally," they  
 7 are just marginally statistically  
 8 significant.  
 9 Q. They are not statistically  
 10 significant, correct?  
 11 A. They are marginally statistically  
 12 significant.  
 13 Q. Your statement to Ms. Gillam was  
 14 incorrect?  
 15 A. It seems it's not as correct as I  
 16 would like it to be.  
 17 Q. Now, with respect to the 18-month  
 18 studies, neither of the two 18-month CD-1  
 19 mouse studies are reported a statistically  
 20 significant increased trend for kidney  
 21 tumors against concurrent controls,  
 22 correct?  
 23 A. That was a marginal statistical  
 24 increase in the Sugimoto study.  
 25 Q. Correct, not statistically

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1 significant at P equals .05, correct?  
 2 A. That is correct.  
 3 Q. The Wood study did not find  
 4 kidney tumors at any dose group, correct?  
 5 A. That is correct.  
 6 Q. And the Sugimoto study did not  
 7 find any kidney carcinomas at any dose  
 8 group, correct?  
 9 A. It found kidney adenomas, that is  
 10 correct.  
 11 Q. So just so we are clear, the  
 12 Sugimoto did not find any kidney carcinomas  
 13 at any dose group, correct?  
 14 A. That is correct -- well, I don't  
 15 have kidney carcinomas here. So I would  
 16 have to look back at the original study to  
 17 make sure there were none because I don't  
 18 have them here.  
 19 Q. In your methodology, your goal at  
 20 least was to list kidney carcinomas  
 21 findings in all these studies, correct?  
 22 MS. GREENWALD: Objection, form.  
 23 I missed that. Sorry.  
 24 A. Say the question again, please.  
 25 Q. When you had kidney carcinomas



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1 data for these studies -- these animal  
 2 studies, you reported that in these tables,  
 3 didn't you?  
 4 A. When I had them, yes.  
 5 Q. But now --  
 6 A. In some of them, I'm not  
 7 absolutely certain. The Atkinson, et al.,  
 8 study, I don't think they separated them at  
 9 all. I don't think I had a chance to see  
 10 the difference. So I can't answer the  
 11 question.  
 12 The intent for kidney tumors was  
 13 to talk about the combined -- if the  
 14 combined could be made.  
 15 Q. But you actually report on kidney  
 16 adenomas and then you separately report on  
 17 kidney carcinomas and then you separately  
 18 report on kidney adenomas and carcinomas  
 19 combined?  
 20 A. Because I had that from Knezevich  
 21 and Hogan.  
 22 Q. So for the four CD-1 mouse  
 23 studies that you have one study finding a  
 24 statistically significant negative trend  
 25 for kidney tumors and no studies finding a

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1 statistically significant positive trend,  
 2 correct?  
 3 A. Marginally significant positive  
 4 trend.  
 5 Q. I'll ask the question again.  
 6 From the four CD-1 mouse studies,  
 7 the P equals .05 is the statistical  
 8 significance. You had one study finding a  
 9 statistically significant negative trend,  
 10 meaning less tumors with more glyphosate  
 11 for kidney tumors, and no studies finding a  
 12 statistically significant positive trend,  
 13 correct?  
 14 MS. GREENWALD: Objection, form,  
 15 asked and answered.  
 16 A. The overall evaluation included  
 17 both the trend test and the historical  
 18 controls, but yes, when just looking at the  
 19 trend test and not using anything to do  
 20 with the historical controls, there are two  
 21 marginal statistically significant findings  
 22 that are not at the .05 level.  
 23 Q. And there is one finding at the  
 24 .05 level, statistically significant,  
 25 showing a lower incidence of kidney tumors

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1 with increased dosing of glyphosate.  
 2 That's the Atkinson study, correct?  
 3 A. Let me look at it again.  
 4 Yup, that is probably significant  
 5 at the .05 level.  
 6 Q. In your pooled analysis though,  
 7 you conclude that glyphosate causes kidney  
 8 tumors, correct?  
 9 MS. GREENWALD: Objection, form.  
 10 A. Kidney tumors?  
 11 So pooling the 18-month studies  
 12 is significant. Pooling the 24-month  
 13 studies is marginally significant. Pooling  
 14 all four is significant. That is what I --  
 15 that is what it says.  
 16 Q. What data did you use in this  
 17 pooled analysis? Did you use data for  
 18 kidney adenomas, kidney carcinomas or for  
 19 both kidney adenomas and carcinomas  
 20 combined?  
 21 A. It's for kidney tumors, which is  
 22 adenomas and/or carcinomas.  
 23 Q. So for the Sugimoto study then,  
 24 where you had only data for adenomas, what  
 25 data did you use for the carcinomas to pool

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1 for combined total?  
 2 MS. GREENWALD: Objection, form.  
 3 A. I'd have to go back to the  
 4 original Sugimoto study to be able to  
 5 address that, the Greim study.  
 6 Q. But am I correct for the pooling,  
 7 you would want to put in -- assuming that  
 8 there were no kidney carcinomas in that  
 9 Sugimoto, you would want to include 0000  
 10 for the kidney carcinomas in your pooled  
 11 analysis for Sugimoto, correct?  
 12 MS. GREENWALD: Objection, form.  
 13 A. I didn't do a pooled analysis of  
 14 kidney carcinomas alone. So I can't answer  
 15 the question because you -- I didn't do  
 16 such an analysis.  
 17 Q. No, I'm talking about for  
 18 combined, when you do a combined analysis,  
 19 would you include the data for the kidney  
 20 carcinomas in that pooled analysis?  
 21 A. Yes, I would.  
 22 Q. Now, your pooling methodology for  
 23 renal tumors did result in what you have  
 24 described here today as marginally  
 25 significant -- a marginally significant

<p style="text-align: right;">Page 286</p> <p>1 increased trend for renal tumors in the two 2 24-month studies, correct? 3 And if you look at page 11 of 4 your rebuttal report, where you have your 5 pooled analysis -- if you go in your 6 rebuttal report, you have the table. It is 7 just a little bit easier to find. 8 Table 3 on page 11 of your 9 rebuttal report has all your pooled 10 analysis. 11 A. OK. Got it. 12 Q. So for the two 24-month studies, 13 when you pooled them for kidney adenoma and 14 carcinoma, you report what you have been 15 describing as a marginally significant 16 increased trend, correct? 17 A. For the 18-month studies? 18 Q. No, the 24-month studies. 19 A. 24-month studies. 20 That is correct. 21 Q. So based upon your pooling 22 methodology then, your opinion that the 23 renal tumors and the combined data for 24 Knezevich and Atkinson show an increased 25 trend of tumors, that's almost significant,</p>	<p style="text-align: right;">Page 288</p> <p>1 Q. And for the Atkinson study, which 2 is the next page, on 39, you have 2 out of 3 50 kidney adenomas and carcinomas in the 4 control animals, correct? 5 A. That is correct. 6 Q. You have 2 out of 50 in the low 7 dose, correct? 8 A. That is correct. 9 Q. You have 0 out of 50 in the mid 10 dose and 0 out of 50 in the high dose, 11 correct? 12 A. That is correct. 13 Q. And so if you look at these two 14 studies combined, you have 3 renal tumors 15 out of 99 control mice in the control 16 animals, correct? 17 A. That's correct. 18 Q. You have 2 renal tumors out of 99 19 in the low-dose groups, correct? 20 A. Correct. 21 Q. You have 1 renal tumor out of 100 22 in the mid-dose group, correct? 23 A. These are terribly different 24 doses. You can't just combine them that 25 way. That's not how it's done. I'm sorry.</p>
<p style="text-align: right;">Page 287</p> <p>1 correct? 2 MS. GREENWALD: Objection, form. 3 A. The combined pooled analysis of 4 Atkinson and Knezevich, that shows a 5 marginally significant P value which is 6 almost significant, correct. 7 Q. For an increased trend in tumors 8 with increased -- 9 A. For an increased trend in tumors. 10 Q. If you can go to your report -- 11 your initial report at page 38, so we can 12 look at the data. 13 For the Knezevich study, you have 14 1 tumor in the control animal, 0 in the 15 low-dose group, 1 out of 50 in the 16 high-dose group, and 3 out of 50 in the -- 17 I'm sorry, let me state that again. 18 For Knezevich, for kidney adenoma 19 and carcinoma combined, you report 1 out of 20 49 tumors in the control animals, 0 out of 21 49 in the low-dose group, 1 out of 50 in 22 the mid-dose group, and 3 out of 50 in the 23 high-dose group, correct? 24 A. That's what EPA reported, that's 25 correct.</p>	<p style="text-align: right;">Page 289</p> <p>1 Each individual group and its dose is fed 2 into the pooled analysis exactly like it is 3 in the study. 4 So the pooled analysis would have 5 1 out of 49 in control and 2 out of 50 in 6 control. Then at a dose of 190 mgs per 7 kilo per day, it would be 0 out of 49. At 8 102, it would be 2 out of 50. At 298, it 9 would be 0 out of 50. At 955, it would be 10 1 out of 50. At 1,000, it would be 0 out 11 of 50. And at 5,874, it would be 3 out of 12 50. 13 Q. So the trend analysis then, if I 14 understand your testimony correctly, that 15 you conducted for the purposes of your 16 expert report here did a trend analysis 17 using each of the different dose levels as 18 a different point in the trend analysis 19 over the combined studies, is that correct? 20 MS. GREENWALD: Objection, form. 21 A. The individual doses are attached 22 to the chemical. You don't just 23 haphazardly pool high and low dose. 24 If that's what you just said, 25 then that's correct.</p>

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1 Q. Let me just be clear, in your  
 2 earlier submissions to EPA and to the  
 3 European regulators, you did combine doses  
 4 into a control, a low dose, a mid dose and  
 5 high dose for your trend analysis, correct?  
 6 MS. GREENWALD: Objection, form.  
 7 A. No, I didn't. I combined them  
 8 into that form for an illustration of what  
 9 the dose response trend looked like,  
 10 because when you put the individual dose  
 11 response points up there, it's very  
 12 difficult to see a trend just simply  
 13 because of the nature of that type of data,  
 14 but by grouping doses that were close  
 15 together, you got a better chance.  
 16 The pictures also included a  
 17 confidence interval side to side and up and  
 18 down.  
 19 Q. Let me make sure I'm clear on  
 20 your methodology.  
 21 A. That's not what's here.  
 22 Q. I understand that.  
 23 In your methodology, when you  
 24 submitted a pooled analysis to the EPA, did  
 25 you conduct your P analysis based upon 4

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1 different combined dose groups or did you  
 2 conduct your pooled analysis based upon 8  
 3 or 16 or 12 different dose levels as the  
 4 case may be?  
 5 MS. GREENWALD: Objection, form.  
 6 A. The analyses submitted to EPA  
 7 included both simply for completeness. The  
 8 individual dose group studies are the one  
 9 which are the clearest and correct way to  
 10 do this.  
 11 Q. And just so I understand then,  
 12 for your pooled methodology, while you have  
 13 three tumors -- real tumors in control mice  
 14 in Knezevich and Atkinson and three tumors  
 15 in the high-dose group in Knezevich and  
 16 Atkinson, that data under your pooled  
 17 methodology results in an almost  
 18 statistically significant increased trend  
 19 in tumors with increased dose, correct?  
 20 MS. GREENWALD: Objection, form.  
 21 A. There are other doses in that  
 22 dose response range which all play a role  
 23 in the statistical significance of that  
 24 trend. And all of those doses combined in  
 25 the pooled analysis gave a statistically

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1 significant trend.  
 2 The reason it's statistically  
 3 significant is because the three out of  
 4 control are at low doses, which also have  
 5 very low response as well, and remember,  
 6 it's not 3 out of 50, 49 in control, or 99,  
 7 it's 1 and 2. But they are matched with  
 8 other dose groups that are 0, 0, 2, 0, 0,  
 9 0, 0. That pushes that down in the low  
 10 exposure range and the upper exposure range  
 11 picks up the trend.  
 12 That is why you see a  
 13 statistically significant trend.  
 14 Q. And just so we are clear, if you  
 15 look at the different tumor levels in these  
 16 two studies, there were five renal tumors  
 17 found in the controls and the lowest dose  
 18 group studied, and that there were four  
 19 tumors found in the three highest dose  
 20 groups studies, correct?  
 21 A. Again, over a very broad range,  
 22 that is a statement of fact.  
 23 Q. So through your pooling  
 24 methodology with two studies where you have  
 25 5 tumors out of 200 in the lowest -- in the

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1 controls at the lowest dose studied and 4  
 2 tumors out of 200, if you will, in the  
 3 highest doses studied, you have an almost  
 4 statistically significant increased trend,  
 5 is that correct?  
 6 MS. GREENWALD: Objection, form.  
 7 A. I'm sorry, you have -- you have  
 8 lost me. What am I doing?  
 9 You're trying to make me pool  
 10 something new?  
 11 Q. I'm not making you pool anything.  
 12 You have done the pool.  
 13 In pooling these two studies, you  
 14 have -- the data shows that you have 5  
 15 kidney tumors in the 150 animals where you  
 16 have control animals and the lowest dose  
 17 studied, correct?  
 18 A. I have what appeared in the lower  
 19 dose groups, that is correct.  
 20 Q. And so you have -- and you have 4  
 21 tumors out of 150 in the highest doses  
 22 studied?  
 23 A. There are doses with 0, 0, 1 and  
 24 3.  
 25 Q. I understand that. But if you

1 look at the data combined and you're  
2 pooling this data --

3 A. I'm not going to look at the data  
4 combined. The data is what it is. The  
5 data is 0, 0, 1, 3.

6 Q. It's actually 1, 0, 1, 3 --

7 A. 1, 0, 1, 3, whatever.

8 Q. -- and 2, 2, 0, 0, correct?

9 A. It is whatever it really is. So  
10 it is 1, 2, 2, 0, 1, 0, and 3.

11 Q. And that distribution under your  
12 pooling analysis results in an almost  
13 statistically significant increased trend,  
14 correct?

15 MS. GREENWALD: Objection, form.

16 A. That distribution under the use  
17 of the scientifically verifiable and  
18 methodologically sound Armitage linear  
19 trend testing proportions shows a P value  
20 which is statistically significant.

21 So does the analysis using the  
22 logistic regression approach suggested by  
23 your expert.

24 Q. We can talk about that later  
25 because our expert wouldn't agree to that.

1 are three ways you can calculate P values  
2 in the Armitage linear trend test.

3 So the choice of which datasets  
4 to pool has not changed. So the pooling  
5 has not changed. The analysis by the  
6 Armitage linear trend test in proportions  
7 has not changed. The only thing that has  
8 changed has been the way in which I  
9 calculate the P values for those tests.

10 Q. Understood.

11 The -- let's talk about the  
12 modified table 15 in your rebuttal report.

13 A. OK.

14 Q. So your table 15 in your listing  
15 of total sites, that is, as I understand  
16 it, a calculation of the total sites for  
17 which three or four tumors were found in  
18 the glyphosate data, correct?

19 A. With exception. The rare tumors  
20 in kidney and hemangiosarcomas are also  
21 included in this table.

22 Q. That wasn't my question. My  
23 question is the total sites column.

24 A. The hemangiosarcomas only have  
25 two tumors.

1 Let's talk about -- I take it  
2 that you have your code for your pooling  
3 analysis -- various pooling analyses that  
4 you conducted over time, correct?

5 A. Let me correct something here.  
6 You keep calling it "my pooling analysis."  
7 The pooling analysis I did is the more  
8 accurate statement. Again, because I told  
9 you Dourson has already done it, by all  
10 technical reasons, I would have to  
11 reference him now that I know it's there,  
12 and so it should be his pooling algorithm,  
13 not mine.

14 But the point is it is just the  
15 pooling algorithm I used.

16 Q. The pooling algorithm you used,  
17 you still maintain that?

18 A. Yes.

19 Q. And has that pooling algorithm  
20 changed over time for glyphosate?

21 A. I'm going to try to break it down  
22 to make it clear.

23 There is pooling of the data, and  
24 then there is analysis of data by the  
25 Armitage linear trend test, and then there

1 Q. I understand that.

2 A. I am sorry.

3 Q. My question is, if you look at  
4 modified table 15, you have a calculation  
5 of total sites.

6 Do you see that?

7 And it's a column -- the fourth  
8 column on modified table 15.

9 A. Yes, I see it.

10 Q. It has a footnote, footnote 1,  
11 correct?

12 A. Yes.

13 Q. And total sites is based upon the  
14 sites with three or more tumors, correct?

15 MS. GREENWALD: Objection, form.

16 A. Actually, it's described directly  
17 in the text of the document. On page 4  
18 first full paragraph, this also includes  
19 joint analyses and some room for joint  
20 analyses and other things.

21 Q. I understand that.

22 I'm looking again just at the  
23 total sites column.

24 A. Correct.

25 Q. And you have a footnote that

1 describes that the total sites are taken  
 2 from an analysis done by a Dr. Haseman,  
 3 correct?  
 4 MS. GREENWALD: Objection, form.  
 5 A. It's a suggestion from Dr. Joseph  
 6 Haseman in his EPA testimony.  
 7 Q. And Dr. Haseman in his EPA  
 8 testimony is quantifying the number of  
 9 sites in the glyphosate data for which  
 10 three or more tumors were found, correct?  
 11 A. He is quantifying the number of  
 12 sites which he felt would be relevant in a  
 13 statistical evaluation of how many sites  
 14 were actually evaluated in the study.  
 15 Q. Well, for this column though he  
 16 is actually just doing an addition. He's  
 17 adding up the number of sites for which  
 18 three or more tumors were found in this  
 19 column?  
 20 A. No, in this column is me adding  
 21 up three or more tumors --  
 22 Q. OK.  
 23 A. -- and adding, like Dr. Haseman  
 24 did, some room for joint analyses of tumor  
 25 findings.

1 Q. Is it your testimony that the  
 2 total sites calculation that you use in  
 3 your report includes sites where less than  
 4 three tumors were found?  
 5 A. Yes.  
 6 Q. So that is your understanding of  
 7 table 15 for the total sites column?  
 8 MS. GREENWALD: Objection to  
 9 form.  
 10 A. Table 15 includes enough room to  
 11 cover all of the analyses that were done.  
 12 Q. Well, that's -- I don't know what  
 13 "enough room" means.  
 14 A. Enough numbers of tumors to  
 15 incorporate all of the analyses that are  
 16 relevant for these data.  
 17 Q. To get these numbers that you  
 18 have listed here, you have a footnote that  
 19 states:  
 20 "Numbers of sites is based upon  
 21 suggestions by Dr. Haseman in his written  
 22 testimony to the EPA with female rats  
 23 modified for fewer sites with three or more  
 24 tumors. Male mice, 10.5 sites. Female  
 25 mice, 15 sites. Male rats, 21.5 sites.

1 And female rats, 26."  
 2 Correct?  
 3 A. That's what the footnote says.  
 4 Q. In Dr. Haseman's analysis, these  
 5 numbers, at least 10.5, 15 and 21.5, are  
 6 the numbers he calculated for tumors  
 7 with -- for sites with three or more  
 8 tumors, correct?  
 9 A. That's not what he says as far as  
 10 I know. He was just looking for sites that  
 11 would be likely.  
 12 But I'd have to see his EPA  
 13 testimony again to make sure that that is  
 14 the case.  
 15 Q. OK. So --  
 16 A. That is -- that is probably what  
 17 he did. That's probably the case. I don't  
 18 know if he said it.  
 19 Q. OK. But you now testify that you  
 20 think it probably is the case that the  
 21 numbers in this table for total sites are  
 22 the number of sites for which three or more  
 23 tumors were found?  
 24 MS. GREENWALD: Objection, form.  
 25 A. The numbers in this table --

1 Q. For total sites,  
 2 A. -- are consistent with what I  
 3 found in evaluating the numbers of sites  
 4 with three or more from the data in these  
 5 studies.  
 6 Q. OK, fair enough.  
 7 The total sites then is used as  
 8 your -- as one of the -- well, total sites  
 9 is then used to calculate the expected  
 10 number of sites you would see at P less  
 11 than .05, correct?  
 12 If you take the total sites and  
 13 multiply it by .05, correct?  
 14 A. Correct.  
 15 Q. That's your expected number of  
 16 less than .05, which is the column on  
 17 table 15 right next to the total sites  
 18 column, correct?  
 19 A. That is correct.  
 20 Q. And you also use that total site  
 21 column -- total site number to calculate  
 22 the expected sites P less than .01,  
 23 correct?  
 24 MS. GREENWALD: Objection, form.  
 25 A. I used the total sites,

1 multiplied it by .01 to get the expected  
2 less than .01 in that last column -- third  
3 column -- third-from-last column.

4 I should note just for the record  
5 while we are here, I have an addition  
6 error. I put 19 on both sexes for rats  
7 when it is really 18.

8 Q. And the --

9 A. The sum is the same.

10 Q. 30 should be 29?

11 A. No, the 30 is 30. That 19 is  
12 just wrong.

13 Q. That should be 18?

14 A. 18.

15 Q. So 11 and 6 equal 18?

16 A. Let's see here.

17 Q. If you have 11 male and 6 female,  
18 you add up to 18?

19 A. The 12 -- the first one is 12.

20 If I count the tumors themselves, 1, 2, 3,  
21 4, 5, 6, 7, 8, 9, 10, 11, 12, and 1, 2, 3,  
22 4 5, 6, it should be 18.

23 I don't know why the counts in  
24 the tumors are incorrect for the rats.

25 Q. OK. So now for your observed

1 very rare tumors, which are the two mouse  
2 tumors we were talking about earlier, and  
3 those P values are put in here from the  
4 historical trend test, not from the typical  
5 trend test.

6 Q. So let me make sure I understand  
7 correctly.

8 In your table 15, for your  
9 expected, you have the number of tumors you  
10 would expect based upon total sites with  
11 three tumors or more, and then you have  
12 your expected and then you have your  
13 observed column, and your observed column  
14 also includes tumors that you observed --  
15 or trends that you observed based upon your  
16 historical trend analysis, correct?

17 MS. GREENWALD: Objection, form.

18 A. I -- I'm -- I'm not understanding  
19 the question. It's --

20 Q. OK. Your -- through your  
21 historical trend analysis --

22 A. Let me try -- let me try  
23 something --

24 Q. Let me just ask the question this  
25 way: For your historical trend analysis,

1 tumors, which you have next to your  
2 expected, you also include trends that you  
3 calculate based upon your p-hist. analysis,  
4 correct?

5 A. I'm sorry, say that again.

6 Q. For your observed trends of less  
7 than .05, and for less than .01, you use --  
8 you report the numbers that you find for a  
9 concurrent control trend test and also add  
10 to that the numbers of -- that you observed  
11 through your p-hist. analysis -- historical  
12 trend analysis?

13 A. No, of course not. That would be  
14 terribly methodologically flawed.

15 Q. So is it your testimony then that  
16 you do not include in your observed count  
17 in table 15 findings that are only  
18 significant based upon the historical trend  
19 analysis?

20 A. No, the -- this -- I should be  
21 clear in the text, but I'll make it clear  
22 now, what I'm putting in here is the P  
23 value observed for the trend test, because  
24 the correct control to use is the control  
25 for the trend test, except in the cases of

1 for example, you calculated statistically  
2 significant trends at two sites where there  
3 are only two tumors, correct?

4 A. Rare tumors at rare sites.

5 Q. Right. And those sites would not  
6 be part of the total sites that you have  
7 listed in your column on total sites  
8 because there is only two tumors there,  
9 correct?

10 A. No. This is not -- as I pointed  
11 out before, this is for the typical types  
12 of analyses that would be done. Enough  
13 extra counts were put in there to cover the  
14 counts for the two rare tumors that we  
15 looked at.

16 Q. OK, let me go back to that,  
17 because I'm misunderstanding. I thought we  
18 had established this.

19 In your total sites, footnote 1  
20 shows how those total sites were calculated  
21 based upon what Dr. Haseman had calculated.  
22 Those were the sites for which three or  
23 more tumors were found, correct?

24 A. No --

25 MS. GREENWALD: Objection, form.

1 A. -- I'm sorry, that's not the  
 2 case.  
 3 If you look at table 1 in the  
 4 report -- in my rebuttal report, table 1  
 5 tells you how many tumors of each type were  
 6 in each -- were in each of the studies.  
 7 Q. Right. And you have each  
 8 individual site, and then for you total  
 9 sites, you also include combined tumors,  
 10 correct, where you had three or more tumors  
 11 in the combined data, correct?  
 12 A. If they are even done or not  
 13 done.  
 14 But I have -- in this table, I  
 15 have more than -- I have somewhere around,  
 16 I believe, 100 more observe -- more -- I  
 17 have the possibility of 100 more  
 18 evaluations being done than the total  
 19 number of eval -- of sites with three or  
 20 more tumors.  
 21 So I've left 100 open spots for  
 22 analyses that might have been done rather  
 23 than just the three or more tumors.  
 24 Q. Dr. Portier, the numbers that you  
 25 have in your report for total sites are

1 with three or more tumors?  
 2 MS. GREENWALD: Objection, form,  
 3 asked and answered.  
 4 A. I would have to see Dr. Haseman's  
 5 comments to be able to answer that question  
 6 for you.  
 7 Q. Well, would you agree if those  
 8 numbers for total sites only include sites  
 9 with three or more tumors, for your  
 10 analysis, since you also looked at  
 11 historical trends and rare tumors, you  
 12 would have to provide some additional bump  
 13 up for the total sites to account for the  
 14 possibility of trends, the sites with fewer  
 15 than three tumors, correct?  
 16 MS. GREENWALD: Objection, form.  
 17 A. That bump up, as you put it, is  
 18 already incorporated in these sets of  
 19 numbers such that there are sufficient  
 20 numbers in each of the sex species groups  
 21 that I feel I've probably put a number in  
 22 here which is more than the number of  
 23 evaluations which were actually done.  
 24 Q. OK. And in your calculation of  
 25 your adjustment for p-hist. -- first of

1 numbers that Dr. Haseman reported, correct,  
 2 that's where you got those numbers?  
 3 MS. GREENWALD: Objection, form.  
 4 A. With a modification, and those  
 5 numbers are very conservative.  
 6 Q. The modification you made was to  
 7 reduce the number of sites for female rats  
 8 as -- from what Dr. Haseman had reported  
 9 and you made it lower, correct?  
 10 A. Yes.  
 11 Q. And Dr. Haseman --  
 12 A. And I explained why I did that.  
 13 Q. And Dr. Haseman, in adding up  
 14 those sites that you use, he added the  
 15 number of sites, either with individual or  
 16 combined analyses, that had three or more  
 17 tumors, correct?  
 18 A. No, he was -- he was just roughly  
 19 looking at two of the -- three of the  
 20 studies, I believe -- I'd have to see his  
 21 writeup, if you have it.  
 22 Q. Sitting here today, you don't  
 23 recall one way or the other whether those  
 24 total site numbers from Dr. Haseman that  
 25 you use in your table 15 were for sites

1 all, in deciding which studies or tumor  
 2 sites to conduct historical analyses for,  
 3 you did not do historical analyses for all  
 4 rare tumors in these studies, correct?  
 5 MS. GREENWALD: Objection, form.  
 6 A. Yeah, I -- I don't -- I don't  
 7 understand the question. I am sorry.  
 8 Q. In deciding which tumor sites to  
 9 conduct a p-hist. analysis, you base that  
 10 on your review of where there were sites  
 11 that were -- where there had been one  
 12 finding of a statistically significant  
 13 trend in a concurrent control, correct?  
 14 MS. GREENWALD: Objection, form.  
 15 A. Yeah, I'm -- again, you have lost  
 16 me in the question. I am sorry.  
 17 Q. Let me ask this: Through your  
 18 p-hist. analysis, you can calculate  
 19 statistically significant trends at sites  
 20 with one or two tumors, correct, for rare  
 21 tumors?  
 22 A. An analysis using that approach  
 23 could potentially find a positive finding  
 24 for just two tumors, that is correct.  
 25 But the two I chose -- the

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1 tumors -- let -- the tumors I chose to  
 2 evaluate were identified by regulatory  
 3 agencies as a concern because those tumors  
 4 were different than the historical  
 5 controls.  
 6 I didn't go back and look at  
 7 every single site and get historical  
 8 controls for every single site because I  
 9 didn't analyze every single site with two  
 10 tumors in it. So that just -- it would  
 11 never have occurred except that this was  
 12 flagged already by the regulatory  
 13 community.  
 14 Q. So in your --  
 15 A. And I will add, because I still  
 16 don't understand -- I guess I don't have to  
 17 understand the relevance of your questions.  
 18 Q. So for your historical trend  
 19 analysis, you didn't conduct -- you only  
 20 did historical trend analysis for tumors  
 21 that had been flagged as potential issues,  
 22 correct?  
 23 MS. GREENWALD: Objection, form.  
 24 A. I did -- for every tumor where  
 25 EPA or some other authority flagged it as

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1 falling outside of the range of historical  
 2 controls, and arguing that it could go  
 3 away, I did the historical control analysis  
 4 to illustrate the importance of doing  
 5 something correct with historical controls.  
 6 However, as I say at the  
 7 beginning, the best control to use for any  
 8 of these studies is the concurrent control,  
 9 except in the case where there are rare  
 10 tumors. So in those cases, I used the P  
 11 value from historical control for this  
 12 table that you're looking at.  
 13 Q. If you were to determine the  
 14 number of P trends that you might find by  
 15 chance in a historical trend analysis of  
 16 rare tumors -- so you would have -- as you  
 17 have already testified, if you conduct 20  
 18 tests, you would find one by chance,  
 19 correct?  
 20 MS. GREENWALD: Objection, form.  
 21 A. You would not find any by trend  
 22 analysis. I'm sorry, two -- two tumors --  
 23 I must have missed your question.  
 24 Q. I'll ask it again.  
 25 For tumors where you can do

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1 historical trend analysis, where you could  
 2 calculate a p-hist., the rare tumor, and  
 3 you have two tumors, so there's enough with  
 4 rare tumors, two tumors with a historical  
 5 trend analysis is enough to find a  
 6 historical -- to find a trend, correct?  
 7 A. With the right historical control  
 8 dataset, yes.  
 9 Q. And if you were to look at 20  
 10 rare tumors where you have historical  
 11 control data and run a p-hist. analysis,  
 12 you would expect by chance that one of them  
 13 would report a P less than .05, correct?  
 14 MS. GREENWALD: Objection, form.  
 15 A. No, I can't say that. You're in  
 16 a realm of behavior of the statistical  
 17 methods that are dependent upon both the  
 18 historical control dataset and the  
 19 concurrent dataset, and to be quite honest,  
 20 I'd have to sit down and do some analyses  
 21 to figure out what this type of analysis  
 22 you are suggesting would be done.  
 23 But I don't understand why you're  
 24 suggesting the analysis because typically  
 25 you flag something as a rare tumor based

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1 upon the advice of the pathologist  
 2 involved.  
 3 Q. I understand. But in your  
 4 table 15, you're comparing what you observe  
 5 to what would be expected by chance.  
 6 And what I'm trying to understand  
 7 is what you -- what number of sites you  
 8 would expect to see by chance for rare  
 9 tumors or through historical trend analysis  
 10 versus the number of trends you found with  
 11 a historical trend analysis?  
 12 MS. GREENWALD: Objection, form.  
 13 A. But this table, 15, is only for  
 14 the number of analyses done. It's not --  
 15 not a theoretical number of analyses. It  
 16 is for analyses done.  
 17 Q. That may be why I misunderstood.  
 18 So your table 15 is comparing  
 19 only the analyses you did as total sites,  
 20 and then calculating an expected number of  
 21 sites and an observed number of sites, is  
 22 that correct?  
 23 A. No. It's calculating the number  
 24 of potential sites.  
 25 I didn't calculate exactly how



1 many analyses I did. I guess I can go and  
 2 do that but I haven't, because what you're  
 3 looking at is -- I looked at all the EFSA  
 4 studies and EPAs.

5 So it wouldn't be correct for me  
 6 to put in here the total sites that I  
 7 personally evaluated, because those other  
 8 documents guided me to sites, and those  
 9 other documents had evaluated sites in a  
 10 standard statistical way. But they didn't  
 11 tell me how many they did.

12 So I technically can't give you  
 13 an exact number for the total sites. This  
 14 is the way it is sometimes with practical  
 15 science. What I can do is create a  
 16 logical, reasonable estimate for the total  
 17 sites that had been reviewed, had been  
 18 analyzed. And that's what this is.

19 Q. Just so I'm clear, if your total  
 20 sites number did not include the numbers  
 21 that would account for both individual  
 22 tumor types with three or more tumors for  
 23 adenomas and carcinomas and combined total  
 24 sites with three or more tumors and the  
 25 rare tumors for which you might find a

1 statistically significant finding --

2 A. The two rare tumors.

3 Q. OK, so all of those  
 4 possibilities, for your modified table 15  
 5 to make sense, would have to add up to the  
 6 total sites that you have listed in your  
 7 total tumor sites?

8 MS. GREENWALD: Objection to  
 9 form.

10 A. Or in this case, I've been  
 11 conservative enough that I'm pretty certain  
 12 that total sites is larger than that number  
 13 of the sites that you have evaluated, which  
 14 makes it somewhat conservative.

15 Q. And you can, in fact, just add up  
 16 the number of sites in these studies with  
 17 three or more tumors, correct, you have got  
 18 all the data?

19 A. I've done that.

20 Q. Have you looked at all the sites  
 21 combined and separately?

22 Because you report both of those  
 23 in your table.

24 MS. GREENWALD: Objection, form.

25 Q. So you have kidney adenomas,

1 kidney carcinomas, kidney adenomas and  
 2 carcinomas combined?

3 MS. GREENWALD: Objection to the  
 4 form.

5 A. I've allowed sufficient numbers  
 6 in the total sites to cover those.

7 Q. Have you added up all the sites  
 8 in the studies with adenomas more than  
 9 three, carcinomas more than three, and  
 10 adenomas and carcinomas combined more than  
 11 three?

12 MS. GREENWALD: Objection to  
 13 form.

14 A. You wouldn't always do the  
 15 combined analysis. That's not standard  
 16 methodological practice in toxicology. You  
 17 do the combined analysis only sometimes.

18 So adding up that number,  
 19 creating that number that you just made  
 20 up -- you just suggested would not reflect  
 21 the number of sites that would actually be  
 22 done.

23 Q. Have you gone through the  
 24 exercise of adding up the sites that you  
 25 think should be combined so you actually

1 have the total number of sites with  
 2 adenomas, with carcinomas, and adenomas and  
 3 carcinomas combined where you believe  
 4 that's appropriate?

5 MS. GREENWALD: Objection to  
 6 form.

7 A. You can't do that evaluation sort  
 8 of in isolation. So no, I have not done  
 9 that.

10 Q. So sitting here today, do you  
 11 know the total sites -- total number of  
 12 sites for which you could have done a trend  
 13 analysis for -- I'm sorry, for adenomas,  
 14 for carcinomas, and as you think it  
 15 appropriate, adenomas and carcinomas  
 16 combined in this dataset?

17 MS. GREENWALD: Objection to  
 18 form.

19 A. You can't -- again, you can't  
 20 look at it that way. If carcinomas are  
 21 zero, for example, you would only do the  
 22 adenoma evaluation. If adenomas are zero  
 23 and you have carcinomas, you would only do  
 24 the carcinoma evaluation. There are other  
 25 similar situations where you do those site

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1 types of evaluations.  
 2 Unless I sat with EPA and they  
 3 gave me every test they did, or I sat with  
 4 EFSA and they told me every test they did,  
 5 I cannot figure that number out. All I can  
 6 do is give you an approximation.  
 7 Q. OK, I'm not asking about the  
 8 number of analyses that were done. I'm  
 9 asking you about the number of analyses  
 10 that could be done, because that's what  
 11 your total sites column is, correct?  
 12 MS. GREENWALD: Objection to  
 13 form.  
 14 A. No, the total sites column should  
 15 be an estimate of the number of sites that  
 16 were done. That is what it's attempting to  
 17 give you.  
 18 Q. I understand.  
 19 MR. LASKER: Let's take a break.  
 20 THE WITNESS: I'm happy to go on.  
 21 Q. In your report for female CD-1  
 22 mice, you have listed an observed trend  
 23 that you identify as "SL."  
 24 Do you see that?  
 25 It's on mice tumors P less than

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1 05.  
 2 A. Mice tumors P less than 05 SL.  
 3 Yes.  
 4 Q. And you have SL listed as skin  
 5 lymphoma?  
 6 A. Yes, it is.  
 7 Q. Now, I don't find any skin  
 8 lymphoma in any of the studies. There was  
 9 a SL trend in the Knezevich study that you  
 10 report for spleen lymphomas.  
 11 A. Oh, that's correct, that's the  
 12 splenic lymphomas. Thank you. Yes, that  
 13 is the splenic lymphomas.  
 14 Q. You include spleen lymphomas as  
 15 one of your observed trends in your  
 16 table 15?  
 17 A. It is an observed trend, that is  
 18 correct.  
 19 Q. OK.  
 20 A. That is correct.  
 21 Q. Now, the spleen lymphomas, I  
 22 think in your rebuttal report, you state  
 23 should be combined with all the lymphomas  
 24 for a combined lymphoma number in doing a  
 25 statistical analysis?

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1 MS. GREENWALD: Objection to  
 2 form.  
 3 A. They're not -- they're not -- I'm  
 4 sorry, give me a minute to look this up,  
 5 please.  
 6 Splenic lymphosarcomas. They are  
 7 not lymphomas. They are lymphosarcomas.  
 8 Q. So in your testimony,  
 9 lymphosarcomas do not need to be listed  
 10 with lymphomas?  
 11 I'm trying to understand.  
 12 A. That's correct, you wouldn't  
 13 combine sarcomas with lymphomas.  
 14 Q. Do you know how many  
 15 lymphosarcomas were analyzed in Knezevich,  
 16 given tissue types?  
 17 A. By whom.  
 18 Q. By the investigators in  
 19 Knezevich?  
 20 A. I'm not able to see the full  
 21 report from them, so I wouldn't know that.  
 22 Q. And you have the data table  
 23 from --  
 24 A. But I don't have the report of  
 25 what analyses they did, therefore, I can't

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1 answer the questions.  
 2 Q. You have data presented for a  
 3 number of different tissue type  
 4 lymphosarcomas in the Knezevich study,  
 5 correct?  
 6 A. I have -- yes, I have data tables  
 7 that show lymphosarcomas in several  
 8 different tissues.  
 9 Q. And in your response to  
 10 Dr. Corcoran, you testify that Dr. Corcoran  
 11 improperly calculated trend analyses  
 12 reporting out all of those different  
 13 lymphosarcoma sites and that they should be  
 14 combined in your opinion, correct?  
 15 MS. GREENWALD: Object to form.  
 16 A. I noted that he had done multiple  
 17 analyses about lymphosarcomas and there  
 18 only should be one lymphosarcoma analysis.  
 19 However, I can't do that myself but I did  
 20 report the one.  
 21 Q. But the multiple lymphosarcoma  
 22 sites that are separately calculated, those  
 23 would not be separately listed as total  
 24 sites because the total sites in your  
 25 table 15 combines systemic tumors, correct?

1 MS. GREENWALD: Objection, form.

2 A. They were listed in the total  
3 site that Dr. Corcoran had done --

4 Q. Not Dr. Corcoran's, I'm talking  
5 about yours.

6 A. Let me finish -- and the table 15  
7 has one site for lymphosarcomas. One, it  
8 takes up one site and it was evaluated, so  
9 it is put into this table. And it had a P  
10 value associated with it, which also goes  
11 into this table.

12 This is a table of what  
13 evaluations were done.

14 Q. So the total sites column then  
15 does not -- in table -- modified table 15  
16 does not include the other lymphosarcomas  
17 sites that were analyzed in the Knezevich  
18 study, just the splenic lymphosarcoma,  
19 correct?

20 MS. GREENWALD: Objection, form.

21 A. In my table 1 on page 9 of the  
22 rebuttal reports, the three-or-more-tumors  
23 column only allows one spot for  
24 lymphosarcomas. So when lymphosarcomas  
25 were found, whether it was five organs or

1 study is the Monsanto 1983 mouse study,  
2 correct?

3 A. The splenic lymphosarcomas?  
4 The rows are the Knezevich and  
5 Hogan study, that is correct.

6 Q. So you have that full report --  
7 study report, correct?

8 A. I have that study report, but the  
9 study report is presented with groups of --  
10 the part I have is presented with groups of  
11 animals by organ. So I -- it gives me the  
12 numbers for spleen and gives me the numbers  
13 for wherever, say, kidney.

14 But because this tumor can appear  
15 quite often in multiple organs in the same  
16 animal, and I'm interested in incidents, I  
17 cannot back those numbers out and make the  
18 correct -- what I would consider the  
19 correct classification.

20 Q. In your modified table 15, you  
21 also include listing of four observed sites  
22 for -- and these are actually as opposed to  
23 the skin and bone.

24 You have four sites for skin  
25 tumors. You have three, I think, skin

1 one organ, I collapsed it down into a  
2 single entry into this table.

3 Q. So in the Knezevich study then,  
4 for the purposes of your analysis, you have  
5 one total site where there could be a  
6 calculation conducted and one tumor site  
7 being splenic lymphosarcoma where you  
8 observed a trend, is that correct?

9 A. That is -- for each study, there  
10 is sufficient room for that type of  
11 evaluation to be done, and in this case,  
12 there was one evaluation of that type, and  
13 that is included.

14 Q. And the other however many other  
15 sites that were evaluated are not included  
16 in the total sites column?

17 MS. GREENWALD: Objection, form.

18 Q. For lymphosarcoma. I'm sorry.

19 MS. GREENWALD: Same objection.

20 A. I can't know that. I don't know  
21 how many other sites were evaluated. As I  
22 pointed out before, that information is not  
23 available to me, so I can't answer the  
24 question.

25 Q. Just to be clear, the Knezevich

1 keratoacanthomas and one basal cell  
2 carcinoma in your table for the rat  
3 studies, correct?

4 A. I have skin keratoacanthoma for  
5 the rat studies, I have three, and one  
6 basal cell, that is correct.

7 Q. Now, let me show you -- you  
8 talked about the NTP is sort of the gold  
9 standard for these cancer bioassays,  
10 correct?

11 A. For the way they are done and the  
12 way they are presented and the way they are  
13 analyzed, that is correct.

14 Q. And the NTP combines different  
15 skin tumors into one category, correct?

16 A. That I don't know for certain.

17 MR. LASKER: Let's mark this.

18 A. Of course, NTP uses a different  
19 strain of animals.

20 Q. They use many different strains  
21 of animals, but I'm talking about -- let me  
22 ask you this: When NTP combines tumor  
23 types, does it combine different tumor  
24 types for different strains of animals?

25 So, for example, you --

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1 A. Oh, they might, yes, they might.  
 2 Q. For skin tumors, do you know one  
 3 way or the other whether NTP combines tumor  
 4 types for any different type of rodent?  
 5 A. No, I don't.  
 6 (Exhibit 15-36, report entitled  
 7 "NTP historical controls, report all  
 8 routes and vehicles, Wistar-Han rats,  
 9 August 2016, marked for identification,  
 10 as of this date.)  
 11 Q. This is Wistar rats, and I'll  
 12 refer you to page 32 of this report.  
 13 MS. GREENWALD: I am sorry, what  
 14 page?  
 15 MR. LASKER: Page 32.  
 16 Q. As reflected at least for this  
 17 rodent, the NTP combines I think it is  
 18 something like 12 different types of skin  
 19 tumors to report an overall combined  
 20 instance for skin tumors, correct?  
 21 A. On the previous -- 12?  
 22 On the previous page, it gives  
 23 the individual historical control data for  
 24 basal cell adenoma or basal squamous tumor  
 25 benign, basal cell adenoma, basal squamous

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1 benign or trichoepithelioma, basal cell  
 2 carcinoma, basal cell carcinoma with basal  
 3 squamous tumor, malignant or not otherwise  
 4 specified, and then it provides a category  
 5 for all of these things combined in one  
 6 table, yes --  
 7 Q. For purposes of --  
 8 A. -- and there is no skin  
 9 keratoacanthoma in this listing.  
 10 Q. Actually, page 32, just so we are  
 11 clear, the listing -- the second listing  
 12 includes keratoacanthoma, correct?  
 13 A. Yes, there it is, correct.  
 14 Q. And that is grouped together with  
 15 basal cell or squamous cell carcinoma,  
 16 carcinoma, basal squamous tumors M or B,  
 17 basal cell adenomas, adenomas, papillomas,  
 18 squamous papillomas, keratoacanthoma and  
 19 trichoepithelioma, correct?  
 20 A. That's correct. It doesn't mean  
 21 they would analyze it that way, but that is  
 22 what's on this paper.  
 23 Q. For the purposes of your total  
 24 site analysis -- or total site numbers in  
 25 modified table 15, did you have counts for

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1 different sites for the skin or was skin  
 2 just one site for your total site  
 3 calculation?  
 4 A. I'm sorry, when I counted up all  
 5 the numbers of tumors greater than three  
 6 tumors, it could easily have two skin sites  
 7 or three.  
 8 Q. Do you recall right now whether  
 9 you had more than one skin site for your  
 10 total sites or not?  
 11 A. I would have to go back to the  
 12 original tables and read through and see  
 13 how many of them were greater than three  
 14 and/or skin.  
 15 I don't have that recollection.  
 16 I can't remember that much detail on --  
 17 with so many numbers around.  
 18 MR. LASKER: Now I would like to  
 19 take a break. Thanks.  
 20 THE VIDEOGRAPHER: The time is  
 21 4:36. Off the record.  
 22 (Recess.)  
 23 THE VIDEOGRAPHER: The time is  
 24 4:48 p.m. We are on the record.  
 25

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1 BY MR. LASKER:  
 2 Q. Dr. Portier --  
 3 A. Before you ask me a question,  
 4 during the break, I took the time to look  
 5 over this Charles River Laboratory document  
 6 you gave me. And I would like to correct  
 7 my reaction to it a little bit on the  
 8 record.  
 9 Q. Which document is that?  
 10 A. 15-34.  
 11 MR. LASKER: Let's go off the  
 12 record for a second, just because I  
 13 want to find out if you are going to be  
 14 asking questions, but if you will, we  
 15 will save it.  
 16 THE VIDEOGRAPHER: Did you say go  
 17 off the record?  
 18 MR. LASKER: Yes.  
 19 THE VIDEOGRAPHER: The time is  
 20 4:49 p.m. We are off the record.  
 21 (Recess.)  
 22 THE VIDEOGRAPHER: The time is  
 23 4:50 p.m. We are on the record.  
 24 MS. GREENWALD: I would like the  
 25 record to reflect Dr. Portier asked

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1 Mr. Lasker if he could have a minute or  
 2 two to clarify his answer to the  
 3 document 15-34, which he admitted  
 4 during his testimony before he had  
 5 never seen before, and during the  
 6 ten-minute break, Dr. Portier used that  
 7 to familiarize himself very briefly  
 8 with it.  
 9 He did not use that time at all  
 10 during the time Mr. Lasker was asking  
 11 him questions. He asked for one or two  
 12 minutes to clarify and correct his  
 13 answer, and Mr. Lasker right now is not  
 14 letting him do that.  
 15 MR. LASKER: Just so the record  
 16 is clear, Dr. Portier will have the  
 17 opportunity to clarify that before the  
 18 end of the deposition here today.  
 19 MS. GREENWALD: I have made my  
 20 peace. He can do it on your time.  
 21 Q. Dr. Portier, let's turn to your  
 22 opinions regarding mechanism of  
 23 carcinogenicity in your report.  
 24 You mentioned ten key  
 25 characteristics of carcinogens, and I think

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1 it is part of the Smith publication,  
 2 correct?  
 3 A. That is correct.  
 4 Q. And is it your opinion that there  
 5 is only sufficient evidence for glyphosate  
 6 with respect to two of those  
 7 characteristics, correct?  
 8 A. I do not believe that is what I  
 9 said.  
 10 Q. Let me look at your report on  
 11 page 53.  
 12 And on page 53 you're talking  
 13 about the ten characteristics of mechanisms  
 14 for carcinogenicity, correct?  
 15 And it's the top of the page  
 16 where you cite to Smith.  
 17 A. That is correct.  
 18 Q. And you say, "There is limited  
 19 evidence on glyphosate for most of the key  
 20 characteristics," but then you identify two  
 21 characteristics, genotoxicity and oxidative  
 22 stress, which you believe have sufficient  
 23 evidence, correct?  
 24 A. To warrant a full review. I  
 25 reviewed all of the other evidence but it's

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1 limited and not -- doesn't warrant a full  
 2 review.  
 3 Q. OK, that's fine.  
 4 Now, you have stated that we  
 5 don't know for sure if glyphosate is  
 6 genotoxic, correct?  
 7 MS. GREENWALD: Objection, form.  
 8 A. Where would you -- where is this  
 9 in here?  
 10 Q. First of all, that's a general  
 11 question and then I can do a follow-up.  
 12 But I want to know if you recall  
 13 having made the statement that we don't  
 14 know for sure if glyphosate is genotoxic?  
 15 MS. GREENWALD: Objection, form,  
 16 and the witness asked you to please  
 17 identify where you think he made that  
 18 statement.  
 19 A. I can't -- I -- my expert  
 20 statement is right here and I believe my  
 21 conclusions on genotoxicity are quite  
 22 clear. So if you want to ask me about  
 23 that, please ask me about it.  
 24 Q. Well, I'm asking you whether or  
 25 not you have made the statement "we don't

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1 know for sure if glyphosate is genotoxic."  
 2 If you don't recall, that is  
 3 fine.  
 4 MS. GREENWALD: Objection, asked  
 5 and answered. My objection stays the  
 6 same.  
 7 A. I seriously don't recall.  
 8 Q. OK. Can you state here today  
 9 that you have not made the statement that  
 10 we do not know for sure if glyphosate is  
 11 genotoxic?  
 12 MS. GREENWALD: Objection, asked  
 13 and answered, argumentative.  
 14 A. I don't recall. It's still the  
 15 answer.  
 16 Q. Let's mark as -- I will have to  
 17 make this as two documents. This is an  
 18 article that appeared in a German news  
 19 site, so we have had it translated.  
 20 So we will have the German  
 21 document as the next in line, and then the  
 22 English translation as 38?  
 23 MS. GREENWALD: Can you please  
 24 tell us who translated it?  
 25 MR. LASKER: It is set forth on

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1 the document.  
 2 MS. GREENWALD: Was it a  
 3 certified translator?  
 4 MR. LASKER: It is. You will see  
 5 it in a second.  
 6 (Exhibit 15-37, German article,  
 7 marked for identification, as of this  
 8 date.)  
 9 (Exhibit 15-38, translation of  
 10 German article, marked for  
 11 identification, as of this date.)  
 12 Q. So, Dr. Portier, 15-38, which  
 13 will be more useful for us to look at since  
 14 it is the translation to English -- first  
 15 of all, the record can reflect that it is a  
 16 certified English translation as set forth  
 17 on the bottom of page 1.  
 18 MS. GREENWALD: So, Mr. Lasker,  
 19 if I can just ask for the record  
 20 whether this was a certified  
 21 translator. I'm not seeing that  
 22 reference here, that she is a certified  
 23 translator.  
 24 She is certifying that she  
 25 translated it. Is she a certified

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1 translator?  
 2 MR. LASKER: We will get that  
 3 information for you if it is not on the  
 4 document. I apologize right now.  
 5 MS. GREENWALD: It's not.  
 6 Q. Dr. Portier, in -- do you recall  
 7 being interviewed in July, which would be  
 8 about a month and a half ago, about the  
 9 European Union assessment of glyphosate?  
 10 MS. GREENWALD: I just want to --  
 11 I'm objecting to all these questions.  
 12 You can answer them, but I'm  
 13 objecting to all the questions on the  
 14 grounds that we have no idea if this is  
 15 an accurate translation.  
 16 MR. LASKER: That's fine.  
 17 A. I was interviewed by Martin  
 18 Forter and Stephanie Fuchs.  
 19 I don't believe it was July 18.  
 20 I think it was before that.  
 21 Q. OK, but then it would appear in  
 22 an article after you were interviewed, that  
 23 makes sense?  
 24 A. Of course.  
 25 Q. OK. And if you can look at

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1 page 4 on the English translation, this  
 2 is -- just so the record is clear, and you  
 3 can look through this -- this document sets  
 4 forth a series of questions to you and your  
 5 answers on various issues with regard to  
 6 the EFSA and ACA review of glyphosate,  
 7 correct?  
 8 MS. GREENWALD: You have to give  
 9 him a chance to look at this,  
 10 Mr. Lasker.  
 11 A. Now, what is your question.  
 12 Q. This -- in your interview with  
 13 Mr. Forter and Ms. Fuchs, they asked you a  
 14 series of questions, and you provided  
 15 answers. That's normal interview format,  
 16 correct?  
 17 MS. GREENWALD: Objection, form.  
 18 A. In this case, they asked  
 19 questions, we had a discussion, that is  
 20 correct.  
 21 Q. And one of the questions they  
 22 asked you, as reflected on page 4 of the  
 23 English translation, was is glyphosate  
 24 genotoxic, correct?  
 25 MS. GREENWALD: Objection, form.

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1 A. That is what they give -- your  
 2 translator has said what they say, and that  
 3 is what they say.  
 4 I can't tell you if they asked me  
 5 that question in this frame in the  
 6 interview.  
 7 Q. And if you look at the -- well,  
 8 do you speak German?  
 9 A. That still wouldn't solve the  
 10 problem because I don't know if they asked  
 11 me that question verbatim as they put it  
 12 here.  
 13 Q. That's not my question. My  
 14 question is: Do you speak German?  
 15 A. I speak some.  
 16 (German phrase.)  
 17 Q. If you can also look at  
 18 Exhibit 15-37, the German article on the  
 19 bottom of page 3, there is a question that  
 20 I'm going to butcher in German, but it "Ist  
 21 Glyphosat genotoxisch?" is the question.  
 22 MS. GREENWALD: Hold on.  
 23 Don't guess. I said don't guess.  
 24 If he is not fluent in German, he  
 25 can't guess on what this means.

1 MR. LASKER: OK.  
 2 A. Again, the -- there is a  
 3 two-stage process here. The first is did  
 4 they ask me the question? And the second  
 5 is did your translator get it right from  
 6 what they wrote?

7 I can't tell you if they asked me  
 8 this question verbatim. But I can tell you  
 9 that "Ist Glyphosate toxisch" is the  
 10 question that they have -- you have  
 11 converted to English.

12 Q. And the conversion "Is glyphosate  
 13 genotoxic" is an accurate translation of  
 14 that question, correct?

15 A. That is correct.

16 Q. The answer that they have -- you  
 17 can read it in German as well as in English  
 18 from you -- is, "We don't know for sure.  
 19 The data of 50 percent of the studies  
 20 argues for genotoxicity, 50 percent against  
 21 it."

22 First of all, do you see that  
 23 statement in the article?

24 MS. GREENWALD: Object to form.

25 A. I see it in the translation,

1 in the expert report.

2 Q. I understand that.

3 Are you saying that you did not  
 4 say this in the interview or are you saying  
 5 you can't recall whether you said it?

6 MS. GREENWALD: Objection, asked  
 7 and answered.

8 A. It was answered. I'm sorry, yes.  
 9 She is right.

10 Q. Do you recall whether you said to  
 11 these reporters, we don't know for sure  
 12 whether glyphosate is genotoxic?

13 MS. GREENWALD: Objection, asked  
 14 and answered now several times.

15 A. I do not recall.

16 Q. Do you recall whether you said,  
 17 in the interest of public health, we should  
 18 therefore classify glyphosate as genotoxic,  
 19 in my opinion?

20 MS. GREENWALD: Objection, form.

21 A. I cannot possibly answer the  
 22 question. No.

23 Q. You don't recall?

24 A. Don't know.

25 Q. You don't recall one way or the

1 that's clear. I have --

2 Q. You have to turn the page for the  
 3 German.

4 A. No, it's right here. But I'm not  
 5 good enough in German to look at this.

6 Q. Can you state, sitting here  
 7 today, that you did not state to this  
 8 reporter, in answer to the question "Is  
 9 glyphosate genotoxic," "We do not know for  
 10 sure"?

11 MS. GREENWALD: Objection to  
 12 form.

13 A. I can't tell you. They could  
 14 have easily taken it out of context or  
 15 something along those lines. I have no  
 16 idea. What I -- I can't answer "yes" or  
 17 "no" to that question.

18 Q. OK, so sitting here today, you  
 19 can't state that you didn't make this  
 20 statement, and you can't say that you did,  
 21 you just don't recall, correct?

22 MS. GREENWALD: Objection, form.

23 A. My current opinion on the  
 24 genotoxic data for glyphosate is in the  
 25 expert report. This does not match what's

1 other?

2 A. No. It was a long interview. It  
 3 was over an hour.

4 Q. The -- you do -- you agree that  
 5 just because a chemical can damage DNA,  
 6 that does not mean it will cause mutations,  
 7 correct?

8 MS. GREENWALD: Objection, form.

9 A. Say it again, please.

10 Q. Just because a chemical can  
 11 damage DNA, that does not mean it will  
 12 cause mutations, you agree with that  
 13 statement, correct?

14 MS. GREENWALD: Same objection.

15 A. In general, that is correct. I  
 16 would state it slightly different, but as a  
 17 general, broad sweep, that's good enough.

18 Q. And just to be clear, if you can  
 19 look at your expert report on page 53, I  
 20 thought I quoted you, but maybe I did not.

21 Page 53 in your expert report on  
 22 genotoxicity, the second full paragraph  
 23 starting "Just because a chemical can  
 24 damage DNA does not mean it will cause  
 25 mutations," correct?

1 A. Yeah.

2 Q. That's your statement?

3 A. That's my statement.

4 Q. You agree with that, correct?

5 A. I would have liked to have  
6 written it slightly differently and more  
7 nuanced, but that's good enough.

8 Q. You agree that not all chemicals  
9 are mutagens, correct?

10 A. Who defines what the geno -- it's  
11 going to depend on a lot of different  
12 things. Who's making the call, who's doing  
13 the evaluations, et cetera.

14 But in looking at NTP studies  
15 with NTP evaluations, not all genotoxic  
16 substances cause tumors in male and female  
17 rats and mice.

18 Q. And just to be clear also, not  
19 all chemicals that are reported to be  
20 genotoxic are found to be mutagenic,  
21 correct?

22 A. Not all chemicals that are  
23 reportedly genotoxic are found to be  
24 mutagenic?

25 I can't answer that question.

1 matter of fact, then it cannot cause cancer  
2 through a genotoxic mechanism, correct?

3 A. It can do it through a side -- to  
4 really think it through -- through side  
5 activities.

6 Genotoxic compounds are very  
7 reactive. They can damage other parts that  
8 could lead to oxidative stress or other  
9 things that will cause the mutations and  
10 the cancers.

11 So it's complicated.

12 Q. OK. And again, I didn't word  
13 this correctly, so I apologize, but for a  
14 chemical to cause cancer through a  
15 genotoxic mechanism, cause of action, it  
16 would have to progress to a mutagen -- a  
17 mutation -- I'm sorry -- correct?

18 A. The -- in a theoretical sense, if  
19 such a compound were not interacting with  
20 anything else, then in a theoretical sense,  
21 in a multi-stage model, you would expect a  
22 mutation to occur. If you could find it,  
23 that may not be possible. But you would  
24 expect a mutation to occur.

25 Q. And all of us sitting in this

1 It's too broad. I'm sorry.

2 Q. OK. I am correct that if a  
3 genotoxic chemical does not cause  
4 mutations, then it cannot cause cancer  
5 through a genotoxic mechanism, correct?

6 A. The assays -- this is all  
7 dependent upon what you look at.

8 The assays that are done for  
9 mutations are very limited assays looking  
10 at a very small number of genes and a very  
11 small number of mutations.

12 So to answer your question, I can  
13 answer it this way: There are some  
14 chemicals that are genotoxic that do not  
15 appear to be positive in the toxicological  
16 assays that have been done to evaluate  
17 them.

18 Q. I appreciate that. I was trying  
19 to ask a different question. I didn't word  
20 it correctly.

21 This is not in an individual  
22 study that tests one way or another. This  
23 is a broader, mechanistic question.

24 If a substance is genotoxic but  
25 it does not cause mutations, just as a

1 room, we constantly have DNA damage to our  
2 cells in the ordinary course, correct?

3 MS. GREENWALD: Objection, form.

4 A. All living organisms have repair  
5 capacity and -- because they always have  
6 problems with their DNA during replication.

7 Q. And in the ordinary course, we  
8 are having DNA damage in our cells probably  
9 millions of times each day, correct?

10 MS. GREENWALD: Objection, form.

11 A. I couldn't give you an exact  
12 number.

13 Certainly not millions of times  
14 each day in each cell, because the DNA  
15 damage only really has any value during the  
16 time the cell replicates, and many of the  
17 cells in humans simply don't replicate that  
18 often.

19 Q. Every time there is a replication  
20 though, in the ordinary course, it is not  
21 uncommon for there to be DNA damage,  
22 correct?

23 A. That is correct.

24 Q. As you said, the human body has  
25 repair mechanisms that respond to DNA



<p style="text-align: right;">Page 346</p> <p>1 damage so that it doesn't cause further 2 damage, correct? 3 MS. GREENWALD: Objection, form. 4 A. The body has DNA repair capacity 5 through several processes for different 6 types of DNA damage, yes. 7 Q. And you would also agree that not 8 all chemicals that test positive for 9 mutagenicity cause cancer in humans, 10 correct? 11 A. Not all chemicals that have been 12 tested for genotoxicity -- 13 Q. For mutagenicity. 14 A. -- for mutagenicity, and the 15 evaluation is done by reputable groups, 16 like the NTP, then I wouldn't be surprised 17 if some of those that were mutagenic were 18 not also carcinogenic, but I couldn't give 19 you one right now. 20 Q. Now, in your expert report, you 21 opine that the evidence is sufficient to 22 classify glyphosate as genotoxic, correct? 23 A. Yes. 24 Q. In your expert report, you do not 25 opine that the evidence is sufficient to</p>	<p style="text-align: right;">Page 348</p> <p>1 tests looking at effects of chemical on the 2 gene, yes. 3 Q. And you state in your report, 4 "Genotoxicity is a complicated area from 5 which to draw a conclusion due to the 6 diversity of studies available," correct? 7 A. It is, yes. 8 Q. And that is the case certainly 9 with glyphosate in your opinion, correct? 10 MS. GREENWALD: Objection to 11 form. 12 A. If I said it in here, you would 13 have to tell me where it is again. 14 Q. I'm just asking you, would you 15 agree that for glyphosate, genotoxicity is 16 a complicated area from which to draw a 17 conclusion due to the diversity of studies 18 available? 19 MS. GREENWALD: Objection to 20 form. 21 A. In general, genotoxicity is 22 complicated to make decisions because there 23 are so many different possibilities of how 24 people do it. They use different animals. 25 They use different cell lines. They use</p>
<p style="text-align: right;">Page 347</p> <p>1 classify glyphosate as a mutagen, correct? 2 MS. GREENWALD: Objection, form. 3 A. The -- there is -- the evidence 4 is insufficient to classify the mutagen 5 because of the reasons I gave earlier. 6 There aren't that many tests, and 7 they are very specific to very genes -- 8 very few genes, not the entire human 9 genome. 10 Q. And you do agree though that both 11 glyphosate and glyphosate formulations have 12 consistently tested negative in the Ames 13 mutagenistic test, correct? 14 A. They have consistently with the 15 exception, I believe, of four studies -- 16 but there were a lot of studies -- 17 consistently tested negative for the 18 reverse mutation assay of a specific gene 19 in salmonella typhimurium. So yes, the 20 Ames test. 21 Q. And as you note in your expert 22 report, there is a wide diversity of 23 different types of genotoxicity tests, 24 correct? 25 A. There are a wide diversity of</p>	<p style="text-align: right;">Page 349</p> <p>1 different links of time for the exposure, 2 et cetera. 3 So that is a usual case. I think 4 I said that here but I'm not certain so I 5 can't own up to that for this compound. 6 Q. But whether or not you said it in 7 your expert report, you agree that that 8 applies to glyphosate, correct? 9 A. Yes, when compared to something 10 like the animal cancer studies where you 11 have pretty much standardized designs on 12 everything. 13 Q. Let me ask you about your 14 opinions with regard to oxidative stress. 15 A. OK. 16 Q. You agree that oxidative stress 17 is not unique to cancer induction, correct? 18 MS. GREENWALD: Objection, form. 19 A. Not unique to cancer induction. 20 I'm not sure what you mean. 21 MR. LASKER: Let's mark the Smith 22 publication. 23 (Exhibit 15-39, article entitled, 24 "Key Characteristics of Carcinogens as 25 a Basis for Organizing Data on</p>

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1 Mechanisms of Carcinogenesis," marked  
 2 for identification, as of this date.)  
 3 A. Yes.  
 4 Q. And that paper -- this is a paper  
 5 you were coauthor on, correct?  
 6 A. Correct.  
 7 Q. And page 715, talking about  
 8 characteristic five induces oxidative  
 9 stress, correct?  
 10 A. Characteristic five induces  
 11 oxidative stress, that is correct.  
 12 Q. And you and your coauthor state,  
 13 about halfway through that first paragraph,  
 14 "Oxidative stress is not unique to cancer  
 15 induction," correct?  
 16 A. "And is associated with a number  
 17 of chronic diseases and pathological  
 18 conditions."  
 19 Yes. That is correct.  
 20 Q. And so -- and you agree with  
 21 that, correct?  
 22 A. That is correct.  
 23 Q. And the fact that a substance  
 24 causes oxidative stressor is bound to cause  
 25 oxidative stress in human cells in vitro,

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1 or mammals in vitro, does not establish  
 2 that that substance can cause cancer,  
 3 correct?  
 4 MS. GREENWALD: Objection, form.  
 5 A. For any of the key  
 6 characteristics, seeing a key  
 7 characteristic does not establish that  
 8 that -- by itself does not establish that  
 9 that compound can cause cancer.  
 10 Q. So that would apply to oxidative  
 11 stress and to genotoxicity, correct?  
 12 A. That is correct.  
 13 Q. Can you cite to any scientific  
 14 publication or analysis that looks at the  
 15 percentage of substances that have been  
 16 shown to cause oxidative stress to see what  
 17 percentage of them have been shown to cause  
 18 cancer?  
 19 MS. GREENWALD: Objection, form.  
 20 A. Yes. We looked at it in the  
 21 paper that we just did on monograph 100,  
 22 but I have no idea if it is published yet  
 23 or not.  
 24 Q. In that same paper did you look  
 25 at scientific data that sets forth

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1 noncarcinogens and look to see whether they  
 2 are reported to cause oxidative stress?  
 3 A. Noncarcinogens.  
 4 Q. Noncarcinogens.  
 5 A. This was known human carcinogens.  
 6 The entire analysis was known human  
 7 carcinogens.  
 8 And I'm not certain because it is  
 9 a separate analysis from the one I was  
 10 thinking of. I can't be certain it's only  
 11 the known human carcinogens.  
 12 Q. Are you aware of the fact that  
 13 there are medicines that are used to treat  
 14 cancer that cause oxidative stress?  
 15 A. Yes, I am.  
 16 Q. And oxidative stress has also  
 17 been recognized as potentially acting to  
 18 block carcinogenicity by inducing a -- I  
 19 say this apoptosis or cell death, correct?  
 20 MS. GREENWALD: Objection to  
 21 form.  
 22 A. At high enough levels, oxidative  
 23 stress in some cells will kill them through  
 24 an apoptotic or necrotic mechanism, but  
 25 different cells get different exposures so

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1 it depends on the level of exposure as to  
 2 whether they get to that point.  
 3 Q. Oxidative stress is happening in  
 4 our body all the time, correct?  
 5 A. It's part of the energy system  
 6 that drives our ability to move.  
 7 Q. So exercise causes oxidative  
 8 stress, correct?  
 9 A. Of course.  
 10 Q. And having a cold would cause  
 11 oxidative stress, correct?  
 12 A. That's correct.  
 13 Q. Oxidative stress is happening all  
 14 the time in every cell in the human body  
 15 just through normal cell operations,  
 16 correct?  
 17 A. What you're measuring in these  
 18 studies is increased oxidative stress.  
 19 It's not yes, no. It's increased oxidative  
 20 stress.  
 21 Q. Well, just to be clear, exercise  
 22 causes an increase in oxidative stress,  
 23 correct?  
 24 A. Very marginally.  
 25 Q. And being sick can cause an

1 increase in oxidative stress, correct?  
 2 A. Very marginal for a very short  
 3 period of time.  
 4 Q. And sunlight can cause an  
 5 increase in oxidative stress, correct?  
 6 A. That I'm not so certain of but it  
 7 wouldn't surprise me.  
 8 Q. What other non-exposure type  
 9 activities have caused an increase in  
 10 oxidative stress?  
 11 A. I ---I don't quite recall. I'd  
 12 have to consult a couple of good textbooks  
 13 or articles.  
 14 Q. And the body has repair  
 15 mechanisms that are constantly responding  
 16 to cellular damage caused by oxidative  
 17 stress, correct?  
 18 MS. GREENWALD: Objection, form.  
 19 A. Not correct. They are responding  
 20 to cellular damage regardless of the  
 21 source.  
 22 Q. OK. But they would -- in  
 23 responding to cellular damage, they would  
 24 respond to cellular damage caused by  
 25 oxidative stress, correct?

1 studies that you cite to have compared the  
 2 doses they use with the dose levels that  
 3 would occur in human cells from the use of  
 4 glyphosate-based herbicides?  
 5 MS. GREENWALD: Objection, form.  
 6 A. As I said, some of them I believe  
 7 might have done that.  
 8 The -- these are in vitro studies  
 9 we are talking about, right?  
 10 Q. These are the studies you relied  
 11 upon.  
 12 A. But you're asking me questions  
 13 about in vitro studies or are you asking me  
 14 questions about in vivo studies?  
 15 Because it actually makes a  
 16 difference. They are both -- they are both  
 17 in there.  
 18 Q. In your expert report -- let me  
 19 ask you this: Whether in vitro or in vivo,  
 20 is it your recollection any of those  
 21 studies conducted an analysis to determine  
 22 whether the dose that they use is at a  
 23 level that is possible for the human cell  
 24 to have as a result of the use of a  
 25 glyphosate-based herbicide?

1 MS. GREENWALD: Objection, form.  
 2 A. If that damage was aimed at DNA,  
 3 that is correct.  
 4 Q. And you cite a number of studies  
 5 in your expert report that you cite as  
 6 support for your opinion that glyphosate  
 7 can cause oxidative stress, correct?  
 8 A. I'm sorry.  
 9 Q. You cite to a number of studies  
 10 in your expert report that you believe  
 11 support your opinion that glyphosate can  
 12 cause oxidative stress, correct?  
 13 A. That's correct.  
 14 Q. Have you conducted any analysis  
 15 to determine whether the concentrations of  
 16 glyphosate in those studies could ever  
 17 occur in human cells from the use of a  
 18 glyphosate-based herbicide?  
 19 MS. GREENWALD: Objection, form.  
 20 A. Me personally? No.  
 21 Some of the studies did that.  
 22 But not me personally.  
 23 Q. And is it your opinion that you  
 24 rely upon studies -- strike that.  
 25 Do you believe that some of the

1 MS. GREENWALD: Objection, form.  
 2 A. I already answered that. I said  
 3 I thought some of them might have done that  
 4 and talked about how large it was compared  
 5 to humans.  
 6 But I can't be absolutely  
 7 certain.  
 8 Q. In your assessment of  
 9 genotoxicity, you state in your expert  
 10 report that you give the heaviest weight to  
 11 the in vivo studies in humans, correct?  
 12 So there's three studies you talk  
 13 about, two by Paz-y-Mino and one by  
 14 Bolognesi, correct?  
 15 MS. GREENWALD: Objection, form.  
 16 A. The evaluation has different  
 17 language than that. Because in the context  
 18 of just talking about the human studies,  
 19 the Bolognesi is the strongest, I think is  
 20 what I said, but I don't know if I said I  
 21 give the most weight.  
 22 I am sorry, you would have to  
 23 point it out in here.  
 24 Q. In your revised report on  
 25 page 54, you state that seeing genotoxicity

<p style="text-align: right;">Page 358</p> <p>1 in humans is more important than seeing 2 genotoxicity in other mammals, which is 3 more important than seeing genotoxicity in 4 non-mammalian systems, correct? 5 A. All else being equal, that is 6 correct. 7 Q. As you said, the study in humans 8 that you believed to be the strongest study 9 is the Bolognesi study, correct? 10 A. Correct, but that does not make 11 it the major weight of my determination. 12 Q. I understand. 13 A. OK. 14 Q. And let's take a look at the 15 Bolognesi study. 16 MR. LASKER: We will mark that 17 as... 18 (Exhibit 15-40, article entitled, 19 "Biomonitoring of genotoxic risk in 20 agricultural workers from five 21 Colombian regions," marked for 22 identification, as of this date.) 23 Q. And just for the record, this is 24 the study you were talking about -- we were 25 just talking about just previously,</p>	<p style="text-align: right;">Page 360</p> <p>1 Q. The Bolognesi study on page 995, 2 the first column, about half the way down 3 that first paragraph, there is a sentence 4 that starts "Evidence indicates that the 5 genotoxic risk." 6 Do you see that? 7 A. Um-hm. 8 Q. The Bolognesi investigators 9 conclude from their study that evidence 10 indicates that the genotoxic risk 11 potentially associated with exposure to 12 glyphosate in the area where the herbicide 13 is applied for eradication of cocoa and 14 poppy is of low biological relevance. 15 Do you see that? 16 A. I see it. 17 Q. Do you agree with the Bolognesi 18 investigators' assessment, this assessment 19 of their study findings? 20 A. I don't know how they could 21 possibly come to that conclusion. So I 22 don't disagree or agree. I can't imagine 23 where they got that from this data. 24 Q. The Bolognesi investigators found 25 that there was no association between</p>
<p style="text-align: right;">Page 359</p> <p>1 correct? 2 A. Yes, I believe it was. 3 Q. The investigators in Bolognesi at 4 page 994, at the bottom of the second 5 column, state that, overall, these data 6 suggest that genotoxic damage associated 7 with glyphosate spraying as evidenced by 8 the NM test is small and appears to be 9 transient, correct? 10 MS. GREENWALD: Objection, form. 11 That wasn't read right. 12 A. Overall, these results suggest 13 that genotoxic -- I am sorry. 14 "Overall, these results suggest 15 that genotoxic damage associated with 16 glyphosate spraying as evidenced by the 17 micronucleus test is small and appears to 18 be transient" is what it says. 19 Q. Do you agree with the Bolognesi 20 investigators' assessment of their study 21 and findings? 22 A. I have to look to see the context 23 in which they're making the statement. 24 I'm not sure I agree with the 25 "small."</p>	<p style="text-align: right;">Page 361</p> <p>1 self-reported exposure to glyphosate and 2 in-transit genotoxic impacts, correct? 3 A. Not correct. 4 Q. Let's look at page 994. 5 A. They -- they ask specific 6 questions about where you were when the 7 spraying occurred. And so that's not 8 self-chosen exposure. That's self-chosen 9 where were you. 10 Q. Well, let's look actually at page 11 994 again. The second column on the right, 12 the second paragraph from the bottom, the 13 sentence starts, "There was no significant 14 association between self-reported direct 15 contact with eradication sprays" -- 16 A. Which page are we on? 17 Q. I'm sorry. Page 994. 18 A. Right hand -- 19 Q. Second column, second paragraph 20 from the bottom, it starts, "There was" ? 21 A. Yes, now I see it. Sorry. I was 22 second from the top. 23 Q. The Bolognesi investigators 24 report that there was no significant 25 association between self-reported direct</p>

1 contact with eradication sprays and  
 2 frequency of BNMN, correct?  
 3 A. That's what they write, but  
 4 self-reported is an incorrect description  
 5 of what that was.  
 6 Q. There was a -- on the preceding  
 7 page, 993, there is a table that -- table 4  
 8 presents their analysis for self-reported  
 9 exposure to the glyphosate sprays.  
 10 Do you see that?  
 11 A. That's what it says in the title,  
 12 but what it is is a report of where you  
 13 sort of -- whether you had it in the air,  
 14 on your skin, or you entered the spraying  
 15 field.  
 16 That's not asking someone did you  
 17 think you were exposed to this, which would  
 18 be a self-reported exposure. So not  
 19 exactly that.  
 20 Q. In your understanding,  
 21 Bolognesi -- the Bolognesi study did not  
 22 conduct an analysis that asked individuals  
 23 if they were exposed to the glyphosate  
 24 spray?  
 25 A. It's not here. That's clear to

1 A. That would not be correct.  
 2 Q. In the Narino Province, where  
 3 there was the highest spraying of  
 4 glyphosate, the findings four months after  
 5 the spraying was unchanged from before the  
 6 spraying, correct?  
 7 A. In the Narino Province, that is  
 8 correct.  
 9 Q. If a genotoxic effect does not  
 10 persist or is not present four months after  
 11 exposure, it's fair to say that cannot be a  
 12 cause of cancer, correct?  
 13 MS. GREENWALD: Objection, form.  
 14 A. Not correct.  
 15 Q. So is it your testimony that if  
 16 there is a genotoxic impact that does not  
 17 result in genotoxic damage four months  
 18 after exposure, they can still lead to that  
 19 can cause cancer?  
 20 MS. GREENWALD: Objection, form.  
 21 MR. LASKER: I agree with that.  
 22 Actually, I'm going to state that  
 23 again.  
 24 Q. If a chemical exposure does not  
 25 cause a genotoxic effect that persists for

1 me.  
 2 And my understanding of this  
 3 study is these are the three things they  
 4 used, but had they asked the question, do  
 5 you think you were exposed? People who ate  
 6 things from the field might have answered  
 7 yes.  
 8 So it's hard from this to jump to  
 9 self-exposure arguments. But they -- they  
 10 do point out that it does not seem to be  
 11 correlated with these things.  
 12 Q. And with respect to the analysis  
 13 of where they were located -- where the  
 14 individuals in this study were located, the  
 15 Bolognesi investigators looked at impacts  
 16 five days later after the alleged  
 17 spraying -- glyphosate spraying, and then  
 18 again four months later, correct?  
 19 A. That is correct. In certain  
 20 cities, not in all of them.  
 21 Q. And the findings with respect to  
 22 genotoxic impacts do not continue or are  
 23 not present four months after the exposure,  
 24 correct?  
 25 MS. GREENWALD: Objection, form.

1 four months, can that effect be a cause of  
 2 cancer?  
 3 A. Yes.  
 4 And there is a chemical that's a  
 5 classic example of that in humans, but I  
 6 don't know it off the top of my tongue.  
 7 It's banned. It was a drug.  
 8 MR. LASKER: I am maybe done. I  
 9 may have a chance to have him answer  
 10 that one question and a few more  
 11 things, but let's take a break and talk  
 12 to this guy.  
 13 THE VIDEOGRAPHER: The time is  
 14 5:29 p.m. We are off the record.  
 15 (Recess.)  
 16 THE VIDEOGRAPHER: The time is  
 17 5:33 p.m. We are on the record.  
 18 MR. LASKER: I am going to mark  
 19 as 15-41 the notice of deposition for  
 20 Dr. Portier's deposition in this case.  
 21 (Exhibit 15-41, notice of  
 22 deposition, marked for identification,  
 23 as of this date.)  
 24 BY MR. LASKER:  
 25 Q. And, Dr. Portier, there is

1 attached to this notice a list of document  
2 requests, request for production of  
3 documents, and you have produced some  
4 documents here today.

5 MR. LASKER: I'm going to mark  
6 that. That's what this is, 15-42, as  
7 the documents that we received from  
8 your counsel, Robin Greenwald, in  
9 response to the notice of deposition.

10 (Exhibit 15-42, letter dated  
11 August 29, 2017, with attachment,  
12 marked for identification, as of this  
13 date.)

14 MS. GREENWALD: You didn't give  
15 me a copy of that, did you?

16 No, I don't want them. That  
17 would kill too many trees. No, no, no.

18 Q. First question, and you can take  
19 a moment to leaf through them if you need  
20 to, but am I correct in my understanding  
21 what we marked as Exhibit 15-42 are the  
22 documents that you have that you believe  
23 were responsive to the document requests  
24 which have been marked as 15-41?

25 A. If these are documents, they

1 Q. Do you have those spreadsheets in  
2 your computer?

3 A. Yes, I do.

4 Q. And do you have the calculations  
5 that you conducted on the data in your  
6 computer?

7 A. Probably some of them. The  
8 programs I use spit out an answer, I'd  
9 write it down, but they weren't always  
10 kept.

11 Q. So you have some data and some  
12 you have and others you don't have and you  
13 don't know sitting here today?

14 MS. GREENWALD: Objection, form.

15 A. I have all of the data. I can't  
16 guarantee I have all the results of the  
17 runs on the computer.

18 Q. OK.

19 And which programs did you use in  
20 conducting your analysis?

21 A. MATLAB.

22 Q. That was for all of your  
23 analyses?

24 A. No. I used a program by the  
25 German Cancer Research Center on animal

1 are -- that were passed on to you, then  
2 they are responsive.

3 Q. And am I correct in my  
4 understanding that, at least as far as you  
5 believe, you do not have any other  
6 documents that are responsive to our  
7 document requests?

8 MS. GREENWALD: Objection, form.

9 A. As -- I don't know what's in  
10 here, what they gave you. So I can't  
11 answer that question.

12 Q. We have not received any  
13 electronic data reflecting any of your work  
14 product in preparing your various analyses  
15 of glyphosate.

16 I take it you do have that data  
17 somewhere, correct?

18 MS. GREENWALD: Objection, form.

19 A. By -- I'm not sure what you  
20 mean --

21 Q. You have files on your  
22 computer --

23 A. The data that I used is in this  
24 expert report and the data was in  
25 spreadsheets.

1 bioassays, the exact test, to check it  
2 against the MATLAB program for the exact  
3 test. I wanted to make sure they were both  
4 working right.

5 And did I use any other programs?

6 I -- I might have programmed one  
7 or two things in the spreadsheet itself.

8 [REDACTED]

14 Q. Is that a residence that you  
15 maintain in the United States?

16 A. Yes, it is.

17 Q. Dr. Portier, you had wanted to  
18 make a comment about the 1995 Charles River  
19 report.

20 A. That's correct.

21 Q. Just for the record, what is the  
22 exhibit number? Because I don't remember  
23 it.

24 A. 15-34.

25 So I have some concerns with this

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1 one being the correct historical controls.  
 2 First, I don't know what a CRL CD-1 13R  
 3 mouse is and I can't find it. So I'd have  
 4 to find out if that strain is relevant.  
 5 The 13R could indicate some sort  
 6 of genetic transformation or something, I  
 7 just don't know what it is.  
 8 The other problem in looking at  
 9 these, I realize these are fairly small  
 10 numbers of studies groups, and when you go  
 11 back to the beginning, it turns out this is  
 12 a companion paper to go with a different  
 13 paper that provides the historical control  
 14 database.  
 15 So I wouldn't use just this, I'd  
 16 need the companion paper that goes with it.  
 17 MR. LASKER: I pass the witness  
 18 and reserve the remaining time.  
 19 MS. GREENWALD: We are going to  
 20 go to your room. And just we need one  
 21 minute.  
 22 THE VIDEOGRAPHER: Off the record  
 23 at 5:38 p.m. We are off the record.  
 24 (Recess.)  
 25 THE VIDEOGRAPHER: The time is

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1 5:53 p.m. We are on the record.  
 2 EXAMINATION BY  
 3 MS. GREENWALD:  
 4 Q. Good afternoon, Dr. Portier. It  
 5 is now my turn to ask you a couple of  
 6 questions and we will call it a day.  
 7 I want to ask you one question --  
 8 just a couple of questions, the first one  
 9 being: IARC does not use expert summary  
 10 articles, is that correct?  
 11 A. That is correct.  
 12 Q. Can you tell us why?  
 13 A. Yes. Expert summary reports  
 14 sometimes cannot cover the topic  
 15 completely. It is always much better to go  
 16 to the source material and work with the  
 17 source material or the source report.  
 18 A good example of that is the  
 19 Greim study. If all we had used was to  
 20 read the Greim study to talk about the  
 21 carcinogenicity of the 12 studies that were  
 22 included in the appendix of the Greim  
 23 report, we would have missed a lot of  
 24 tumors because Greim only had roughly half  
 25 or even maybe less than half of the total

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1 tumors seen in these studies listed in his  
 2 report.  
 3 And what I mean by seen in these  
 4 studies is they had a positive Armitage  
 5 linear trend testing proportions, which is  
 6 the standard for how people analyze these  
 7 data.  
 8 Q. OK. Thank you.  
 9 In biomedical research, is it  
 10 generally accepted to perform sensitivity  
 11 analyses?  
 12 A. Oh, definitely. It's a -- it's a  
 13 common tool. The tool is used to judge how  
 14 sensitive your finding is to slight  
 15 modifications.  
 16 We saw a good example of that  
 17 with the meta analysis -- meta analyses  
 18 that were done for this where certain  
 19 studies were added in, certain studies were  
 20 taken out, and you look at the overall  
 21 effect on that and then it gives you a  
 22 better chance for making the correct  
 23 judgment about whether you believe the  
 24 finding you're looking at is positive or  
 25 negative.

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1 Sometimes it can make you more  
 2 confused but sometimes it can clarify  
 3 things for you.  
 4 In addition, any time you have  
 5 got something that you feel not only  
 6 doesn't -- not that it drives the result,  
 7 but that maybe shouldn't be included in the  
 8 evaluation, then you would do a sensitivity  
 9 analysis to exclude and -- you do both to  
 10 look and see how important that concept is,  
 11 and then if you find it's very important,  
 12 you have to decide which way was the most  
 13 important way to go.  
 14 So that's a normal technique in  
 15 biomedical research.  
 16 MS. GREENWALD: Can I have an  
 17 exhibit, I think we are on.  
 18 (Exhibit 15-43, screen shot from  
 19 LobbyFacts.eu, marked for  
 20 identification, as of this date.)  
 21 Q. I'm going to show you,  
 22 Dr. Portier, what I am marking as  
 23 Exhibit 15-43.  
 24 This is a two-page document that  
 25 we took off the internet today called

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1 "LobbyFacts.eu."  
 2 And if you recall earlier today,  
 3 Mr. Lasker asked you questions about C.  
 4 Portier Consultation being a registered  
 5 lobbyist in the European Union.  
 6 Do you remember those questions?  
 7 A. Yes, I do.  
 8 Q. And I believe you testified --  
 9 and I'm going to ask you to explain it  
 10 again -- why you ever -- why you ever  
 11 registered in the first place with the EU?  
 12 A. Because the staffer for the  
 13 commissioner of health at first thought in  
 14 order for us to talk to the commissioner of  
 15 health, we had to register as lobbyists,  
 16 but then after I think two days -- it  
 17 wasn't very long, a couple of days -- came  
 18 back and said, no, I got that wrong, you're  
 19 not representing anybody, you're  
 20 representing your academic background and  
 21 standards, and as such, it would be  
 22 inappropriate for you to do this. So you  
 23 don't have to do it.  
 24 Q. And what does 15-43 show?  
 25 A. Under the little red triangle in

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1 the top half of the page, it says,  
 2 organization not currently on the  
 3 register -- registration as it was on 21  
 4 December 2015.  
 5 Q. And what do you understand that  
 6 to mean?  
 7 A. They have taken the registration  
 8 off the register, which they told me they  
 9 would do.  
 10 Q. That was as of the 21st of  
 11 December 2015, right?  
 12 A. That's what it looks like, yes.  
 13 Q. Now, Mr. Lasker also asked you  
 14 questions earlier about your consultation  
 15 with the Environmental Defense Fund,  
 16 correct?  
 17 A. That's correct.  
 18 Q. In fact, that was quite a bit of  
 19 the questions this morning, wasn't it?  
 20 A. The --  
 21 Q. Early in the morning.  
 22 A. A lot of them, yes.  
 23 MS. GREENWALD: I'm going to mark  
 24 15-44.  
 25 (Exhibit 15-44, screen shot from

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1 the EDF website, marked for  
 2 identification, as of this date.)  
 3 Q. And this is a from a blog that  
 4 was taken off of -- actually, Reuters. Oh,  
 5 yeah, I'm so sorry, my eyesight is so bad,  
 6 forgive me. It says, "Off the EDF  
 7 website." It is a three-page printout from  
 8 the EDF website, and it is titled, "Growing  
 9 returns, a coalition of uncommon bedfellows  
 10 is bringing sustainable agriculture to  
 11 scale."  
 12 Do you see that?  
 13 A. Yes, I do.  
 14 Q. What is this article about?  
 15 A. I'll have to take a look at it  
 16 real quick here. Sorry.  
 17 Q. Is this a description -- let me  
 18 ask a different question: Is this a  
 19 description of work that Monsanto is  
 20 currently doing with the Environmental  
 21 Defense Fund?  
 22 A. Yes, it appears to be. It says,  
 23 "Founding members of the MRCC include  
 24 cargo, environmental potential, and General  
 25 Mills, Kellogg Company, Monsanto, PepsiCo,

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1 and others.  
 2 Q. And it actually talks about  
 3 partnership between Monsanto and the  
 4 Environmental Defense Fund, correct, on  
 5 page 2?  
 6 A. Yes.  
 7 Q. And the date of this article is  
 8 August 31, 2016, is that correct?  
 9 A. Yes, it is.  
 10 Q. And I'm going to show you one  
 11 more document.  
 12 MS. GREENWALD: I'm marking it  
 13 15-45.  
 14 (Exhibit 15-45, document  
 15 entitled, "Monsanto joins Environmental  
 16 Defense Fund, others, in Sustainable  
 17 Agriculture Coalition," marked for  
 18 identification, as of this date.)  
 19 Q. It is a one page document, and it  
 20 is taken from the Genetic Literacy Project.  
 21 And it is entitled, "Monsanto joins  
 22 Environmental Defense Fund, others, in  
 23 sustainable agriculture coalition."  
 24 Do you see that?  
 25 A. Yes, I do.



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1 Q. Dated September 1, 2016?  
 2 A. Yes, I do -- yes, it does.  
 3 Q. What is this?  
 4 A. It looks like a news article  
 5 about the same Midwest Row Crop  
 6 Collaborative that the other one was on but  
 7 this is a news item on it.  
 8 Q. It is also, again, talking about  
 9 Monsanto --  
 10 A. Whatever Genetic Literacy Project  
 11 does.  
 12 Q. Again, it's talking about  
 13 Monsanto's work with the Environmental  
 14 Defense Fund, is that correct?  
 15 A. Yes, it is.  
 16 MS. GREENWALD: OK, thank you.  
 17 Q. Dr. Portier, can you pull out  
 18 15-32?  
 19 MR. LASKER: That's the original  
 20 expert report with attachments?  
 21 MS. GREENWALD: Yes.  
 22 Q. If you can look at the  
 23 appendices, the first appendices, it is  
 24 entitled "Document 1." It is sort of  
 25 towards the back?

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1 A. Yes, I see it.  
 2 Q. It says, "Difference in the  
 3 carcinogenic evaluation is glyphosate  
 4 between the international agency for  
 5 research on cancer (IARC) and the European  
 6 Food Safety Authority (EFSA.)" Do you see  
 7 that?  
 8 A. Yes, I do.  
 9 Q. What is the date of this article?  
 10 A. August 2016, Volume 7, No. 8 in  
 11 the Journal of Epidemiology and Community  
 12 Health.  
 13 Q. If you go to page 744 of that  
 14 article, please.  
 15 And if you look at -- there is a  
 16 loke a lock with an open key, and it says,  
 17 "Open access."  
 18 Do you see that?  
 19 A. Yes, I do.  
 20 Q. If you go right above that, it  
 21 says, "Competing interest."  
 22 Do you see that box?  
 23 A. Yes, I do.  
 24 Q. Isn't it the case in this  
 25 article, you and others provided

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1 information that you were providing advice  
 2 to a U.S. law firm involved in glyphosate  
 3 litigation?  
 4 "CJP also works part time for the  
 5 Environmental Defense Fund on issues not  
 6 related to pesticides."  
 7 Do you see that?  
 8 A. Yes, that is correct.  
 9 Q. Who is "CJP"?  
 10 A. That is me, Christopher Jude  
 11 Portier.  
 12 And it refers to the initials  
 13 used in the author's list at the beginning  
 14 of the document, wherever that is.  
 15 But if you look at the authors  
 16 list in the beginning of the document, I'm  
 17 listed as Christopher J. Portier and I'm  
 18 the only CJP.  
 19 MS. GREENWALD: Thank you,  
 20 Dr. Portier. I don't have any other  
 21 questions. I appreciate your patience  
 22 today.  
 23 MR. LASKER: I have a couple of  
 24 follow-ups, but just a couple.  
 25 - - - -

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1 EXAMINATION BY  
 2 MR. LASKER:  
 3 Q. The Greim publication included  
 4 supplemental tables with the data for all  
 5 of the tumors that were analyzed in each of  
 6 the animal studies -- or glyphosate cancer  
 7 bioassays, correct?  
 8 A. No, not correct. It contained  
 9 summarized data.  
 10 Q. The supplemental materials  
 11 provided the data on tumor types and tumor  
 12 counts that you have used in your analyses  
 13 in this case, correct?  
 14 A. For most of the analyses, that is  
 15 correct.  
 16 Q. And every finding that you report  
 17 as showing significance can be obtained  
 18 from the supplemental data tables that were  
 19 provided with the Greim publication,  
 20 correct?  
 21 MS. GREENWALD: Objection, form.  
 22 A. The question I was asked by  
 23 counsel had to do with the use of expert  
 24 summary -- expert summaries, and so while  
 25 the data is there, the expert summary is

1 the written words of Greim.  
 2 Q. That's not my question.  
 3 The data tables that were  
 4 provided with the Greim publication in the  
 5 supplemental materials that were publicly  
 6 available contains all the data that you  
 7 would need to generate every one of the  
 8 calculations in your report --  
 9 MS. GREENWALD: Objection, form.  
 10 Q. -- except for historical  
 11 controls?  
 12 MS. GREENWALD: Objection, form.  
 13 A. Given six months -- and I'm going  
 14 to have to take some minor reservations,  
 15 because I can't be absolutely certain, but  
 16 given six months and that data, I could  
 17 have done what I wanted -- what I did here.  
 18 Q. And that data became publicly  
 19 available because an author, a scientist at  
 20 Monsanto, who is a coauthor on the Greim  
 21 publication, and the other coauthors  
 22 published the Greim publication and made  
 23 those data tables available on the  
 24 internet, correct?  
 25 MS. GREENWALD: Objection, form.

1  
 2 CERTIFICATE  
 3 STATE OF NEW JERSEY )  
 4 )ss:  
 5 COUNTY OF UNION )  
 6 I, MARY F. BOWMAN, a Registered  
 7 Professional Reporter, Certified  
 8 Realtime Reporter, and Notary Public  
 9 within and for the State of New Jersey,  
 10 do hereby certify:  
 11 That CHRISTOPHER JUDE PORTIER,  
 12 Ph.D., the witness whose deposition is  
 13 hereinbefore set forth, was duly sworn  
 14 by me and that such deposition is a  
 15 true record of the testimony given by  
 16 such witness.  
 17 I further certify that I am not  
 18 related to any of the parties to this  
 19 action by blood or marriage and that I  
 20 am in no way interested in the outcome  
 21 of this matter.  
 22 In witness whereof, I have  
 23 hereunto set my hand this 6th day of  
 24 September, 2017.  
 25 \_\_\_\_\_  
 MARY F. BOWMAN, RPR, CRR

1 A. 30 days before the IARC meeting,  
 2 that is correct.  
 3 MR. LASKER: I have no further  
 4 questions.  
 5 THE VIDEOGRAPHER: This concludes  
 6 today's deposition. The time is 6:06  
 7 p.m. We are off the record.  
 8  
 9 \_\_\_\_\_  
 10 CHRISTOPHER JUDE PORTIER, Ph.D.  
 11  
 12 Subscribed and sworn to  
 13 before me this day  
 14 of MO , 2017.  
 15  
 16 \_\_\_\_\_  
 17  
 18  
 19  
 20  
 21  
 22  
 23  
 24  
 25

1 NAME OF CASE:  
 2 DATE OF DEPOSITION:  
 3 NAME OF WITNESS:  
 4 Reason Codes:  
 5 1. To clarify the record.  
 6 2. To conform to the facts.  
 7 3. To correct transcription errors.  
 8 Page \_\_\_\_\_ Line \_\_\_\_\_ Reason \_\_\_\_\_  
 9 From \_\_\_\_\_ to \_\_\_\_\_  
 10 Page \_\_\_\_\_ Line \_\_\_\_\_ Reason \_\_\_\_\_  
 11 From \_\_\_\_\_ to \_\_\_\_\_  
 12 Page \_\_\_\_\_ Line \_\_\_\_\_ Reason \_\_\_\_\_  
 13 From \_\_\_\_\_ to \_\_\_\_\_  
 14 Page \_\_\_\_\_ Line \_\_\_\_\_ Reason \_\_\_\_\_  
 15 From \_\_\_\_\_ to \_\_\_\_\_  
 16 Page \_\_\_\_\_ Line \_\_\_\_\_ Reason \_\_\_\_\_  
 17 From \_\_\_\_\_ to \_\_\_\_\_  
 18 Page \_\_\_\_\_ Line \_\_\_\_\_ Reason \_\_\_\_\_  
 19 From \_\_\_\_\_ to \_\_\_\_\_  
 20 Page \_\_\_\_\_ Line \_\_\_\_\_ Reason \_\_\_\_\_  
 21 From \_\_\_\_\_ to \_\_\_\_\_  
 22 Page \_\_\_\_\_ Line \_\_\_\_\_ Reason \_\_\_\_\_  
 23 From \_\_\_\_\_ to \_\_\_\_\_  
 24  
 25 \_\_\_\_\_

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