# Exhibit 16

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

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| IN RE: ROUNDUP PRODUCTS LIABILITY LITIGATION, | ) | MDL No. 2741 |
| | ) | Case No. 16-md-02741-VC |
| This Document Relates To: ALL ACTIONS | ) | |

DEPOSITION OF DENNIS WEISENBURGER, M.D.
MONDAY, SEPTEMBER 11, 2017
9:13 A.M.

REPORTED BY: KATHERINE FERGUSON
RPR CSR NO. 12332
JOB NO. 128476

September 11, 2017
9:13 a.m.

Deposition of DENNIS WEISENBURGER, M.D., held at Courtyard by Marriott, 700 Huntington Drive, Monrovia, California, before Katherine Ferguson, Certified Shorthand Reporter.



I N D E X



E X H I B I T S

APPEARANCES:

FOR PLAINTIFF:
ANDRUS WAGSTAFF
BY: KATHRYN FORGIE, ESQ.
7171 West Alaska Drive
Lakewood, Colorado 80226

FOR MONSANTO:
HOLLINGSWORTH
BY: KIRBY GRIFFIS, ESQ.
BY: ELYSE SHIMADA, ESQ.
1350 I Street NW
Washington, DC 20005

ALSO PRESENT:
Rosa Trembour
Pearl Robertson (on speakerphone)
David Wool (on speakerphone)



MONROVIA, CALIFORNIA; MONDAY, SEPTEMBER 11, 2017
9:13 A.M.

THE VIDEOGRAPHER: Good morning. This is the start of tape labeled Number 1 in the videotaped deposition of Dr. Dennis Weisenburger in the matter of Roundup Products Liability Litigation. This case is before the United States District Court, the Northern District of California, MDL number 2741 and case number 16-MD-02741-VC.

This deposition is being held at Courtyard by Marriott at 17 -- 770 Huntington Drive in Monrovia, California. Today's date is September 11th, 2017. The time is approximately 9:12 a.m.

My name is Scott McNair from TSG Reporting Incorporated. I'm the legal video specialist. The court reporter today is Kathy Ferguson, also in association with TSG Reporting.

Counsel, please identify yourselves for the record.

MS. FORGIE: Kathryn Forgie for the plaintiffs.

MS. TREMBOUR: Rosa Trembour for the plaintiffs.

MR. GRIFFIS: Kirby Griffis, from



Hollingsworth, LLP, for Monsanto.

MS. SHIMADA: Elyse Shimada, from Hollingsworth, LLP, for Monsanto.

THE VIDEOGRAPHER: Thank you. Will the court reporter please swear in the witness.

DENNIS WEISENBURGER, M.D.,
called as a witness by and on behalf of the Defendants, and having been first duly sworn by the Certified Shorthand Reporter, was examined and testified as follows:

EXAMINATION

BY MR. GRIFFIS:

Q Good morning, sir. We've just met, correct?

A Correct.

Q Would you state your name, please?

A Dennis Weisenburger.

Q How many times have you had your deposition taken before?

A Dozens of times.

Q How many times have you given testimony in court outside of the context of depositions?

A Three times.



Q How many expert reports do you believe you've created over the course of your career?

A 30 or so.

Q How many times do you think you've heard a lawyer make an objection?

A To what?

Q A question. Five hundred, two hundred?

MS. FORGIE: Objection.

A Many times.

MR. GRIFFIS: The objection?

MS. FORGIE: Yeah, I don't know if you're talking about in the context of a deposition or in general.

BY MR. GRIFFIS:

Q You understand, sir, from your extensive deposing experience, if you don't understand something in a question that I ask, you're free to ask for clarification from me, correct?

A Yes.

Q And if you don't know some fact that you need to know in order to answer a question of mine, you know that you're free to say so, correct?

A Yes.

Q You've been through this drill before?

A Yes.

Q When -- what did you do to prepare for this deposition?
A To prepare for the deposition?
Q Yes.
A I reviewed, again, all of the materials that I had accumulated on glyphosate and glyphosate based formulations, including reports from the IARC, EPA, EES -- FAA -- EFSA, whatever, the European Group and all the underlying epidemiologic data, the animal toxicology data, the mechanistic data. referenced in all of those more global papers as well as I did my own literature search multiple times to find anything that -- in addition or anything more recent.
Q And when did you do that preparation you just described?
A The preparation for the deposition?
Q Yes.
A Over the last week.
Q How many times did you meet with lawyers to get ready for the deposition?
A Twice.
Q When was that?
A Yesterday and this morning.
Q For how long a period each time?



A Yesterday, it was for about four and a half hours and today it was about half an hour.
Q You understand, sir, that if Ms. Forgie makes an objection and does not direct you not to answer the question, then you're to give me the best answer that you can to the best of your ability when she's done objecting, correct?
A Yes.
MR. GRIFFIS: I'm going to mark several exhibits, sir.
(Discussion off record.)
(Exhibit 16-1, retention agreement, was marked for identification.)
MS. FORGIE: Maybe what we can do, if you're going to mark a bunch of exhibits, we can get the phone plugged in and mark exhibits and take a break.
MR. GRIFFIS: I'm going to mark three, but we can pause it and --
MS. FORGIE: So why don't we take a short pause.
THE VIDEOGRAPHER: We're off the record at 9:16 a.m.
(Brief recess.)
THE VIDEOGRAPHER: We are back on the record at 9:28 a.m.
BY MR. GRIFFIS:
Q Sir, we've marked as Exhibit 1 a retention agreement between you and the firm Andrus Wagstaff; is that correct?
A Yes.
Q And the date on that agreement is signed by Andrus Wagstaff on August 11th, 2015 and by you on August 12th, 2015, correct?
A Yes.
Q You are to be paid a rate of $500 per hour for your work and you got a $5000 retainer to start, right?
A Yes.
(Exhibit 16-2, 16-3, were marked for identification.)
BY MR. GRIFFIS:
Q Exhibit 2 to this deposition are the bills that you produced a few days ago, sir. And Exhibit 3, which we'll get to later, is a copy of your expert report.
Did I identify those correctly?
A That's correct.
MS. FORGIE: Let me see them for a second.
BY MR. GRIFFIS:





Q In 2015, you received $13,200 for your work?
A Yes, I think it's a retainer.
Q In 2016, you received $21,500?
A Yes.
Q 2017 through April, through your work, work through April 19th I guess -- do I have that end date right?
A I don't have that here.
Q Turn to the back of the page.
A Oh. Correct.
Q Through April 19th, you were paid $68,750, right?
A That's correct.
Q For a grand total, per math, of $103,450.
How many hours have you worked on this litigation since April 19th of this year?
A Over a hundred hours.
Q Sir, you are not a board certified epidemiologist, right?
A I'm not a board certified epidemiologist, but I have extensive experience in epidemiology.
Q You don't consider yourself to be a statistician, right?
A No, I'm not a statistician.

Q You don't have any formal training in epidemiology except for a three-week course you took once in Boston, right?
MS. FORGIE: Objection.
A That's true, although I've read a lot of epidemiology textbooks and articles and have interacted extensively with epidemiologists during the course of my career.
BY MR. GRIFFIS:
Q Yes, sir. It's correct that the only formal training in epidemiology you had was the three-week course you took once in Boston, right?
MS. FORGIE: Objection, asked and answered.
A That's correct.
BY MR. GRIFFIS:
Q And you've had no formal training after medical school in the field of biostatistics except for that three-week course you took once in Boston, right?
A I believe that's correct.
Q And you're not an expert on the design of epidemiology studies; is that fair to say?
A No, but when I've done studies, I've always worked with epidemiologists who assisted in the design.



Q Yes, sir. When you collaborate with people and your name is certainly on a number of epidemiology studies, when you collaborate with people on an epidemiology study, the design of the study is left to others, correct?
MS. FORGIE: Objection.
A Yes.
BY MR. GRIFFIS:
Q And you wouldn't be an expert either on the statistical analysis of the data collected in the epidemiology study, right?
A That's correct, although I understand how to interpret the data.
Q Yes, sir. The choice of what statistical tools to use and what tools to use to control for possible biases in the data and interpreting the data, those discussions would be made by others, correct?
MS. FORGIE: Objection.
A That's correct.
BY MR. GRIFFIS:
Q You would not be an expert on identifying the medical confounders for epidemiology studies, meaning saying this, this and this are the confounders in this particular set of data; is that



correct?
A I have general knowledge about what the risk factors are for Non-Hodgkin's Lymphoma, so I would say they would be the same ones that would be found in any epidemiological study that have been found.
Q Well, here's what I mean, sir. Some medical issues can be confounders in a particular set of data and not in a different set of data, correct?
A Yes.
Q So it would be someone else who would be the expert on figuring out which particular issues are confounders in a particular set of data by applying statistical tools to the data, correct?
A Yes.
MS. FORGIE: Objection, asked and answered.
A Yes, but I often was involved in those decisions.
BY MR. GRIFFIS:
Q And you would be involved primarily with identifying which things need to be looked for as potential confounders, right?
A Yes.
Q You don't have formal training in animal pathology, correct?



A No, but I've done -- human pathology and animal pathology is very similar and I've done quite a bit of animal pathology in my career.
Q As far as formal training, you don't have formal training in animal pathology, right?
MS. FORGIE: Objection, asked and answered. You can answer it again.
A No, but as I said, human pathology and animal pathology is very similar. The diseases are similar.
BY MR. GRIFFIS:
Q There is such a thing as training in animal pathology and training in human pathology and people do specialize in one or the other or both, correct?
A Veterinarians specialize in animal pathology.
Q And people who perform animal studies extensively as part of their career also specialize in animal pathology frequently, correct?
MS. FORGIE: Objection.
A Sometimes they do, sometimes they enlist animal pathologists or even human pathologists to assist in those studies.
BY MR. GRIFFIS:
Q You don't have board certification of any

kind in toxicology, right?
A I do not.
Q Or any formal training in toxicology, right?
MS. FORGIE: Objection.
A As part of my training in clinical pathology, we also are trained in toxicology. And I have extensive experience in the practical knowledge of toxicology and its application. I've done lots of reading on my own, textbook reading, article reading, I've done my own animal toxicology studies and I've participated in animal carcinogenesis tests as a pathologist and as a consultant.
BY MR. GRIFFIS:
Q Is your answer that although you don't have formal training in toxicology, you've got a lot of experience in the area?
A Yes.
MS. FORGIE: Objection, asked and answered, you can answer.
BY MR. GRIFFIS:
Q So the answer is yes as to no formal training in toxicology?
MS. FORGIE: Objection. You can answer again.



A I have practical training in toxicology and some formal training as part of my clinical pathology training.
Q When was that?
A When was that?
Q Yes, sir.
A That was during my pathology residency at the University of Iowa. I have to look on my CV to see exactly when it was, but it was during my pathology residency we trained in. Where we did our training in pathology, part of it was clinical pathology and part of that was toxicology.
Q No formal training after medical school in the science of risk assessment, correct?
MS. FORGIE: Objection.
A I have no formal training in the science of risk assessment.
BY MR. GRIFFIS:
Q And can you say a few words to the camera about what the difference is between hazard and risk assessment, in your view?
A Well, hazard assessment is a determination of whether a specific chemical has the potential to cause an illness or disease. And risk assessment looks at the risk associated with a certain dosage



and different dosages to give the actual risks of what that -- how often that disease would develop.
Q And you understand that IARC performed a hazard assessment on glyphosate, a non risk assessment, correct?
A Yes.
Q You understand that the various agencies, like EPA and EFSA, that have looked at the issue of glyphosate in human carcinogenicity have performed risk assessment, correct?
MS. FORGIE: Objection.
A Yes, I believe that's true.
BY MR. GRIFFIS:
Q You have no formal training in oncology, correct?
MS. FORGIE: Objection.
A Well, I have worked very closely with oncologists for all of my career and during my internship I spent about four months doing clinical oncology, so I have extensive experience in oncology, particularly in hematopoietic malignancies such as leukemia, lymphoma.
BY MR. GRIFFIS:
Q Do you treat patients?
A I have not treated patients since I was an



intern.
Q You don't consider yourself to be an oncologist, right?
MS. FORGIE: Objection.
A No, I'm not an oncologist.
BY MR. GRIFFIS:
Q Most of the -- you told us that you testified in many depositions earlier.
Most of your testifying has been on behalf of the plaintiffs; is that right?
MS. FORGIE: Objection.
A So it's been mixed. I testified on behalf of plaintiffs in a number of different lawsuits and I've also testified for the defendants in some lawsuits. So it's really been mixed.
BY MR. GRIFFIS:
Q It's accurate to say you've testified for a defendant before in a few cases, but most of the testifying you do is on behalf of plaintiffs, right?
MS. FORGIE: Objection, asked and answered.
A I haven't quantitated it, so I couldn't answer that.
BY MR. GRIFFIS:
Q You recall testifying in the Wendell versus Johnson & Johnson case that you've testified for a

defendant before in a few cases, but most of the testifying you do is on behalf of plaintiffs?
MS. FORGIE: Objection.
A I don't remember saying that. I've testified on both sides.
BY MR. GRIFFIS:
Q Do you disagree with that statement?
A Can I see it? Is this a statement I made?
Q I'll paraphrase it for you, sir. I've testified for defendants before in a few cases, but most of the testifying I do is on behalf of plaintiffs.
Do you disagree with that is the question?
MS. FORGIE: Objection, asked and answered.
A I don't disagree with it, no.
BY MR. GRIFFIS:
Q Now, the standard you would use for opinions in a medical article that you would put your name on and publish in the medical literature would be more rigorous than opinions in a litigation case, because otherwise it might not be accepted by the scientific reviewers who review the article, correct?
MS. FORGIE: Objection.
A That's correct.
BY MR. GRIFFIS:



Q And you believe that your experience qualifies you, but your training does not, to make causal assessments between occupational exposures and Non-Hodgkin's Lymphoma, correct?
MS. FORGIE: Objection.
A So self-training is a form of training, so I have had some formal training and I've done my own training and I've worked with people who have trained me in the practical aspects of those different disciplines.
BY MR. GRIFFIS:
Q So if we adjust for the self-training point and say that you would agree that it is your experience and not any formal training that you've received that qualifies you to make, in your opinion, causal assessments between occupational exposures and Non-Hodgkin's Lymphoma; you would agree with that?
MS. FORGIE: Wait. Objection, asked and answered. You can answer again.
A So we already talked about I have had some formal training.
BY MR. GRIFFIS:
Q What is the formal training you've had?
MS. FORGIE: Objection, asked and answered. You can answer again.



A Formal training in what?
BY MR. GRIFFIS:
Q In whatever you feel qualifies you to make causal assessments between occupational exposures and Non-Hodgkin's Lymphoma; what formal training are you referring to when you say no to my question?
A So I've had formal training and self-training in epidemiology and toxicology, of course pathology, and I have extensive experience in all the various clinical, biological aspects of lymphoma. So I have extensive experience.
Q The formal training in toxicology would be during your internship or medical school?
MS. FORGIE: Objection.
A During my medical school and residency, yes.
MS. FORGIE: Let me get my objection in. Objection, asked and answered.
BY MR. GRIFFIS:
Q The formal training in epidemiology would be that three-week course in Boston we talked about earlier, right?
A Yes.
MS. FORGIE: Objection, asked and answered.
A And training in medical school.



BY MR. GRIFFIS:
Q And you are -- you said in your expert report that you're working on some lymphoma epidemiology studies with InterLymph, correct?
A Yes.
Q Are you doing any work that includes or involves in any way glyphosate?
A No.
Q And I don't mean to just limit myself to InterLymph.
Are you doing any sort of scientific work or research, outside of your litigation consulting work, scientific work or research in any way that involves glyphosate?
A Well, I was principal investigator in the Nebraska epidemiology study which was part of the De Roos pooling paper --
Q Yes, and I'm --
MS. FORGIE: Let him finish his answer.
A And also --
MS. FORGIE: He's entitled to finish his answer.
A And also part of the NAPP study, which is an ongoing study. So that data is all part of -- my data is all part of that, so I have been involved.

BY MR. GRIFFIS:
Q I was going to cut you off to say I wasn't asking about the past. And I'll cover a lot of stuff on the past, I was asking about the future.
But perhaps you mean to talk about the future when you mentioned the NAPP study, do you?
A Well, the NAPP study is the present and the future.
Q What glyphosate data collection is going on currently with the NAPP study?
A The data has all been collected.
Q What glyphosate data analysis is going on with the NAPP study?
MS. FORGIE: Objection, you can answer to the extent that you're not giving away anything that's confidential and protected by academic privilege.
A So the analysis is continuing and data is being refined in that study.
BY MR. GRIFFIS:
Q Is there analysis and data refinement proceeding with regard to glyphosate?
A Yes.
Q Is anything in publication or being submitted for publication with regard to glyphosate?



MS. FORGIE: Objection, same objection about confidentiality.
A There's a draft manuscript that has not been finalized or submitted for publication.
BY MR. GRIFFIS:
Q And as far as glyphosate is concerned, what is the issue that's being examined; is it Non-Hodgkin's Lymphoma or some other condition?
MS. FORGIE: Same objection.
A It's Non-Hodgkin's Lymphoma.
BY MR. GRIFFIS:
Q So there's a publication that's been submitted using the NAPP data with regard to glyphosate and Non-Hodgkin's Lymphoma?
MS. FORGIE: Objection.
A The manuscript is in draft form, it's not been submitted.
BY MR. GRIFFIS:
Q The manuscript in draft form.
Are you one of the proposed coauthors in that draft manuscript?
A Yes.
Q Who are the other coauthors?
A The lead author's name is Pahwa, P-A-H-W-A. I can't, off the top of my head, name all of the



coauthors. Aaron Blair is a coauthor, a lady named Beane Freeman is the senior author. There are a variety of other authors from U.S. and Canada whose names I can't, off the top of my head, give you.
Q Yes, sir. And we'll talk about NAPP a little later and maybe it will refresh your memory about all the authors.
But is the publication that's in press the same data that Dr. Pahwa presented in a slide show in Brazil?
A It's not in press. It's in draft form.
Q I apologize. In draft form.
A It's substantially the same.
Q Okay. So we talked about -- I was trying to explore any scientific work that you're involved in currently or future involving glyphosate and you've identified this in-draft NAPP publication.
Is there anything else?
A No.
Q What do you know, if anything, about the Ramazzini Institute study on glyphosate?
A I don't know anything about it.
Q Have you ever been considered to be a fellow of the Ramazzini Institute?
A No.



Q Do you know what the Ramazzini Institute is?
A I don't.
Q Are you hearing the word for the first time from me?
A No, I've come across it before, but I don't know what it is.
Q What is your understanding of what it is?
A I don't know what it is.
Q Do you know where they are?
A I don't know for sure. Probably Italy with a name Ramazzini, but I don't actually know.
Q Do you know, for example, if Aaron Blair is a fellow?
A I don't know.
Q Do you know if Christopher Portier is a fellow?
A I don't know.
Q Do you know anyone who is a fellow?
A I don't.
MR. GRIFFIS: Yes, sir. I'm going to mark next --
(Exhibit 16-4, deposition notice, was marked for identification.)
MR. GRIFFIS: That's 5.

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(Exhibit 16-5, Objections and responses to Schedule A, was marked for identification.)
BY MR. GRIFFIS:
Q Sir, I marked as Exhibit 4 a copy of a notice to take oral and videotaped deposition of Dr. Dennis Weisenburger that we issued to your counsel.
Have you seen this document before?
A Yes, I have.
Q Do you see, when you turn several pages back, there's a Schedule A with numbered pages and on page 2 a number of requests for production begin?
A Yes.
Q When did you first see those requests for production, sir, or hear about them?
A I don't remember precisely when it was. It was probably two weeks ago or so.
Q With regard to item 7 on page 3, "a copy of all abstracts, articles, books or book excerpts of which you are an author, coauthor or editor, and any correspondence you have written to or exchanged with members of any regulatory or legislative body, which has as all or part of its subject matter any hematopoietic malignancies, glyphosate and/or Roundup that are not publicly or otherwise available," what

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did you do to assemble documents in response to that request, sir, if anything?
A I determined that everything I had was publicly available and that I hadn't really had any of these exchanges.
Q For example, sir, do you have a copy of the Brazil slide show by Dr. Pahwa with regard to the NAPP study?
A Yes, we disclosed that.
Q And -- what do you mean by we "disclosed that"?
MS. FORGIE: Objection, don't answer about any discussions you had with me.
THE WITNESS: Okay.
MS. FORGIE: It's privileged.
BY MR. GRIFFIS:
Q Tell me what your understanding is of "we disclosed that."
A I provided that to Ms. Forgie.
Q Okay. Did you provide any other documents under seven here to Ms. Forgie?
MS. FORGIE: Don't say anything about any discussions that we've had.
A I provided all of the abstracts and slide presentations from the NAPP presentations to her.

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BY MR. GRIFFIS:
Q Any other kinds of abstracts, slide presentations, books, book excerpts, et cetera?
A No.
Q So multiple things from NAPP is what you provided to Ms. Forgie?
A Yes.
Q All right. Item 8, "handouts, PowerPoints or other documents used by you at any lecture you have given in the past five years relating to hematopoietic malignancies, including NHL, that are not publicly or otherwise available," what did you do to respond to that request?
A Well, we felt this was -- I felt this was burdensome because I give many lectures, but none of the lectures that I've given in the last five years deal with glyphosate or any pesticide as an etiology from lymphoma. So I didn't really feel that providing all of this was really relevant to the case.
Q So there are such documents, but in your view they were not relevant; is that correct?
MS. FORGIE: Objection.
A That's correct.
BY MR. GRIFFIS:

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Q Item 9 is, "a copy of all handouts, PowerPoints or other documents used by you at any lecture you have given on pesticides including glyphosate and/or Roundup that are not publicly or otherwise available."
What did you do to respond to that request?
MS. FORGIE: Objection.
A I haven't given any such lectures in many years and I've never spoken in public on glyphosate or Roundup.
BY MR. GRIFFIS:
Q When is the last time you've given a lecture about any pesticides and possible etiology of Non-Hodgkin's Lymphoma?
A It would have probably been 10 years ago or more based on the studies we did in Nebraska, so the data and studies we did in Nebraska.
Q Did you provide any documents to Ms. Forgie --
MS. FORGIE: Objection.
Q -- in response to that one?
A No, I don't think I could even find these materials.
BY MR. GRIFFIS:
Q Item 11, sir, "any communications and

documents relating to communications between you and any or all of the following individuals regarding glyphosate and/or Roundup which are not publicly or otherwise available: Beate Ritz, Christopher Portier, Alfred Neugut, Charles Jameson, Chadi Nabhan, Aaron Blair, Matthew Ross; what, if anything, did you do to respond to that request?

MS. FORGIE: Objection.

A So I haven't had any communications with these people except for Dr. Portier. And the communications that we had were relating to the letter and the article that was written regarding the European decision. Frankly, all the e-mails are purged from my computer every so often when it gets overloaded and all of these communications with him would have been purged from my computer.

BY MR. GRIFFIS:

Q Did you do any search for communications with Mr. Portier?

MS. FORGIE: Objection.

A No.

BY MR. GRIFFIS:

Q Did you do a search for any communications that copied or included any of those other persons?

MS. FORGIE: Objection.



A I have not communicated with any of the other persons.

BY MR. GRIFFIS:

Q How many different e-mail addresses have you used for professional work that you could have received e-mails or sent e-mails to these people over the past 10 years?

MS. FORGIE: Objection.

A In when?

BY MR. GRIFFIS:

Q Over the past 10 years.

A Well, at City of Hope, I only use my work e-mail and in Nebraska I would have used my work e-mail, so it would have been just two.

Q So your work e-mail in Nebraska and work e-mail at City of Hope.

Do you know whether either of those institutions automatically backs up people's e-mail periodically?

MS. FORGIE: Objection.

A I don't know.

BY MR. GRIFFIS:

Q Did you make any effort to find out whether back up tapes exist with e-mail communications or other communications with these people?



MS. FORGIE: Objection.

A I did not.

BY MR. GRIFFIS:

Q Did you provide any communications in response to number 11 to Ms. Forgie?

MS. FORGIE: Objection.

A I did not.

BY MR. GRIFFIS:

Q When you say these are periodically deleted -- purged/deleted, do you mean by yourself?

A By my assistant on my behalf.

Q And what do you mean by getting too many e-mails that you need to purge, what happens?

MS. FORGIE: Objection.

A Well, my computer doesn't work when it has too much data in it, so I have to purge things from time to time. So it's usually stuff that's been accumulating.

BY MR. GRIFFIS:

Q Do you receive e-mails or do you access e-mails not only on a work computer but also on a laptop?

MS. FORGIE: Objection.

A I have an iPad, but I use the same e-mail address.



BY MR. GRIFFIS:

Q Yes, sir. And do you use any backup services that back up your data from the iPad or from your computer at work to the cloud?

MS. FORGIE: Objection.

A No, not that I know of.

BY MR. GRIFFIS:

Q And when you ask your secretary to purge e-mails, what instructions do you give to your secretary?

MS. FORGIE: Objection.

A Well, I would say, you know, please purge my e-mails from 2016 back, so I usually would keep my most recent e-mails.

BY MR. GRIFFIS:

Q So right now your e-mails would go back to some particular date and then you wouldn't have anything before that; is that correct?

A Right.

MS. FORGIE: Objection.

BY MR. GRIFFIS:

Q Item 13, "all communications and documents relating to the North American Pooled Project, including, but not limited to, all communications and documents" with a number of named persons here.

What, if anything, did you do to respond to that request, sir?

MS. FORGIE: Objection. Again, limit your answers to things that are nonconfidential in a sense that they relate to the academic privilege.

A So for this, I did do a search of my database and did find the presentations, I'd save those, the presentations, the various presentations that were given by people from NAPP and those I forwarded to Ms. Forgie. There were some e-mail communications. They'd all been purged as far as I know. And they were really not substantial in terms of the data because I have not been -- I would say I have not been highly active in formulating or critiquing the draft presentations.

BY MR. GRIFFIS:

Q Why is that; what is your role instead?

A My role --

MS. FORGIE: Objection. Only answer to the extent you're not giving away information that's confidential.

A Yeah. So my role was the original role as principal investigator of the Nebraska study, so the Nebraska study provided data and that data is part of the study. So as I said, most of the work of



analyzing the data, formulating the slides and the presentations was done by the group in Canada.

BY MR. GRIFFIS:

Q Yes, sir. And Ms. Forgie keeps telling you to only answer to the extent it doesn't violate what's called an academic privilege.

What's your understanding of the sort of information that you are not permitted to tell me because of an academic privilege?

MS. FORGIE: Objection. Don't answer that if it has anything to do with discussions you and I have had.

A I don't know. I don't know the answer to that question.

BY MR. GRIFFIS:

Q For example, the fact that a publication is in the works, that's not something that you consider to be academic privilege, correct?

MS. FORGIE: Objection, asked and answered. You can answer again.

A Correct.

BY MR. GRIFFIS:

Q Is the kinds of analyses that were performed something that you considered to be subject to the academic privilege?



MS. FORGIE: Objection.

A Yes.

BY MR. GRIFFIS:

Q Are the conclusions something you consider to be subject to the academic privilege?

MS. FORGIE: Objection.

A Yes.

BY MR. GRIFFIS:

Q Are which associations or absences of associations you chose to focus on something you consider to be subject to the academic privilege?

MS. FORGIE: Objection.

A Yes.

BY MR. GRIFFIS:

Q And the reason for the academic privilege in your understanding is what, sir?

MS. FORGIE: Objection. Again, don't discuss anything that you and I have discussed.

A Well, the data is in the process of being analyzed, it's not finalized. The manuscript is a draft manuscript that will probably undergo changes. So these are all privileged documents that are not really made available until -- usually until the manuscript has actually been accepted for publication at the earliest.



BY MR. GRIFFIS:

Q Yes, sir. Before your conversations with Ms. Forgie, if any, about the subject of academic privilege, what was your understanding about the scope of academic privilege?

A It was the same.

Q What was that understanding?

MS. FORGIE: Objection, asked and answered. You can answer again.

A That draft of the manuscript or substantial data from the manuscript should not be made available for public review or use until the manuscript is actually accepted for publication.

BY MR. GRIFFIS:

Q And what is your understanding of the reason for that role?

MS. FORGIE: Objection.

A Well, it's just convention. It's academic convention. This is the way academic people do things. I think the reason is that -- that if information is released prior to acceptance, it could be used in ways to affect whether something is accepted or not, questions the data could be misinterpreted. There are all kinds of reasons.

BY MR. GRIFFIS:

Q Could you turn to your expert report, sir. That's Exhibit 3.
A Expert report?
Q Yes. By the way, before we do that, you brought a folder with you today.
What do you have in the folder?
A Just my expert report.
Q What other documents are in there?
A Nothing.
Q The reason I'm asking about other documents is you have about six paperclips and two binder clips which makes me think --
MS. FORGIE: I asked the same question, but it's got exhibits.
A It's all the exhibits.
BY MR. GRIFFIS:
Q Fine. So the expert report there, Exhibit 3, would you turn to page 3 of the expert report, please.
A Page 3?
Q Yes. On pages 1 and 2 you're talking about your own background and on page 3 you start talking about glyphosate; is that right?
MS. FORGIE: Objection.
A Yes.



MR. GRIFFIS: To help my understanding, what is the nature of that objection?
MS. FORGIE: What happens is you keep making these declaratory statements before you ask the question and I object to the declaratory statements.
MR. GRIFFIS: That's utterly accurate.
MS. FORGIE: They're not appropriate and they're not necessarily accurate.
BY MR. GRIFFIS:
Q Page 3, sir, the -- on page 3, when you have a citation, you use parentheses and a number and a close parentheses to indicate where we can find the citation in your own notes, right?
A Yes.
Q So the first citation that you give when you start talking about glyphosate is to what, please?
A It's number 3.
Q What is it?
MS. FORGIE: Objection.
A What is the reference?
BY MR. GRIFFIS:
Q Yeah, what is the reference?
A This document by Cox, entitled "Glyphosate



fact sheets part 1, toxicology part 2, human exposure and ecological effects in the Journal of Pesticide Reform, 1995."
Q Now, do you know what the Journal of Pesticide Reform is?
A I don't.
Q You know that hasn't been published in more than a decade, but it was published by something called The Northwest Center for Alternatives to Pesticides?
MS. FORGIE: Objection.
A I didn't know that.
BY MR. GRIFFIS:
Q How did you find this article?
A I probably saw it in reference by another article.
Q The articles that you pulled together for your expert report, were any of those provided to you by plaintiff's counsel or anyone else?
A A few were provided, but most of them are ones that I found myself or looked for myself.
Q And the ones that were provided to you, are those ones you had a hard time finding and so you asked for help or are they ones they said take a look at this and sent them to you?



MS. FORGIE: Objection.
A Both.
BY MR. GRIFFIS:
Q Both.
Do you recall which ones that they suggested you take a look at?
MS. FORGIE: First of all, objection. Don't answer anything about any discussions you and I had or you had with any other lawyer, please.
A No, I don't remember which ones were which. They all were put together in piles and became part of one large accumulation of documents.
BY MR. GRIFFIS:
Q Okay. To get back to the Northwest Center for Alternatives to Pesticides, you never heard of that group before?
MS. FORGIE: Objection.
A I have.
BY MR. GRIFFIS:
Q So you don't know that it's a lobbying group opposed to pesticides?
A I didn't know that.
Q And you didn't know this journal was dedicated to that same cause?
MS. FORGIE: Objection, asked and answered.

You can answer again.
A I didn't know that.
BY MR. GRIFFIS:
Q Do you know if it purports to even be peer reviewed?
MS. FORGIE: Objection, asked and answered. You can answer it again.
A I assumed it was, but I don't actually know that for a fact.
BY MR. GRIFFIS:
Q Yes, sir. And the article you cite is by the Journal of Pesticide Reform editor, it wasn't something submitted to the editor but written by the editor of the journal, correct?
MS. FORGIE: Objection, asked and answered. You can answer it again.
A I don't know that.
BY MR. GRIFFIS:
Q You didn't notice that when you looked at the article?
A No.
(Exhibit 16-6, Carolyn Cox article, was marked for identification.)
BY MR. GRIFFIS:
Q Do you see, sir -- I've handed you Exhibit



6, the -- and this is the Cox article you cited, right?
MS. FORGIE: Objection, give him a chance to look, please.
A I don't know that it is. I don't think it is. Or it could be and mine was in a different format because it looks quite different, actually.
BY MR. GRIFFIS:
Q These are the glyphosate fact sheets, part 1 of 2 and part 2 of 2; do you see that on the top line, sir?
A Uh-huh.
Q And it says "Carolyn Cox and Glyphosate Fact Sheet, Part 1 and Part 2," that's your citation on page 13 of your expert report, correct?
MS. FORGIE: Objection, asked and answered. You can answer it again.
A I don't know whether it's the same document or not.
BY MR. GRIFFIS:
Q Your citation, sir, on page 13 of your expert report, is "Cox, C., Glyphosate Fact Sheets: Part 1, Toxicology; Part 2, Human Exposure and Ecological Effects. Journal of Pesticide Reform." Correct?



MS. FORGIE: Objection, asked and answered. This is bordering on badgering the witness.
A I don't see --
MS. FORGIE: Wait. Let me get my objection in. He said he doesn't know. Now you're badgering him.
You can answer it one more time.
A I don't know if it's different or not.
BY MR. GRIFFIS:
Q Sir, I asked a different question. I said the cite on page 13 is "Cox, C., Glyphosate Fact Sheets: Part 1, Toxicology; Part 2, Human Exposure and Ecological Effects" from the Journal of Pesticide Reform.
That's your cite on page 3?
MS. FORGIE: Objection, asked and answered.
A But Part 1 is not labeled "toxicology" here.
BY MR. GRIFFIS:
Q What we have as Exhibit --
A And Part 2 does not have a label either.
Q Yes, sir. What we have as Exhibit 6 -- and I understand you've seen a different version, sir, perhaps -- is labeled "Glyphosate Fact Sheet" and we have Part 1 and Part 2 and it's by Carolyn Cox in the



Journal of Pesticide Reform, correct?
MS. FORGIE: Objection, asked and answered. You can answer it again. You're badgering him.
A That's what your document says, but I'm not sure -- it looks different than the document that I -- that's all I can say. It might be the same, it might not. I don't know.
BY MR. GRIFFIS:
Q Do you see that it says "Carolyn Cox is JPR's editor"?
A Yes.
Q Okay. Now, are articles from the Journal of Pesticide Reform generally accepted as reliable in your field?
MS. FORGIE: Objection.
A I don't know the answer to that.
BY MR. GRIFFIS:
Q Do you know if it's generally accepted -- the Journal of Pesticide Reform, do you know if it's generally accepted as scientifically reliable?
MS. FORGIE: Objection, asked and answered. You can answer it again.
A I don't know the answer to that.
BY MR. GRIFFIS:
Q In your expert report, sir, on page 3, your

second citation -- I'll wait for you to get there. The second citation, Citation 4, is to the IARC Monographs, correct?

MS. FORGIE: He's not there yet.

A Yes.

BY MR. GRIFFIS:

Q Tell me how much you relied on the IARC Monographs and the IARC findings in reaching your conclusions about glyphosate and Non-Hodgkin's Lymphoma.

A Well, it was one of the documents I reviewed in the -- as well as many other things that I reviewed. And I reviewed it carefully and I pulled a lot of the articles that were referenced there as part of the materials that I reviewed. So I used it more as an information source than anything else, just like the other documents that I looked at.

Q Did you use it as kind of a guideline to which articles you should take a look at?

MS. FORGIE: Objection.

A It was a starting point, but, you know, then I did my own searches, I reviewed the EPA documents, the EFSA documents, all kinds of documents so --

BY MR. GRIFFIS:



Q And how influenced were you in reaching your own conclusions that IARC had reached the conclusions that they had after doing their review?

MS. FORGIE: Objection.

A I wasn't influenced. My strategy was to make up my own mind based on all the literature that I reviewed.

BY MR. GRIFFIS:

Q Are you relying on the fact that IARC went through this process and reached the conclusions that they did to support your views that glyphosate causes Non-Hodgkin's Lymphoma?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A No.

BY MR. GRIFFIS:

Q So you won't be telling a jury or a judge that IARC reached these conclusions and that's one of the reasons that you should agree with me that glyphosate causes Non-Hodgkin's Lymphoma; is that correct?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A Well, I think it is telling that IARC came to that conclusion, but I did not rely on the IARC



conclusion to draw my own conclusion.

BY MR. GRIFFIS:

Q Do you intend to argue to a judge or a jury that they should believe that glyphosate causes Non-Hodgkin's Lymphoma because IARC -- in part because IARC reached a conclusion like that?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A No, I would give my own conclusions.

BY MR. GRIFFIS:

Q You read the deposition of Dr. Blair, correct?

A I did.

Q And you saw that he testified that the IARC working group spent only one or two days total in analyzing whether glyphosate causes cancer, right?

MS. FORGIE: Objection, mischaracterizes the deposition.

A I don't remember that. I know the IARC spent about a week reviewing four or five different pesticides, but how much time they spent on each one, I don't really know.

BY MR. GRIFFIS:

Q A week -- evaluating four or five would leave obviously less than a week for any one of them,



right?

MS. FORGIE: Objection.

A Depending on how the time was apportioned, it depends entirely on that. I wasn't part of the IARC, so I have no firsthand knowledge.

Q Yes, sir. If Dr. Blair testified, and it was true, that the IARC working group only spent one or two days total analyzing whether glyphosate can cause cancer, that's less time than you spent, right?

MS. FORGIE: Objection, mischaracterizes the deposition.

A Yes. But as I understand it, the IARC spent -- the different people in the IARC spent quite literally months analyzing data and writing draft reports prior to their meeting, so they -- they spent a lot of time in aggregate.

BY MR. GRIFFIS:

Q And did you see that Dr. Blair testified with regard to that issue, that the evaluation process didn't start until day 1 of the one-week meeting?

MS. FORGIE: Objection, mischaracterizes the deposition and asked and answered. You can answer it again.

A I don't remember that, but I think the

evaluation really started when people were reviewing documents and writing draft reports months before.
BY MR. GRIFFIS:
Q And you -- do you recall that Dr. Blair testified that the months before period was used for gathering studies and gathering information and not analysis?
A And writing draft reports.
MS. FORGIE: Wait. Is there a question?
MR. GRIFFIS: Yes.
BY MR. GRIFFIS:
Q Do you recall Dr. Blair testified to that?
MS. FORGIE: Objection, asked and answered and mischaracterizes.
A Repeat the question. I'm sorry.
BY MR. GRIFFIS:
Q Yes, sir. Do you recall that Dr. Blair testified that that month or longer period that you just referred to was, in fact, spent gathering studies and not analyzing them?
MS. FORGIE: Objection, asked and answered, mischaracterizes the deposition testimony.
A I don't remember that, but my recollection -- what I do recollect is that there were subgroup leaders who were analyzing data and



manuscripts and writing draft reports. So when they came to the meeting in Leon, they came with draft reports which had analyzed data.
Q So people who are not subgroup leaders then would be in the position of dealing with, as you understand the process, an already written draft report and having a day or two to analyze all that data and reach their own conclusions; is that fair?
MS. FORGIE: Objection, mischaracterizes his prior testimony and asked and answered.
A So I don't know what the other members were doing during that time. I assumed that they had access to the same documents, but I don't really know what they did.
BY MR. GRIFFIS:
Q Okay. Your first category of evidence that you set forth in your expert report is epidemiology; is that right?
A Yes.
Q Why is that?
A You have to start somewhere. I didn't -- I could have started with the animal toxicology as well. It was an arbitrary decision.
Q You would agree that epidemiologic studies in humans provides the best and most convincing data



linking environmental exposures to cancer, right?
MS. FORGIE: Objection.
A Well, epidemiology is one source of data. I'm not sure it's the best. In some studies it's the best. In some analyses it's the best, in others it's not the best.
BY MR. GRIFFIS:
Q Yes, sir. I'm not talking about any particular set of data. I'm talking about as a general proposition, as a comparison of classes of evidence, epidemiologic studies in humans provide the best and most convincing data linking environmental exposures to cancer, correct?
MS. FORGIE: Objection, asked and answered. You can answer it again.
A It depends entirely on the quality of the data.
BY MR. GRIFFIS:
Q Do you recall testifying in Wendell versus Johnson & Johnson that epidemiological studies in humans provide the best and most convincing data linking environmental exposure to cancer?
MS. FORGIE: Objection.
A I don't remember.
BY MR. GRIFFIS:



Q What is your view of the importance of epidemiology and the role of epidemiology in a body of evidence that includes epidemiology and animal studies and mechanistic evidence like genotoxicity or oxidative stress evidence?
A I think epidemiology is one of the disciplines that is important, but all the disciplines are important. And depending on the situation, one could be more important than the other depending on the quality and quantity of the data.
Q With regard to the quality and quantity of data that exists regarding Non-Hodgkin's Lymphoma, how do you rank epidemiology, animal studies and mechanistic data in terms of their importance in reaching a conclusion?
MS. FORGIE: Objection.
A I think they're all important.
BY MR. GRIFFIS:
Q They're all equally important?
A Yes.
MS. FORGIE: Counsel, at some point when it's convenient can we have a break?
MR. GRIFFIS: Now is fine.
MS. FORGIE: Thank you.
THE VIDEOGRAPHER: We are off the record at

10:20 a.m.

(Exhibit 16-7, Article, was marked for identification.)

THE VIDEOGRAPHER: We are back on the record at 10:32 a.m.

BY MR. GRIFFIS:

Q Sir, we established earlier that you've been paid so far in this litigation $103,450 and you told me that since April 19th, which is the last date on the bills you provided to us, you worked about a hundred hours, correct?

A Yes.

Q So just doing the math, a hundred hours at $500 an hour is $50,000; $103,000 plus $50,000 is the $153,000 that you've earned so far in this litigation, correct?

A Yes.

Q I've marked as Exhibit 7 the original article by Sir Austin Bradford Hill that became known as the Bradford Hill Criteria; do you recognize that, sir?

A Yes.

Q And in the right-hand column on the first page, page 295, this is before -- I'll back up a moment.



The Bradford Hill Criteria are a number of numbered criteria like strength, consistency, et cetera, and that starts in the third full paragraph on page 295 in the right-hand column, right?

MS. FORGIE: Objection.

A Yes.

BY MR. GRIFFIS:

Q And immediately before that, setting this up, Dr. Bradford Hill describes what it is that the criteria are for; is that right?

MS. FORGIE: Objection.

A I'd have to read the preamble. I don't know.

BY MR. GRIFFIS:

Q Let's -- I'll read that paragraph, the paragraph immediately before the numbered paragraph strength. And you just follow along and make sure I get it right, sir. "Disregarding then any such problem in semantics we have this situation. Our observations reveal an association between two variables, perfectly clearcut and beyond what we would care to attribute to the play of chance. What aspects of that association should we especially consider before deciding that the most likely interpretation of it is causation?" And then he goes



into the first criteria in strength, right?

A Yes.

Q Okay. So I read that correctly, sir?

A Yes.

MS. FORGIE: Objection. I object to the use of the word "criteria." You're looking at me like what is the grounds.

MR. GRIFFIS: I'm not looking at you anymore.

MS. FORGIE: Right, you looked at me?

MR. GRIFFIS: I did look at you. Then I stopped.

MS. FORGIE: You can look at me. I don't care. But that's the grounds.

BY MR. GRIFFIS:

Q You call them the Hill Criteria?

A Some people call them the Hill Criteria. I believe they're more guidelines that people should use rather than criteria. It's a matter of semantics.

Q In your expert report, you call them "these guidelines or criteria," correct?

A Yes.

MS. FORGIE: Objection.

BY MR. GRIFFIS:



Q Either term is right?

A Either term is right.

Q Okay. So the third sentence that I read, sir, "What aspects of that association should we especially consider before deciding that the most likely interpretation of it is causation?"

Now, what Dr. Bradford Hill is doing here is pointing out that when two things are associated with one another, there's a difference between them being associated with one another and the one causing the other; is that right?

MS. FORGIE: Objection.

A That's right.

BY MR. GRIFFIS:

Q Association means we have observed that one happens and the other tends to happen more commonly and that might be due to a causal association or that might be due to something else; is that fair?

A Yes.

Q And among the things that it might be due to are some different causation that we're not seeing in the data or confounding or bias or the play of chance.

Those are all possibilities for the perceived association; is that right?

MS. FORGIE: Objection.
A That's right.
BY MR. GRIFFIS:
Q He says, "Our observations reveal an association between two variables, perfectly clearcut and beyond what we would care to attribute to the play of chance."
Dr. Bradford Hill is considered one of the founders of modern epidemiology; is that right?
A Yes.
Q And the association he's talking about here is an association seen in epidemiological data, right?
MS. FORGIE: Objection.
A People use these guidelines or criteria also with regard sometimes to animal data and other data. So they're sort of general guidelines criteria. Most often they're applied to epidemiology, but they can be applied to other disciplines as well.
BY MR. GRIFFIS:
Q When you say "applied to epidemiology," I want us to all understand each other.
Epidemiology is sort of a threshold, we find an association in epidemiology and then in



looking at the factors we pull in data from animal studies if it's available, mechanistic data if it's available from other disciplines, right?
MS. FORGIE: Objection.
A Or it could happen the other way. You could start with animal data that showed an association and then you might go and do your epidemiology later. There are different orders that things can happen in.
BY MR. GRIFFIS:
Q Okay, sir. Can you give me an example of a published Bradford Hill analysis, on any subject whatsoever, that starts with an association seen in animal data and then looks at other kinds of information?
MS. FORGIE: Objection.
A Not off the top of my head.
BY MR. GRIFFIS:
Q Can you give me an example of a published paper that uses -- applies the Bradford Hill analysis that starts with any kind of association other than epidemiology, not just animal studies?
MS. FORGIE: Objection.
A Not off the top of my head.
BY MR. GRIFFIS:



Q Okay. Let's talk about "perfectly clearcut and beyond what we care to attribute to the play of chance."
Modern epidemiologists have a number of statistical tools that they use to establish whether something is beyond what we would care to attribute to the play of chance, correct?
A Yes.
Q And statistical significance is one of those tools, correct?
A Yes.
Q And the -- although there are a number of confidence levels that people can select for particular studies based on their prior assumptions about the data, the most commonly used confidence interval in science is the 95 percent confidence interval, right?
MS. FORGIE: Objection.
A Yes.
BY MR. GRIFFIS:
Q And a 95 percent confidence interval means what?
A It means that you can have 90 percent confidence or 95 -- 95 percent confidence or 95 percent certainty that the value that you see is not



due to chance, but there's a five percent chance that -- there is a five percent possibility that it is due to chance.
Q Yes, sir. It doesn't say anything about causation in itself, correct?
MS. FORGIE: Objection.
A That's correct.
BY MR. GRIFFIS:
Q Okay. So what we mean by due to chance, when we're talking about a 95 percent confidence interval in the data, is if we did the same experiment again, there's a 95 percent chance that we would be in the same range; is that right?
MS. FORGIE: Objection.
A Yes.
BY MR. GRIFFIS:
Q And it could be that we would be in the same range because of some problem with the way we designed the study or because of confounding or because of bias or it could be that we would be in the same range because there's a true causal association here, we don't know without looking further; is that fair?
MS. FORGIE: Objection.
A You would have to repeat the question.

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That was a complicated question.
BY MR. GRIFFIS:
Q Sure. Yes, sir. A 95 percent -- 95 percent chance that we would get the same results again, that could mean there's a 95 percent chance we would get it again if we ran the experiment again because the new experiment would have the same biases or confounding or other problems as the first experiment or it could be that there's a true causal association that we have seen and the second study would find it too, right?
MS. FORGIE: Objection.
A That's correct.
BY MR. GRIFFIS:
Q Okay. You remember, sir, that when you looked at the IARC Monograph, the IARC working group reached particular conclusions about the different types of evidence that they looked at; they had a conclusion about epidemiology that was limited to them, they had a conclusion about the animal studies and a conclusion about the mechanistic data, correct?
MS. FORGIE: Objection.
A That's correct.
BY MR. GRIFFIS:
Q And you recall -- I got it right that the

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working group's assessment about the epidemiological evidence was that it was, quote, "limited," close quote, right?
A Yes, that's a term they use based on the criteria they use in general for IARC conclusions, so --
Q Yes, sir. Did you read the preamble that sets forth what those criteria were?
A Yes, I did.
Q Do you recall that the criteria for limited evidence of carcinogenicity in the human study, the epidemiology, it says "a positive association has been observed between exposure to the agent and cancer for which a causal interpretation is considered by the working group to be credible, of which chance, bias or confounding could not be ruled out with reasonable confidence?
MS. FORGIE: Objection.
A That's the IARC definition.
BY MR. GRIFFIS:
Q And do you agree that the epidemiology evidence that exists with regard to glyphosate and Non-Hodgkin's Lymphoma is limited by the IARC definition?
MS. FORGIE: Objection.

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A That's the IARC's definition.
BY MR. GRIFFIS:
Q Yes, sir. Do you agree that the evidence is limited if you were to apply the IARC definition?
MS. FORGIE: Objection.
A I would probably say it was sufficient, but I don't quibble with the IARC. They have their own terminology, their own rules and if you -- and so the IARC working group applied the IARC methodology and that's what they said.
BY MR. GRIFFIS:
Q I'll read the standards again. "Positive association has been observed between exposure to the agent and cancer."
You believe a positive association is demonstrated in the epidemiology, correct?
A Yes.
Q For which a causal interpretation is considered by the working group to be credible and you consider there to be a credible causal association in the epidemiology, correct?
A Yes.
Q But chance, bias or confounding could not be ruled out with reasonable confidence.
And do you agree or disagree with regard to

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the epidemiology on glyphosate and Non-Hodgkin's Lymphoma, that chance, bias or confounding cannot be ruled out with reasonable confidence?
MS. FORGIE: Object.
A I don't use that convention when I evaluate the epidemiology data. That's the IARC's convention. That's the terminology they use.
BY MR. GRIFFIS:
Q Yes, sir. And you said you don't quibble with them on it.
I'm trying to find out whether you agree or disagree that -- is it your view, sir, that chance, bias or confounding can be ruled out with reasonable confidence in the epidemiology data in glyphosate and Non-Hodgkin's Lymphoma?
MS. FORGIE: Object to form.
A Yes.
BY MR. GRIFFIS:
Q So you disagree with IARC on that?
A Well, it's a matter of degree in terms of the confidence one has in the data. And IARC basically had two categories they could use: They could use 1 or the 2A and they didn't feel they had enough data to put it into one so they left it in 2A. But I think that the epidemiologic studies are

well-constructed, they're well-done and they took every precaution to, as best they can, eliminate bias, eliminate -- to account for confounding. And, you know, so we have to accept the studies on the basis of their quality and who performed them and, you know, the results.

Q Yes, sir. Is it your view that the evidence on epidemiology is sufficient, in part, because it's the best -- the information we have on epidemiology is the best epidemiology evidence available so we have to take it the way it is?

MS. FORGIE: Objection.

A The epidemiology data is high-quality data. I wouldn't necessarily use the term "best," but it -- they're well-done studies with very credible results, published in peer-reviewed journals and accepted by IARC and all the regulatory agencies as part of their reviews, so I accept it.

BY MR. GRIFFIS:

Q You read the deposition of Dr. Neugut, right?

A Yes.

Q Did you read the deposition of Dr. Portier?

A I did.

Q Do you agree with Dr. Neugut that the



epidemiology alone is not sufficient to say there's a causal association between glyphosate and Non-Hodgkin's Lymphoma?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A Well, I would never look at the epidemiology alone. But what I did is I looked at the total body of information and epidemiology was one part, an important part.

BY MR. GRIFFIS:

Q Do you agree or disagree with Dr. Neugut's statement that epidemiology alone is not sufficient to say there's a causal association?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A I would say by itself, it isn't. But no one would ever just do that kind of analysis.

BY MR. GRIFFIS:

Q Okay. And you know that Dr. Portier also said that the epidemiology alone is not sufficient to say there's a causal association and you agree with that, right?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A Well, I just answered the question, I have



the same answer, that it's an important part of the information, but no one would just look at one piece of the information to come to a conclusion.

BY MR. GRIFFIS:

Q Do you agree with Dr. Portier that the genotoxicology alone is not sufficient to say there's a causal association?

BY MS. FORGIE: Objection.

A Yes.

BY MR. GRIFFIS:

Q I'm going to ask you some general questions of the same sort that I was asking when we were talking about the Bradford Hill paper, sir. This is not about this particular set of data before us, but about association and causation in general, all right.

Do you agree that associations with high relative risks are more likely to be causal assuming reasonably stable data?

MS. FORGIE: Objection.

A In general, yes.

BY MR. GRIFFIS:

Q And do you agree that significant associations may not be causal, significant meaning statistical significance, but causal associations



should be statistically significant?

MS. FORGIE: Objection.

A In general, that's true, yes.

BY MR. GRIFFIS:

Q Do you agree with Dr. Neugut, from his deposition, sir, that a positive epidemiology study is one with an odds ratio of greater than one that was statistically significant?

MS. FORGIE: Objection. Could I have that question read back?

MR. GRIFFIS: It was do you agree with Dr. Neugut.

A Could you repeat it?

BY MR. GRIFFIS:

Q Sure. Do you agree with Dr. Neugut, sir, from his deposition, that a positive epidemiology study is one with an odds ratio of greater than one and was statistically significant?

MS. FORGIE: Objection.

A That would be considered a positive study, yes.

BY MR. GRIFFIS:

Q And do you agree that you would not -- with Dr. Neugut from his deposition -- you agree with Dr. Neugut you would not label an exposure as being

even associated with an outcome unless there is a finding an increased risk of significance?
MS. FORGIE: Objection, mischaracterizes the deposition.
A So one can overinterpret the whole concept of statistically significant. And so sometimes results are not entirely -- they may be a borderline significance.
BY MR. GRIFFIS:
Q Is it necessary --
MS. FORGIE: Wait, let him finish.
A One has to look at the totality of the evidence. Some of it may be statistically significant, some of it might be borderline significant, some of it might be elevated but not significant. One has to look at all the data, the totality of the data. One cannot make decisions based on one data point.
BY MR. GRIFFIS:
Q Certainly there are a number of substances about which you can say, based on statistically significant data, unquestionably statistically significant data, that there is a positive causal association between that and a cancer, correct?
A Yes.



MS. FORGIE: Objection.
BY MR. GRIFFIS:
Q And glyphosate is not one of those substances, correct?
MS. FORGIE: Objection.
A With glyphosate, there are multiple epidemiologic studies, there are multiple animal studies, there are a number of mechanistic studies that all show statistically significance with regard to etiology.
BY MR. GRIFFIS:
Q So you believe that glyphosate does qualify as a substance for which there is unquestionably statistically significant data upon which you can rely in finding a true causal association?
MS. FORGIE: Objection, asked and answered. You can answer it again.
A I believe the data is convincing.
BY MR. GRIFFIS:
Q Are there any --
MS. FORGIE: Let him finish.
MR. GRIFFIS: Sorry, I thought you were.
THE WITNESS: I was.
BY MR. GRIFFIS:
Q Are there any epidemiology -- are there any



statistically significant associations between glyphosate and Non-Hodgkin's Lymphoma with an odds ratio of greater than one that are controlled for other pesticides?
MS. FORGIE: Objection.
A Yes.
BY MR. GRIFFIS:
Q Tell me what.
A Tell you one?
Q Tell me them.
A Well, they're shown in my table. The De Roos study has an elevation of 2.1 that's statistically significant. The Eriksson study has an elevation of 1.51 which was not statistically significant. And the Hardell has an increase of 1.85 that is not statistically significant. And although I don't have it listed here, if you look at the NAPP study, that shows a statistically significant increase risk for NHL and for diffuse large B-cell lymphoma that is adjusted for other pesticides. So, in fact, all four of the major studies has shown an increased risk ratio adjusted for other pesticides, two of which are significant --
Q The two that are significant --
MS. FORGIE: Wait. Were you finished?



A -- and two that are not.
BY MR. GRIFFIS:
Q The two that are significant in your view are De Roos, Item 3 on your chart, and the NAPP study that you didn't actually list on your chart; is that right?
MS. FORGIE: Objection.
A Right.
BY MR. GRIFFIS:
Q All right. We'll get to NAPP later.
Could you tell us briefly why you chose not to include that in your expert report?
A Yeah. It was an arbitrary decision. I felt like I would be sort of using it twice because the NAPP study is based on the McDuffie study and De Roos study. It's a pooling of that data. So it's really the same data. So I decided -- and the fact that it -- it has not been published, I decided not to use it. But I --
Q Okay.
A I'm happy to talk about it.
MS. FORGIE: Were you finished?
THE WITNESS: Yes.
BY MR. GRIFFIS:
Q To be fair, if we were to put NAPP into

your table, it would be, so that we don't double count, we need to delete McDuffie and De Roos because it's using the same data?
A Yes.
MS. FORGIE: Objection.
BY MR. GRIFFIS:
Q And some of these studies actually kind of have the same issue; they represent a combination of two or more older studies, right?
A Yes.
MS. FORGIE: Objection.
BY MR. GRIFFIS:
Q Do you agree, sir, it's important to have consistent findings across different epidemiologic studies to determine a causal relationship?
MS. FORGIE: Objection.
A Yes.
(Exhibit 16-8, Study - Etiologic Heterogeneity Among Non-Hodgkin Lymphoma Subtypes: The InterLymph Non-Hodgkin Lymphoma Subtypes Project, was marked for identification.)
BY MR. GRIFFIS:
Q Sir, I have marked as Exhibit 8 a study in the Journal of the National Cancer Institute Monographs, 2014, on which you are a coauthor, among



many other coauthors, entitled "Etiologic Heterogeneity among Non-Hodgkin's Lymphoma Subtypes: The InterLymph Non-Hodgkin's Lymphoma Subtype Project," correct?
A Yes.
Q And would you tell us, first of all, what your role was in this study?
A Well, I was involved in organizing the study, designing how the different subtypes were grouped. And I was actually a peer reviewer for about four or five of the other papers that were part of this monograph. So I was sort of, in a way, one of the editors. So this -- the whole monograph was based on pooled analyses of many epidemiological studies.
Q And by "monograph," you mean a single edition of the journal that was devoted to a common subject, multiple papers within --
A This is one of the papers, correct.
Q So you were a peer review on some of the other papers?
A Yes.
Q And please explain briefly what this study, the one I've marked as Exhibit 8, was doing.
A Well, study 8 took a look at all the data



globally and I think showed that some risk factors are important for some types, some subtypes, but not important for other subtypes. So that -- and this is something we've known from other data that certain risk factors are important for some subtypes, but don't have any -- don't have any role in other subtypes.
On the other hand, there are some risk factors which appeared to increase the risk for all subtypes, so --
Q So you can't really generalize about risk factors without actually looking at the data; is that fair?
MS. FORGIE: Objection.
A Right.
BY MR. GRIFFIS:
Q When you say "subtypes," what you're talking about is subtypes of Non-Hodgkin's Lymphoma, right?
A Yes.
Q Non-Hodgkin's Lymphoma is a heterogenous group of conditions, not a single unitary condition, right?
MS. FORGIE: Objection.
A Well, traditionally it's been thought of as



a single disease, but I think our concepts and ideas have changed about it so that we really believe now that some of the subtypes are quite distinctive, some subtypes are related to other subtypes, but other subtypes are not at all related to other subtypes. So it is a very heterogenous group of diseases.
Q And this study, Exhibit 8, sir, was a statistical analysis of a large amount of data about the etiology of various subtypes of Non-Hodgkin's Lymphoma, meaning things that cause those various subtypes of Non-Hodgkin's Lymphoma, right?
A Yes.
Q On page 138, sir --
A 138?
Q Yes. I'm in the "discussion" section.
A Okay.
Q I'm going to start with the second sentence in the "discussion" section, sir. "Based on a novel methodological approach to cluster NHL subtypes according to a broad spectrum of risk factors, the majority of risk factors showed differences in risk among NHL subtypes whereas fewer factors showed consistent risks among subtypes," correct?
MS. FORGIE: Objection.
A That's what it says. I have to read it

again to understand it.
BY MR. GRIFFIS:
Q Okay. And do you -- isn't that exactly what you were just telling me, that what you have found, based on this work and other work, that some risk factors are associated with particular subtypes and some risk factors are associated with multiple subtypes?
MS. FORGIE: Objection. Also, he's requested time to review which I think should --
A I think it says the same thing. You're right.
BY MR. GRIFFIS:
Q Okay. It goes on to say, "Overall, this approach most strongly distinguished T-cell from B-cell lymphomas with additional heterogeneity among specific types of B-cell lymphoma, although the patterns of effect heterogeneity varied substantially for the different risk factors," right?
A Yes, that's what it says.
Q Can you explain what that means, distinguishing -- "most strongly distinguish T-cell from B-cell lymphomas with some additional heterogeneity among specific types of B-cell lymphoma"?



A I haven't read this paper for a long time, but let me attempt here. It says --
MS. FORGIE: You can take your time to read it.
THE WITNESS: Let me read the comment again.
BY MR. GRIFFIS:
Q Let me be clear. What I -- my question is primarily asking you to make it clear to a relative lay person what T-cell and B-cell lymphoma means in the context of that sentence, because they may not know the difference.
MS. FORGIE: And make it clear you read as much as you need to read.
A Let me read the comment again.
BY MR. GRIFFIS:
Q Sure.
A So what it's saying is there seemed to be risk factors for B-cell lymphoma and there seemed to be risk factors for T-cell lymphoma. Those are two different immunologically types -- subtypes of Non-Hodgkin's Lymphoma. So there seemed to be some correlation of certain factors with more so with T or more so with B and then even within B, with some subtypes of B.



Q Okay.
A I think that's what it said.
Q It would be fair to say, sir, before we go and turn to the specific data on glyphosate, that the conclusion that different risk factors may or may not have heterogenous impact on Non-Hodgkin's Lymphoma would be true of glyphosate?
MS. FORGIE: Objection.
A So it could be true for glyphosate. We don't know. I mean, the -- there are a few studies that have looked at risk for B versus -- I think B or B versus T, but at least for B because B is the biggest group. And the NAPP actually looked at the large subtypes, because for the small subtypes you don't have enough cases so they aggregated those into one sort of very heterogenous group.
BY MR. GRIFFIS:
Q The other group?
A The other group, yeah.
Q So some of the studies have actually looked -- broken it down by subtype, but as a general proposition, it would be necessary to look at the data on glyphosate to figure out whether it was the kind of risk factor that affects different subtypes differently or whether it affects the subtypes the



same?
MS. FORGIE: Objection, mischaracterizes his testimony.
A So traditionally, in the past, epidemiologists looked at the NHL as a -- as an entity. But as a pathologist, one of the things that I really pushed hard in the InterLymph group was this idea of looking at subtypes, because we've learned a lot about how distinctive some of the various subtypes are, so it would make sense to look and see whether there aren't specific risk factors for subtypes. And for some types we have already known that. But looking at things, environmental things that might have more specificity for subtypes. That was one of the things that I really pushed hard into the InterLymph group. That was one of my contributions.
MR. GRIFFIS: I'm going to turn now, sir, to the epidemiology studies that you listed in Table 1 of your expert report. Let's take a five-minute break before we do that.
THE VIDEOGRAPHER: We are off the record at 11:06 a.m.
(Brief recess.)
THE VIDEOGRAPHER: We are back on the

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record at 11:18 a.m.
(Exhibit 16-9, Cancer Epidemiology, Biomarkers & Prevention, was marked for identification.)
BY MR. GRIFFIS:
Q Sir, I've marked as Exhibit 9 the McDuffie article and this is the first of the epidemiology articles that you put into your expert report, Number 1 on your Table 1, your table of epidemiologic studies of Non-Hodgkin's Lymphoma and glyphosate and the first one you discussed, right?
A Yes.
Q And the study looked at many different substances at once, it wasn't specifically designed to test the hypothesis that glyphosate caused Non-Hodgkin's Lymphoma, right?
MS. FORGIE: Objection.
A Right.
BY MR. GRIFFIS:
Q Now, why is it important for an epidemiology study to describe at the outset which specific relationships are being investigated?
Let me rephrase that, because I don't mean that they should write it at the beginning of the paper, but why is it important for epidemiologists

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and people performing epidemiology studies to decide up front which specific relationships are being examined and to declare that?
MS. FORGIE: Objection.
A Well, it can impact on how you design the study and how many cases and how many controls you need, so it's important to understand what your intent is for the study in order to design the study properly.
In this study, they -- the question generally was looking at whether a specific class is or even specific pesticides are associated with Non-Hodgkin's Lymphoma, so it was a more general approach rather than looking at one class of pesticides or one specific pesticide.
Q Yes, sir. And when they mentioned, when they were discussing how they set up the study, the specific classes and chemical groups and individual compounds they mentioned -- I'm over on page 1156, right-hand column.
A Okay.
Q And here they're talking about how they collected the pesticide data and how they drilled down from broadest categories of exposure to classes to chemical groups and finally individual compounds.

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And that's at the end of the first paragraph, right?
A The pesticide data was collected at various levels -- separate levels, if that's what you're talking about.
Q Right. And the specific examples that they gave are of the phenoxyherbicides which don't include glyphosate and the individual compounds that they mentioned in the example also don't include glyphosate, right?
A Yes.
Q And the authors describe their analyses in the study as exploratory, right?
MS. FORGIE: Objection.
A Where do you see it?
BY MR. GRIFFIS:
Q Page 1161, sir.
A Oh, in the --
Q When you get there I'll direct you more specifically. 1161 -- sorry, are you there?
A Yeah.
Q Right-hand column, the second full paragraph, third paragraph. It says, "We reported results for a number of chemical agents and exposures, not all of which were specified in

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hypothesis. Therefore, the statistical analyses related to these unspecified agents should be considered exploratory. As a consequence of conducting multiple comparisons, a small number of statistically significant results may be attributable to chance."
That's what they wrote, right?
A Yes.
Q The issue they're talking about here is when you gather a whole bunch of data about a whole bunch of possible association, you are likely, just by the play of chance, to see statistically significant association just due to the operation of chance, right?
MS. FORGIE: Objection.
A That's certainly a possibility, yes.
BY MR. GRIFFIS:
Q If you're using a 95 percent confidence interval, it would happen about one out of every 20 associations, right?
MS. FORGIE: Objection.
A Right.
BY MR. GRIFFIS:
Q And glyphosate isn't mentioned in the abstract or in the discussion section of this

article, right?
A I'd have to read through it to be sure.
Q Okay. Go ahead.
MS. FORGIE: Objection.
A Yeah, that's correct. Glyphosate is not mentioned, although they do comment that risks were found for a number of herbicides so they don't specify.
BY MR. GRIFFIS:
Q Now, Table 2, sir, is a listing of a number of individual herbicides with some associated odds ratios.
Would you explain the difference between the odds ratio A and the odds ratio B column in Table 2, sir?
A Yeah. So you have to look at the footnote and odds ratio A is sort of adjusted for -- it's adjusted for age and province or residence. And then -- so adjusted on two variables. And then B is adjusted on that, as well as I think they list a bunch of medical variables, as well as a positive history of cancer in first-degree relatives. So it's a more detailed adjustment.
Q It's more adjusted?
A More adjusted, yes.



Q Now, we established earlier that you wouldn't be the person to figure out exactly which things need to be adjusted for or to construct the statistical tools used to do the adjustment. But would you explain, please, why it is that the column B adjustment is more helpful than the column A adjustment.
MS. FORGIE: Objection.
A I think it's more helpful because it -- it adjusts for more variables and it equalizes the analysis in a better way. And, you know, a lot of the things they've adjusted for I don't think are important, but some of the things are important. You always want to adjust for age and province or state or residence just because there could be differences in different places. And it's good to adjust for a family history of -- not sure of a family history of cancer, but a family history of hematopoietic cancer would be a better thing to adjust for. So -- I don't know. I mean, the second adjustment is not really, to me, very much better than the first.
Q Yes, sir. You chose, when you created your chart in your expert report, your Table 1 listing, the epidemiology studies and some selected risk estimates pulled out of those epidemiology studies



and they were selected, right, assuming you didn't report every single risk assessment from the study?
A I didn't. No, I reported just for glyphosate.
Q And not every single one for glyphosate, you pulled particular ones out to show us, correct?
MS. FORGIE: Objection.
A Right.
BY MR. GRIFFIS:
Q For example, the very first one that you report from McDuffie is the 1.2 from the more adjusted odds ratio column, correct?
MS. FORGIE: Objection.
A Yes. You can see it's not much different than the one that's adjusted, seeing just a couple variables, it's almost the same.
BY MR. GRIFFIS:
Q It didn't change the numbers much, but it's a better figure because it adjusts for more relevant variables, right?
MS. FORGIE: Objection, asked and answered. You can answer that again.
A That's the reason I selected that one.
BY MR. GRIFFIS:
Q Yes, sir. Now, in your expert report, you



also point to an analysis from the McDuffie paper of the odds ratios for less than or equal to two days a year of exposure to glyphosate and one for greater than two days per year of glyphosate, right?
A Yes.
Q That is from Table 8 on page 1161, correct?
A Yes.
Q And they did not adjust -- those figures are not adjusted for exposure to other pesticides, right?
A That's correct.
Q And that is the 2.12 odds ratio with a confidence interval of 1.2 to 3.73 and you put that into your table and bolded it, right?
A Yes.
Q Now, that is certainly a major confounder for the issue of whether glyphosate can cause Non-Hodgkin's Lymphoma, right?
MS. FORGIE: Objection.
A What's a major confounder?
BY MR. GRIFFIS:
Q Exposure to other pesticides.
A Yes, it could be.
Q And they said -- the authors said, on page 1160, in the right-hand column at the bottom,

"clearly, we had few exposed men whose exposure was limited to one pesticide or one class of pesticides," right?

A Yes, that's what it says.

Q So confounding was certainly happening in this study, right?

MS. FORGIE: Objection.

A Well, it's potentially confounding. We don't really know it's confounding, but there's potential for confounding.

BY MR. GRIFFIS:

Q The 2.12, that you listed on your Table 1 and put into bold, wasn't even adjusted for the other medical variables that we saw adjusted for in Table 2, right?

MS. FORGIE: Objection.

A No, it was just adjusted for age and province of residence.

MR. GRIFFIS: I've been told we need to change the tape, so I'm going to pause and we can do that.

THE WITNESS: Okay.

THE VIDEOGRAPHER: This marks the end of Videotape Number 1 in the deposition of Dr. Dennis Weisenburger. We're off the record at 11:32 a.m.

(Brief recess.)



THE VIDEOGRAPHER: We are back on the record at 11:34 a.m. This marks the beginning of Videotape Number 2 in the deposition of Dr. Dennis Weisenburger.

BY MR. GRIFFIS:

Q Doctor, I'm on Table 8 in the McDuffie study.

A Okay.

Q Exhibit 9. And again, this is the table from which you pulled the 2.12 odds ratio that you put in Table 1 in your expert report and bolded.

The analysis that you cited in your expert report on the issue of dose response of glyphosate in Non-Hodgkin's Lymphoma, is it greater than zero, less than or equal to two versus greater than two, days per year of exposure, does not take into account the duration of exposure, correct?

MS. FORGIE: Objection.

A That's correct.

BY MR. GRIFFIS:

Q So, for example, a person could use glyphosate twice a year for each of 10 consecutive years and they'd be put in the low exposure group and someone who used it three times in their life but all three times in the same year on different days would



be put into the high exposure group, right?

MS. FORGIE: Objection.

A I'm not sure that's true. I'd have to look in the methods to see if they have any qualifiers --

BY MR. GRIFFIS:

Q Okay. Go ahead.

A -- to that. Based on what they say in the methods, you really can't know, but I would assume that's correct.

Q It's possible that the dose response analysis in this study could be backward with regard to these two groups, the low exposure group and the high exposure group could be backwards depending on how duration matches up with this measure that they chose of dates per year, right?

MS. FORGIE: Objection.

A So this parameter, less than or equal to two days and greater than two days, is a surrogate for dose intensity rather than total dose. So intensity is important as well as time and this looks more at intensity, so low intensity versus high intensity.

BY MR. GRIFFIS:

Q Well, sir, someone could be exposed to it, tiny amounts of glyphosate with a trivial exposure on



three different days in a year and put into the high risk group, or somebody could be massively exposed on two days during the year and be put into the low risk group, right?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A It's certainly possible, but that's the way -- that's the way they did it in this study.

BY MR. GRIFFIS:

Q Yes, sir. It's possible, though, that the actual exposures, both in terms of total number of exposures and intensity of exposures, could be reversed between these two groups, correct?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A Well, as I said, this is a measure of intensity of exposure, so it's looking at people who had more exposure in a short period of time, which is a year, versus those who had less exposure in a short period of time. So it -- it is what it is.

BY MR. GRIFFIS:

Q But my statement is correct, that the people that are placed in the low group and the people that were placed -- a person could be put in the lower exposure group having had a more meaningful

exposure to glyphosate than someone who is placed into the high exposure group, right?
A It's possible.
MS. FORGIE: Objection, asked and answered. You can answer it again.
A It's possible.
BY MR. GRIFFIS:
Q Sir, there's no odds ratio reported in this study between glyphosate and NHL, Non-Hodgkin's Lymphoma, that is statistically significant and is adjusted for other pesticides, right?
MS. FORGIE: Objection, asked and answered.
A That's correct.
MR. GRIFFIS: Exhibit 10 will be the Hardell study.
(Exhibit 16-10, Hardell study, was marked for identification.)
BY MR. GRIFFIS:
Q Sir, we talked earlier about how some of the epidemiology studies were actually groupings of smaller, older epidemiology studies and that's true of this one, right?
A Yes.
Q This Hardell 2002 study looked at the Hardell 1999 and the Nordstrom 1998 studies, right?



A Yes, and pooled them.
Q And this is like the McDuffie study, another study where data was gathered for a large group of herbicides and pesticides and other chemicals, not focussed on glyphosate, correct?
MS. FORGIE: Objection.
A Yes.
BY MR. GRIFFIS:
Q So you would expect to see multiple statistically significant associations just due to chance alone in such a grouping of data, right?
MS. FORGIE: Objection.
A You certainly could.
BY MR. GRIFFIS:
Q There were only eight people with Non-Hodgkin's Lymphoma exposed to glyphosate, even in this pooled analysis out of 404 total cases, right?
MS. FORGIE: Objection.
A That's correct.
BY MR. GRIFFIS:
Q And you say that -- in your Table 1 in your expert report, that there is limited statistical power to this study, right?
A Yes.
Q Is that because of the very small number of



people exposed?
A Yes.
Q And could you explain what "limited statistical power" means?
A Well, it means when you have a small number of exposed cases, your ability to detect significant differences is limited by the number of cases.
Q Yes, sir.
A So the power is weak.
Q And when power is weak, you can get false results in both directions, right; you can get seemingly false positive associations that are really based on how scant the data is and you can get seeming false negative associations that are really based on how scant the data is; fair?
MS. FORGIE: Objection.
A Yes, you can get either false positive or false negative results.
BY MR. GRIFFIS:
Q Now, Dr. Hardell and his colleagues did multivariate analysis adjust for confounders in this study, right?
A Yes.
Q What is multivariate analysis?
A Well, it's a form of analysis where you



can -- you can look at how different variables affect each other and you can modify the effects by the effects due to other variables. So you can come to a more -- a more, I guess, accurate appraisal of what the true result is.
Q Okay. In the -- and Table 7 reports the univariate and the multivariate analyses that they employ to get the various odds ratios that they reported for a number of specific substances, including glyphosate, right?
A Yes.
Q And you chose to put into your Table 1 in your expert report the 3.04, 1.08 to 8.52, from the univariate analysis; is that right?
A Yes.
Q And you also listed the multivariate one, 1.85, 0.55 to 6.2?
A Yes.
Q You bolded the 3.04 one and not the 1.85 one.
First of all, why are some things bolded and some things not bolded in Table 1 of your expert report?
A So I bolded the ones that were statistically significant.

Q Okay. And the better controlled one, the multivariate analysis, is not statistically significant in the Hardell study, right?
MS. FORGIE: Objection.
A Right.
BY MR. GRIFFIS:
Q And you say that the multivariate analysis that you report here, 1.85, not statistically significant, is adjusted for other pesticides, right?
A Yes.
Q Let's go to the statistical analysis section, so 1044 -- page 1044.
A Okay.
Q It goes over onto the next page. I showed you where the section starts, but the part I would like you to focus on is the second page, 1045. They talk about both univariate and multivariate analyses were done. We were just in the table that shows the results of that.
And they say, "in this pooled analysis, adjustment was made for study area and vital status," right.
A Right.
Q Vital status means alive or dead?
A Correct.



Q So they didn't control in the multivariate analysis for other pesticides, correct?
A If you read on, it says, "when risk estimates for different pesticides were analyzed." I'm assuming -- that's a good question.
Q They say in the next sentence --
MS. FORGIE: Wait, he's reading so he can answer your question.
A It's not clear from the methods, but in the results section, they talk about multivariate analysis. Tables 6 and 7, it says "multivariate analysis of exposure to phenoxyacetic acids, insecticides, fungicides" --
MR. GRIFFIS: Can you tell me where you're reading?
THE WITNESS: Yeah, it's the third paragraph on 1046.
A It says, "an increased risk persisted for exposure to herbicides, fungicides and impregnating agents. A separate multivariate analysis was performed for exposure to herbicides. Lower risk estimates were obtained, although all herbicides still constituted risk factors for NHL." It implies they did risk adjustment for other pesticides. I know -- I mean, other experts have also come to that conclusion.
Q Do they say anywhere that they controlled for other pesticides?
MS. FORGIE: Objection, asked and answered. He just answered that question. You can answer it again.
A It doesn't clearly say.
BY MR. GRIFFIS:
Q On page 1047, sir, three paragraphs down from the table, Table 7 on the left-hand side, talking about the multivariate analysis as performed for herbicides, fungicides and impregnating agents. And two -- three sentences in, they say, "The results in multivariate analysis must be interpreted with caution since exposure to different types of pesticides correlate," correct?
MS. FORGIE: Objection. You left out part of the sentence.
MR. GRIFFIS: No, I read the whole sentence.
MS. FORGIE: No.
MR. GRIFFIS: The sentence says, "the results in multivariate analysis must be interpreted with caution since exposure to different types of pesticides correlate."





MS. FORGIE: But you started to read "in the multivariate analysis exposure to herbicides, fungicides and impregnated agents increased the risk" and you left out although OR was lower than the unit variant analysis.
MR. GRIFFIS: Okay. Now I'm focussed on the results.
MS. FORGIE: So skipping the first two sentences to the third sentence, is that what you're doing?
MR. GRIFFIS: Yeah, that's what I said I was doing.
A I don't know --
MS. FORGIE: Objection, asked and answered. You can answer it again.
A All I can say is that I assume the multivariate analysis included analysis for other pesticides and other people who reviewed this paper came to the same conclusions. So -- but I'm not sure at this point.
BY MR. GRIFFIS:
Q You agree with me, sir, they don't say anywhere that they controlled for other pesticides and they say that, hey, when you look at the multivariate analysis result you have to interpret

them with caution because there is, in fact, correlation with exposures to different pesticides, right?

MS. FORGIE: Objection, asked and answered. He's answered this twice. You can answer it a third time, but it's starting to be harassing.

A That's what they say.

BY MR. GRIFFIS:

Q And the statement that "the results in multivariate analysis must be interpreted with caution since exposure to different types of pesticides correlate" doesn't make sense if they have already controlled for the effective exposure to different types of pesticides in the multivariate analysis, right?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A It doesn't make sense.

BY MR. GRIFFIS:

Q Now, whether Table 7 did or didn't control for other pesticides and herbicides, that odds ratio is not statistically significant, right?

A Correct.

Q It's certainly the case that there is no odds ratio in Hardell that shows a statistically



significant association between glyphosate and Non-Hodgkin's Lymphoma controlled for other pesticides; true?

MS. FORGIE: Objection.

A Well, the multivariate analysis for glyphosate is not statistically significant.

BY MR. GRIFFIS:

Q Is there any other odds ratio reported in this study that shows a statistically significant association between glyphosate and Non-Hodgkin's Lymphoma controlled for other pesticides?

MS. FORGIE: Objection, asked and answered. This is the fifth time he's explained it to you, many times.

A No.

BY MR. GRIFFIS:

Q The next thing I'm going to look at, Doctor, is the De Roos 2003. That's a little bit intricate and it's almost lunchtime.

Would you like to break?

A Sure.

THE VIDEOGRAPHER: We are off the record at 11:54 a.m.

(Lunch recess.)

THE VIDEOGRAPHER: We are back on the



record. The time is 12:48 p.m.

(Exhibit 16-11, De Roos 2003 study, was marked for identification.)

BY MR. GRIFFIS:

Q Sir, I've marked as Exhibit 11 the De Roos 2003 paper and this is the paper that appears in your expert report, Table 1, correct, Item 3?

A Yes.

Q And this study pooled three smaller older studies: The Cantor study from 1992, the Zahm study from 1990 and the Hoar study from 1986, correct?

A Yes.

Q Did I pronounce those names correctly?

A Yes.

Q And you were one of the coauthors on the De Roos 2003 paper, right?

A Yes.

Q And what was your role?

A So the Nebraska study is one of the three studies that they pooled and that was the study that I was the PI on. So it was all data from Nebraska. I helped organize the study, I managed the study, I did all the pathology on the study.

Q Okay. And is there a sense in which De Roos 2003 supersedes Cantor 92, Zahm 94, Hoar 86?



MS. FORGIE: Objection.

A I'm not sure I'd use that terminology. It pooled the data from those three studies so they're bigger numbers and more power to analyze. So in a way, yes, because I used it instead of the other three. And some of the other three don't maybe even look at glyphosate, so this one had enough cases to do that.

Q The idea of pooling, when you do it right like this, is to try to get more power and get more information than could be contained in the smaller studies by comparing like to like; is that fair?

A Yes.

Q That's the sense when I mean supersede; this, if it's done right, should be better than the sum of the parts; is that fair?

MS. FORGIE: Objection.

A Yes.

BY MR. GRIFFIS:

Q That was your intent anyway?

A Yes.

Q And none of the studies that went into this -- Cantor, Zahm or Hoar -- was designed to test the hypothesis that glyphosate specifically was associated with Non-Hodgkin's Lymphoma, right?

MS. FORGIE: Objection.
A That's correct.
BY MR. GRIFFIS:
Q This looked at -- they looked at and the De Roos 2003 pooled analysis looked at 47 pesticides simultaneously, right?
A Yes.
Q And as we discussed earlier, with so many comparisons going on, multiple comparisons, more than 20 comparisons, you would expect some false positives just by virtue of the fact that you're looking at so many different statistical comparisons at once, right?
MS. FORGIE: Objection.
A Yes.
BY MR. GRIFFIS:
Q Generally speaking, smaller studies with fewer patients are more prone to chance complicating their findings or falsifying their findings, right?
A Yes.
Q Now, in -- did you read the expert reports of any of the other expert witnesses in the litigation, sir?
A Yes.
Q Did you read the report of Dr. Neugut?



A Yes.
Q Did you see that Dr. Neugut said that the Cantor study, one of the ones that's pooled here, had low power because there were only 26 cases of Non-Hodgkin's Lymphoma with exposure to glyphosate?
MS. FORGIE: Objection.
A I don't remember that.
BY MR. GRIFFIS:
Q Okay. Well, let's set aside whether he said it.
Do you agree that the Cantor study has low power because there are only 26 cases in Non-Hodgkin's Lymphoma with exposure to glyphosate?
MS. FORGIE: Objection.
A I would actually probably have to look at the study. 26 cases is a fair number of cases even compared to the other cases we've been studying so --
Q Okay.
MS. FORGIE: Were you finished with your answer?
BY MR. GRIFFIS:
Q Hardell is one that you listed in your expert report as having low statistical power, right?
A Right.
Q And that was one with eight individuals



with exposure glyphosate in Non-Hodgkin's Lymphoma, right?
A Right.
Q So 26, you seem to have a different threshold perhaps than Dr. Neugut that at eight you would agree with him about the low statistical power, right?
MS. FORGIE: Objection.
A Yeah, I agree that eight is, as I said in my report, it has limited power.
BY MR. GRIFFIS:
Q And some of the other studies that you list on your Table 1 in your expert report have comparable or less than Hardell, right, like Cocco has only four individuals with exposure to glyphosate in Non-Hodgkin's Lymphoma?
A Yes.
Q And Orsi has only 12 exposure to glyphosate in Non-Hodgkin's Lymphoma?
A Yes.
Q Do you think Orsi has limited statistical power?
A Yes.
Q Now, I'm looking at your Table 1 in your expert report, sir. You report only one odds ratio



from the De Roos study and that is a 2.1 with a confidence interval of 1.1 to 4.0.
A Correct.
Q And that's bolded which in your -- in the rubric you were using means it was statistically significant. And there's an asterisk which refers us to the comment over on the right, "adjusted for other pesticides," correct?
A Yes.
Q And when I asked you earlier, are there any statistically significant findings with an odds ration of greater than one in testing for other pesticides, in the epidemiology literature you said yes, there's one in De Roos 2003, meaning this one, and there's also one in the North American Pooled Project data.
And although you didn't list it in your expert report, you were aware of that one, correct?
A Correct.
MS. FORGIE: Objection.
BY MR. GRIFFIS:
Q So those were the two.
Now, on page 2 of the De Roos study, we have the "statistical analyses" section and the data that was -- the odds ratios that were given in this

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were controlled in two different ways, the logistical regression and hierarchical regression, correct?
A Yes.
Q And in the "statistical analysis" section, they explain -- it's explained that the pesticide -- other pesticide exposures were controlled in the hierarchical regression analysis, correct?
A Yes.
Q And not in the logistical regression analysis, right?
A They're controlled in both.
Q Where does it say that?
A I have to sit down and read the whole paper again to really be sure.
MS. FORGIE: Do you want him to read the whole paper to find it?
MR. GRIFFIS: Looking for him to finish his sentence.
A So on the title for Table 3, it says "Effect estimates for use of specific pesticides and NHL incidence, adjusting for use of other pesticides," and there's an asterisk. And the asterisk says, "Each estimate is adjusted for use of all other pesticides listed in Table 3, age and study site." Logistic regression and hierarchical

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regression use slightly different methods to do basically the same thing.
Q Okay. Let's go to page 2 of 9, "statistical analysis" section.
A 209.
Q Two of 9?
MS. FORGIE: Page 2.
THE WITNESS: Page 2. I'm sorry.
BY MR. GRIFFIS:
Q And I'm looking at the first paragraph under "statistical analysis" first, about halfway down the paragraph where it says "we employed two approaches to our analysis: Standard statistical regression (maximum likelihood estimation), and hierarchical regression." And then it says, "all models included variables for age and indicator variables for study site." It goes on to explain that it was considered whether to control for first-degree relative with hematopoietic cancer, education and smoking, but those weren't important confounders; I'm right so far?
MS. FORGIE: No. Objection.
BY MR. GRIFFIS:
Q Is that correct so far?
A I think so, yeah.

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Q Okay. And then "the standard logistic regression models did not assume any prior distribution of pesticide effects, in contrast to the hierarchical regression modelling;" did I read that correctly?
A Uh-huh.
Q Explain what that means.
A Well, I'm not really sure what it means. I think it means that they made adjustments for each of the pesticides, but they didn't really take into consideration how often they were covariates, how often they were used, whereas the other one, the hierarchical regression, was a more detailed analysis.
Q If you keep reading the next sentence under the title "Hierarchical regression of multiple pesticide exposures" gives us some more information saying "in the first-level model of the hierarchical regression analysis, NHL disease status was regressed simultaneously on the 47 pesticide exposures, age and study site."
Can you explain what it means to be regressed simultaneously on the 47 pesticide exposures?
A No, I can't. I'm not an expert on these

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kind of multivariate analyses and differences.
Q Then please explain a little more -- I believe you said earlier that the logistic regression control for other pesticides was less thorough or less sophisticated or less complete than the hierarchical.
Would you explain what you meant by that if I even got it right?
MS. FORGIE: Objection.
A I think that's the best I can do.
BY MR. GRIFFIS:
Q Okay.
A They explain it in their -- on the end of the description of hierarchical regression. They say, "Because our prior covariates were crudely defined and because there is little information on factors that would be expected to affect the magnitude of the effect of pesticides on NHL incidence, we also performed a hierarchical regression analysis of multiple pesticides using an intercept-only model in which all pesticide effects were assumed to arise from a common prior distribution with a prior residual variance. In other words, this modelling assumed that there was no a priori reason to believe that any specific

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pesticide was more likely to be associated with NHL incidence than any other pesticide in the model."

So it's a different way of doing it. I'm not sure -- I'm not sure it's better or more sophisticated or less sophisticated. That would be a question for an epidemiologist or a statistician.

Q Which of the people on the paper would that be a question for?

A It would be a question for De Roos or Zahm or Cantor or Blair, Burmeister also. They're all epidemiologists. Burmeister is a statistician.

Q When the -- I'm sorry, you were just reading from a paragraph that extends from page 4 over to page 5. And I'm now looking at the last sentence in that paragraph, sir, that's on page 5.

It says, "Indeed a linear regression analysis of 47 logistic regression beta coefficients for the pesticides regressed on the prior covariates found no statistical significant association at a significance level of P less than 0.05 results not shown." Can you explain --

A Where is that? I'm sorry.

Q You were reading from the paragraph that extends from page 4 to page 5.

A No, I was reading from page 2.

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Q Were you?

A Uh-huh.

Q I was looking at an almost identical sentence that was extending from 4 to 5 talking about the linear intercept model. Anyway, if you turn to page 5 and look at the paragraph that ends there.

A So they looked at it one way and it was statistically significant and they looked at it a second way and it was still elevated, but it was no longer statistically significant.

Q And the linear regression analysis, which is another way they looked at it but did not show the results, found no statistically significant association, correct?

MS. FORGIE: Objection.

BY MR. GRIFFIS:

Q Do you need to know where I am, sir?

A I know where you're at. I need to read this again.

Q Sure.

A That's what it says. They used another method called "linear regression analysis," but it doesn't show the data.

Q Yeah, it says "data results not shown," right?

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A Yeah.

Q So there could have been a column of logistic regression -- sorry, linear regression analysis next to the logistic regression and hierarchical regression, but none of those would have been statistically significant, right?

MS. FORGIE: Objection.

A That's what it says.

BY MR. GRIFFIS:

Q Okay. So there was -- to sum up, I think, if I got this correct, there were three different ways that the data was analyzed in this study: Statistical regression, hierarchical regression and linear regression; am I right so far?

MS. FORGIE: Objection.

A I believe so.

BY MR. GRIFFIS:

Q In the logistic -- and you believe that the logistic regression, hierarchical regression and linear regression all controlled for other pesticides, correct?

A Yes.

Q In the logistic regression, there was a statistically significant odds ratio, 2.1 with a confidence interval of 1.1 to 4.0, correct?

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A Correct.

Q In the hierarchical regression, it was not statistically significant, correct?

A That's correct, but it was still elevated.

Q And in the linear regression, it was also not statistically significant, although we don't know what the numbers are, right?

A Correct.

Q Did you originally have access to those numbers?

MS. FORGIE: Objection.

A I never saw the numbers.

BY MR. GRIFFIS:

Q So you wouldn't have seen the -- a table with the linear regression analysis?

A No, I don't -- I don't remember. I don't think so, but I don't remember.

Q You don't generate these tables?

A No.

Q The value that you reported in your expert report was the one that is statistically significant and not the -- not either of the nonsignificant values, correct?

A Correct.

Q Why is that?

A Well, because, you know, I probably should have -- I probably should have listed both, but I listed the one that was statistically significant.
Q And is it fair to say you don't know which of the three regressions best controls for other pesticides exposures?
MS. FORGIE: Objection.
A I don't know which one does, no. They don't really talk about that.
BY MR. GRIFFIS:
Q Please explain what the North American Pooled Project is.
A Yeah, so the North American Pooled Project is a pooling project of studies -- the three studies in the De Roos 2003 paper and the McDuffie paper, so it's a pooling of Canadian and U.S. case control studies.
Q We talked a few minutes ago about how there's a sense in which the De Roos 2003 paper supersedes the three papers that it pooled, Cantor, the Zahm and Hoar.
In the same sense, does the North American Pooled Project supersede the De Roos 2003 and McDuffie papers?
MS. FORGIE: Objection.



A Yes, because it pools them and uses the data in bigger, more powerful study.
BY MR. GRIFFIS:
Q And again, the intent of pooling is to increase the power and increase the value of the statistical analyses performed on the data; is that fair?
MS. FORGIE: Objection.
A Yes.
BY MR. GRIFFIS:
Q Now, there hasn't been a publication yet from the North American Pooled Project, right?
MS. FORGIE: Objection.
A There's a publication that's actually been published.
BY MR. GRIFFIS:
Q On the subject of glyphosate and Non-Hodgkin's Lymphoma, there hasn't been a publication yet?
MS. FORGIE: Objection.
A No, there hasn't, not to my knowledge.
BY MR. GRIFFIS:
Q And that's what is, we were talking about earlier, that's in draft, right?
A Yes.



Q The findings -- and as we discussed earlier, the findings that are going to be published in the paper that's in draft right now have been presented at various scientific conferences and there are slide shows corresponding to that, right?
A Yes.
(Exhibit 16-12, slide show, was marked for identification.)
BY MR. GRIFFIS:
Q I've marked as Exhibit 12 a slide show from a presentation --
MS. FORGIE: Are we on 12? Sorry.
BY MR. GRIFFIS:
Q -- PowerPoint presentation that was done by Dr. Pahwa in Brazil; is that correct?
A Yes.
Q And you've seen these slides before, they were sent to you, right?
A Yes.
Q You got e-mails from Dr. Pahwa and others and sending e-mails back and forth discussing the slides attached, correct?
MS. FORGIE: Objection.
A Yes.
BY MR. GRIFFIS:



Q Now, unfortunately, the -- she didn't turn on page numbering on the slides, but if you'll turn to the ninth slide --
MS. FORGIE: You mean ninth by page number or double sides; which nine do you mean?
MR. GRIFFIS: Mine isn't. Mine's by page number.
MS. FORGIE: Okay. So it's going to be 18 for us.
MR. GRIFFIS: No. There aren't -- do you have page numbers on yours?
MS. FORGIE: No. We have double-sided.
BY MR. GRIFFIS:
Q What would be the ninth slide?
A Just show us.
MS. FORGIE: Yeah, just show us.
THE WITNESS: It's this one?
BY MR. GRIFFIS:
Q Yeah. So the ninth slide is showing glyphosate used and NHL risks for ever/never use of glyphosate, correct?
A Yes.
Q What is ever/never?
A So if they've ever been exposed, they're counted as exposed and if they've never been exposed,

they're counted as unexposed.
Q It's one of the ways that epidemiologists assess causation, correct, ever/never?
MS. FORGIE: Objection.
A Yes, sir, it's a rather crude method.
BY MR. GRIFFIS:
Q Yes, sir. And we have a column called "odds ratio A, 95 percent confidence interval" and one called "odds ratio B, 95 percent confidence interval," right?
A Yes.
Q The first column, odds ratio A, adjusts for age, sex, state province and lymphatic or hematopoietic cancer in first-degree relative, a proxy respondent and use of any personal protective equipment, correct?
A Yes.
Q And B adjusts for everything that I just said from A, plus use of 2,4-D, which is another pesticide, use of Dicamba, use of Malathion, two more pesticides, right?
A Correct.
Q And in the "adjusted for other pesticides" column, there are no statistically significant results, correct?



A That's correct.
Q And does that accurately reflect the draft data on ever/never use of pesticides?
MS. FORGIE: Objection.
A Yes. The numbers are different, but I think the findings are similar.
BY MR. GRIFFIS:
Q So for ever and never use of pesticides, the NAPP, North American Pooled Project, has a null finding for glyphosate and NHL overall, right?
MS. FORGIE: Objection.
A It's not a null finding, but it's not statistically significantly increased.
BY MR. GRIFFIS:
Q And if you look at the subtypes, the odds ratio for each subtype varied, correct?
A Yes.
Q And they were all nonsignificant, right?
A Yes.
Q And one was less than zero as a matter of fact -- less than one, correct?
A Yes.
Q And what does an odds ratio of less than one as compared to one that's greater than one mean?
A It doesn't mean much. It means that it's



less than one, so it's -- it could be equivalent to one, but you see the range goes between .4 and 1.15, so it's somewhere in that range.
Q Right. I'm probably just asking too simple a question.
For a jury or judge that doesn't know statistics, generally speaking, an odds ratio of greater than one is --
A Suggests risk.
Q -- suggests risks, all things being equal, and whether all things are equal or not is always a matter of debate, and an odds ratio of less than one suggests a decrease, all things being equal; is that fair?
MS. FORGIE: Objection.
A Well, I would say it means there's no increased risk, there's no increased risk. You could say a decreased risk, but we don't really believe that glyphosate prevents cancer.
BY MR. GRIFFIS:
Q Sir, turn to the third slide from the end, please. The title is "Proxy vs. Self Respondents."
A Start at the beginning.
Q Third from the end is the easiest way to get there. Start at the back, go in three.



A Oh, there. Got it.
Q So here we have two columns: One is "proxy and self respondents" and the other is "self respondents only," correct?
A Correct.
Q And there was an issue with some question about the value of the proxy responses as compared to the value of the self responses in this data, right?
MS. FORGIE: Objection.
A That was one of the things they -- that's one of the things they analyzed as a possible covariate.
BY MR. GRIFFIS:
Q And they found that the proxy responses were less reliable than the self respondents which is consistent with standard epidemiology, right?
MS. FORGIE: Objection.
A It's often -- that's often the case, although not always.
BY MR. GRIFFIS:
Q And it was in this data, right?
MS. FORGIE: Objection.
A Well, they don't actually show you the data for the proxy, but you would assume that that's true because the odds ratios are higher for -- well, for

some of them than when you add the proxies in than when you do the self respondents. But for others it's really no different.

Q Yes, sir. And I'm not asking you based on what's revealed on this slide, but based on your knowledge of this study and your knowledge of the underlying studies, the issues of less reliable data from proxy respondents was something that you all found and identified in that data, correct?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A I don't think it was clear in the analysis frankly. There were some other -- there were some other slides -- there's another slide set that looked at it and really didn't seem there was any real difference. So here you see for some of them, the odds ratio were a little higher when you had the proxies, but for others it's really not. So I really can't answer that question with regard to the specific project based on this data.

Q Okay.

A I mean, if you aggregated all of this data together, it may not be much different.

Q Do you recall, sir, whether the NAPP scientists looked at the issue of proxy versus self



respondents and were concerned about unreliability, the relative unreliability of the proxy respondents?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A They looked at it with that thought in mind, but I don't see anything here that would convince me that it's a major issue.

BY MR. GRIFFIS:

Q Okay. And I'm not asking about this slide, but your memory of the project.

Do you recall in the project that being identified as a concern and that the proxy data was, in fact, less reliable than the self respondent data?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A No, I don't recall that. In fact, in the analyses they did, they used proxy as a covariate so they adjusted for it.

BY MR. GRIFFIS:

Q In which set?

A In almost all of the data sets.

Q When adjusted for proxy respondents, the statistical significance of statistically significant findings decreased, right?

MS. FORGIE: Objection, asked and answered.



You can answer it again.

A I don't know which data you're talking about.

BY MR. GRIFFIS:

Q I'm asking about your memory of the study in the data analyses therein.

MS. FORGIE: Objection, asked and answered.

A I remember the data that it wasn't a major issue.

BY MR. GRIFFIS:

Q Okay. So I want to look at the various measures -- what this chart is showing, in addition to proxy and self respondents in one column and self respondents in another, is several measures of intensity, right; we have never/ever in the first two rows; we have duration, number of years of use in the next two; frequency, which is something we saw from McDuffie in the next two; and then lifetime days, which is number of years times number of days per year in the last two, right?

MS. FORGIE: Objection.

A Right.

BY MR. GRIFFIS:

Q And the lifetime days is a measure that was not reported in the published studies that we've



looked at to date; is that right?

MS. FORGIE: Objection, there's two questions pending.

A That is correct.

BY MR. GRIFFIS:

Q The lifetime days analysis would adjust for the possible exposure, misclassification issue that we talked about with regard to McDuffie which was only measuring greater than zero, less than or equal to two days versus greater than two days per year, right?

MS. FORGIE: Objection, mischaracterizes.

A It's just a different parameter to measure that really -- it does a different -- it does a different thing.

BY MR. GRIFFIS:

Q It captures both the number of days per year and for how many years you've been using it?

A Right.

Q And it puts that information together so that people who have been exposed to glyphosate on more occasions over the course of their life and more frequently will be -- will tend to be put into a higher risk group than those who have not, correct?

MS. FORGIE: Objection.

A That's correct.
BY MR. GRIFFIS:
Q Now, the odds ratio for Non-Hodgkin's Lymphoma with exposure in the highest dose category of greater than seven days per year is 1.08 in the first column, proxy and first respondents, and 1.06 in the second column, self respondents, correct?
A Correct.
Q And neither one of those is statistically significant, right?
A Right.
Q Those are null results?
MS. FORGIE: Objection.
A Correct.
BY MR. GRIFFIS:
Q Do you recall Dr. Blair testifying in the deposition that you read that the self-reported data of proxies is less reliable than self-reported data of the individual who had the exposure?
MS. FORGIE: Objection, mischaracterizes the testimony.
A I don't remember that.
BY MR. GRIFFIS:
Q You agree that, generally speaking, that's correct?



MS. FORGIE: Objection.
A It's a concern that it has to be considered. It depends. In some studies it hasn't been a problem, in other studies it has. So it's always something to be considered.
BY MR. GRIFFIS:
Q Yes, sir. The ever/never odds ratio calculated for the self respondents was less than 1.0, correct?
A Yes.
Q When looking at the number of years of exposure, sir, duration in terms of number of years, you looked at greater than zero and less than or equal to 3.5 years of exposure versus more than 3.5 years of exposure, correct?
A Yes.
Q And there was, if anything, a negative trend in the data with people who had been exposed for a longer period of time having a lower odds ratio, correct?
MS. FORGIE: Objection.
A That's correct, although the numbers aren't so very different.
BY MR. GRIFFIS:
Q That was true for both proxy and self



respondents and self respondents, correct?
MS. FORGIE: Objection, asked and answered. You can answer it again.
A Correct.
BY MR. GRIFFIS:
Q And none of the figures were statistically significant, right?
A Correct.
Q Now, you mentioned there has been a publication by the North American Pooled Project for multiple myeloma, right?
A Yes.
Q And the findings were negative for glyphosate in multiple myeloma, right?
MS. FORGIE: Objection.
A Yes.
BY MR. GRIFFIS:
Q You don't claim, sir, that glyphosate or any glyphosate-containing product causes any kinds of cancer other than Non-Hodgkin's Lymphoma, correct?
MS. FORGIE: Objection.
A That's correct.
BY MR. GRIFFIS:
Q In other publications upon which you've been a coauthor, sir, you've expressed concerns about



proxy respondents, right?
MS. FORGIE: Objection.
A Proxies are always a concern. They have to be considered.
BY MR. GRIFFIS:
Q They're more likely to give don't know answers than self responders, right?
MS. FORGIE: Objection.
A Yes.
BY MR. GRIFFIS:
Q They are more likely to give unreliable answers with regard to pesticide exposure, right?
MS. FORGIE: Objection.
A I would say maybe less reliable. I wouldn't say unreliable.
MR. GRIFFIS: Take a two-minute break?
MS. FORGIE: Sure.
MR. GRIFFIS: Give me five if you prefer.
MS. FORGIE: I'd rather take five.
THE VIDEOGRAPHER: Off the record at 1:34 p.m.
(Brief recess.)
THE VIDEOGRAPHER: We are back on the record at 1:54 p.m.
(Exhibit 16-13, September 21, 2005 draft

publication, was marked for identification.)
BY MR. GRIFFIS:
Q Doctor, I've marked as Exhibit 13 a copy at the top where it says, "Date of last revision: September 21, 2015," draft publication on glyphosate used in risk of NHL, Non-Hodgkin's Lymphoma, major histological subtypes in the North American Pooled Project; did I identify that correctly?
A Yes.
Q This is one of the drafts that was exchanged among the coauthors of the North American Pooled Project of this potential publication of glyphosate and NHL, correct?
A Yes.
Q On page 8, sir, under "statistical analyses," the second paragraph, it says at the start, "It was possible that the use of other pesticides in the NAPP may confound the relationship between glyphosate used and NHL risk;" did I read that correctly?
A Yes.
Q And then at the end of the paragraph, it explains which pesticides were correlated with glyphosate as confounders saying, "Pesticides that were most strongly correlated with glyphosate,



defined in this study as Spearman coefficients greater than or equal to 0.35 and Cohen's Kappa value greater than or equal to 0.30, and that were significantly or strongly associated with NHL in previous studies were evaluated as confounders," and it identifies the herbicides 2,4-D and Dicamba and Malathion, right?
A Yes.
Q And it's correct that those were confounders in this data, correct?
MS. FORGIE: Objection.
A Well, they were considered to be confounded. I don't know the underlying data, but they were highly correlated with glyphosate and at least 2,4-D and I think others, too, have been reported as increasing risks, so they were considered potential confounders and that's why they adjusted for them.
BY MR. GRIFFIS:
Q When you say "increasing the risk," you mean increasing the risk of NHL?
A Yes.
Q Turn to page 10, please.
MS. FORGIE: You can take your time to review this if you need to.



A Okay.
BY MR. GRIFFIS:
Q I'm looking at the header "Glyphosate use and NHL risks overall and by major histological subtype." And the first paragraph reports a significant association between glyphosate used in risk of NHL overall and with regard to subtypes, it says the magnitude of risk differed by subtype.
A Yes.
Q And that's an accurate reflection of the data in the North American Pooled Project, right?
MS. FORGIE: Objection.
A Yes.
BY MR. GRIFFIS:
Q It goes on to say, "Associations were attenuated and no longer statistically significant when the model represented by odds ratio A was further adjusted for ever use of 2,4-D, Dicamba and Malathion," right?
A Yes.
Q So ever and never -- the ever and never association disappeared when it was controlled for confounding by these other pesticides, right?
A Correct.
Q The next paragraph discusses duration and



says "There was a general inverse trend in risks except for cases of SLL" -- what is SLL?
A Small lymphocytic lymphoma.
Q -- "where the odds increase with longer duration of glyphosate used."
And this trend was of borderline statistical significance, correct?
A Yes.
MS. FORGIE: Objection.
BY MR. GRIFFIS:
Q So glyphosate use examined by duration shows a general inverse trend for most of the subtypes examined, right?
MS. FORGIE: Objection.
A That's what it says.
BY MR. GRIFFIS:
Q And then that's an accurate description of the data, right?
MS. FORGIE: Objection.
A Yeah, it's an accurate -- apparently it's an accurate description of the data from this early version of the manuscript.
BY MR. GRIFFIS:
Q An additional adjustment for the chemicals 2,4-D, Dicamba and Malathion generally resulted in

attenuated risk estimates compared to models unadjusted for these pesticides, correct?
MS. FORGIE: Objection.
A Except for SLL.
BY MR. GRIFFIS:
Q Except for SLL for which the addition of these agents in logistic regression model had no substantial effect on risk, correct?
A Correct.
Q Was there a later draft of this document among the documents that you gave to Ms. Forgie?
A There's probably more than one.
(Phone ringing).
Q How recent would the drafts be dated, approximately?
MS. FORGIE: Objection.
A I don't know how many -- there had been -- there are more recent drafts, let me say that. I don't know how many.
BY MR. GRIFFIS:
Q I'm trying to understand generally, was this something that was worked on some in 2016 so there might be a draft or two or is it something that's being actively revised right now so there would be much more up-to-date drafts or what?



A It was definitely worked on in 2016 and even 2017.
Q Did you turn over drafts from 2016 and 2017?
MS. FORGIE: Objection.
A To who?
BY MR. GRIFFIS:
Q Ms. Forgie.
A No, I didn't.
Q Do you have drafts from 2016 and 2017?
A I do.
MS. FORGIE: To be clear, he didn't give me any.
BY MR. GRIFFIS:
Q The next paragraph, sir, on page 10, talks about frequency of glyphosate used, correct? This is the greater than or equal to two days and greater than zero, less than or equal to two days a year?
A Yes.
Q And the last sentence says, "The pattern of increased risks with more frequent glyphosate handling was still apparent for NHL overall and all subtypes, all the trends were no longer statistically significant upon adjusting for these three pesticides," correct?



MS. FORGIE: Objection.
A That's what it says.
BY MR. GRIFFIS:
Q Does that accurately reflect the data?
MS. FORGIE: Objection.
A It may have changed in subsequent manuscripts.
BY MR. GRIFFIS:
Q Do you claim that in the current manuscript, any of the associations between glyphosate and Non-Hodgkin's Lymphoma or any subtype that control for other pesticides is statistically significant?
A Yes.
Q Which?
A So for greater than two days, there's a statistically significant increase for NHL overall and for large B-cell lymphoma. And there are nonsignificant increase of the same magnitude for the other subtypes as well.
Q What do you mean by "nonsignificant increase of the same magnitude"?
A It means that if NHL overall was -- had a twofold increase risk that was statistically significant, the other subtypes had a similar



magnitude, twofold, greater or less, but not statistically significant.
Q Okay. So --
A So that should be actually reflected in table 2 in the manuscript here which you don't provide.
Q Which was not provided to us.
A Well --
Q So the data for duration, number of years of exposure, that shows a negative trend with increasing duration, correct, meaning most recent data?
MS. FORGIE: Objection.
A I don't -- I can't comment on it. I don't remember that precisely, but I do remember that duration was only significant for small lymphocytic lymphoma; for others, it didn't increase duration, it did not significantly increase risk. The risks might actually have gone down. I don't remember that data precisely without having it in front of me.
Q Well, we have Exhibit 12, the slide show --
MS. FORGIE: Well, objection.
Q -- on the table of proxy versus self respondents for duration, frequency and lifetime days.

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MS. FORGIE: Objection, he's already stated there's tables missing from Exhibit 13.
BY MR. GRIFFIS:
Q You have drafts with these tables in them?
A I do.
Q I demand production of them.
MS. FORGIE: Don't respond.
BY MR. GRIFFIS:
Q That wasn't for you, that was for you.
The duration data, sir -- you can take a look at the slide show if that helps you, three pages from the back, looking at number of years of exposure -- there's a negative trend with increasing duration of exposure in the North American Pooled Project data, correct?
A Correct.
Q And that's reflected in the current drafts as well, right?
MS. FORGIE: Objection. You mean this draft?
MR. GRIFFIS: No, I mean the one on his computer.
A That's what the words in the draft say.
BY MR. GRIFFIS:
Q I'm not talking about this draft, I'm

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talking about the most recent one on your computer.
MS. FORGIE: I'm going to object to that. That's confidential. I don't know how you got a copy of this draft, but that information is confidential. This is not a published document. It's unfair to be asking him things he may or may not have seen.
A I don't remember precisely. I do remember the duration was -- did not show any significant results except possibly for small lymphocytic lymphoma.
BY MR. GRIFFIS:
Q The data that you've been -- your group has been reporting publicly -- and you can see this in the slide show -- shows a negative trend with increasing duration, right?
A For NHL overall.
Q And it shows a positive trend for frequency when calculated in terms of number of days per year, correct?
A Yes.
Q And it shows nothing statistically significant when the two are summed, correct, number of years times number of days per year, right?
MS. FORGIE: Objection.
A That's correct.

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BY MR. GRIFFIS:
Q So the direction of the trend, when you look at the number of years, is the opposite of the trend when you look at the number of days per year and when you combine the two, significance is extinguished, correct?
A Correct. I think we saw this same phenomenon on our paper on 2,4-D, so my impression of the data is intensity of exposure is a better -- is a better measure of risk than length of exposure.
Q Or it's a better way to get statistically significantly findings to report?
MS. FORGIE: Objection.
A That's what epidemiologists look to do.
BY MR. GRIFFIS:
Q Find the best significant risks to report?
MS. FORGIE: Objection.
A No, to find the truth.
BY MR. GRIFFIS:
Q Why is the truth the biggest number?
A I didn't say it was. I just said epidemiologists look at things in different ways to find the truth.
Q Okay. What you said was it seems that the intensity is the best measure. It also is the

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measure that has a statistically significant finding associated with it.
Why, other than the fact that it's the only one that has a statistically significant increased trend, is it the best measure?
MS. FORGIE: Objection, asked and answered. You can answer it again.
A Well, this is my personal opinion, and that is that the intensity of the exposure is the most important feature of the exposure. If you get high doses over a short period of time, it is, in general, increases risk much more than lower exposures over a long period of time. So if you do the product of low exposures over a long period of time, you don't get -- often don't get much of an increase in risk. That's what we saw in 2,4-D. But if you look at high exposures over a short period of time, you see increased risk because it's the high exposures that really increase the risk.
BY MR. GRIFFIS:
Q What your data is measuring is not how much glyphosate people were exposed to, but on how many days during a particular year they were exposed, right?
MS. FORGIE: Objection.

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A It's a surrogate for that.
BY MR. GRIFFIS:
Q And do you know of any data showing it's a useful surrogate or that it reliably correlates with the amount of glyphosate to which they were actually exposed?
A Not for glyphosate, no.
Q For any substance?
A Not that I can remember. But it's a commonly used surrogate.
Q On page 13, sir --
A Page 13?
MS. FORGIE: Back to Exhibit 13?
MR. GRIFFIS: Yes.
BY MR. GRIFFIS:
Q Second full paragraph, looking at the first two sentences, "a fairly consistent decrease in NHL risk was found when odds ratios were further adjusted for pesticides 2,4-D, Dicamba and Malathion. This observation suggested that elevated risk of NHL may be attributed in part to pesticides other than glyphosate;" did I read that correctly?
A Yes.
Q Is that a correct description of the data in the most recent draft?

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MS. FORGIE: Objection.
A Yes, I think so.
BY MR. GRIFFIS:
Q Page 15, second full paragraph, starting with the second sentence, "NHL is a constellation of heterogenous cancers that each has its own causes, risk factors and etiologies" --
A Make sure I know where you're at.
Q Page 15, second full paragraph, starting with second sentence. "NHL is a constellation of heterogenous cancers that each has its own causes, risk factors and etiologies. Pesticides, including individual agents such as glyphosate, may exert different effects on these subtypes and the large size of the NAPP made it possible to parse this out;" did I read that correctly?
A Yes.
Q Is that an accurate description of the data included the most recent drafts?
MS. FORGIE: Objection.
A Yes. Although it only looked at the most common subtype -- the three most common subtypes.
(Exhibit 16-14, 8/26/15 e-mail, was marked for identification.)
BY MR. GRIFFIS:

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Q Sir, I've marked as Exhibit 14 an e-mail from Aaron Blair dated August 26th, 2015 to multiple people, including yourself.
When Dr. Pahwa was headed to Brazil for her presentation, she circulated her slides to you and the other coauthors, right?
A Yes.
Q And Aaron Blair suggested to the group that the group should notify IARC that the presentation was coming, correct?
A Yes.
Q And nobody disagreed with that, right?
MS. FORGIE: Objection. I mean, in this e-mail?
A I don't remember. I don't think anybody disagreed, but I don't remember.
BY MR. GRIFFIS:
Q Why was it important to notify IARC?
A I don't know. It wasn't my idea. I think IARC was interested in the results of this study, so maybe they -- maybe they thought that it was appropriate to send the slides to IARC. I don't know.
Q Did you have any opinion on whether it was important to notify IARC?

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A No.
(Exhibit 16-15, 8/27/15 e-mail, was marked for identification.)
BY MR. GRIFFIS:
Q Exhibit 15, sir, is an e-mail thread. If you look at the bottom of the first page, on August 26th, 2015 --
MS. FORGIE: Hold on, I have a problem with my mic.
BY MR. GRIFFIS:
Q On August 26th, 2015, Aaron Blair sent a number of talking points for consideration to the group, correct?
MS. FORGIE: Objection.
A Yes.
BY MR. GRIFFIS:
Q He said, "Below is a start of thinking about talking points to questions about IARC," right?
A Right.
Q And one of the things he said is "adjustment for other pesticides made the associations that you saw not significant," right?
A That's correct.
MS. FORGIE: Objection.
A That's for ever and never, I believe.

BY MR. GRIFFIS:
Q He said, "the association may differ by histological type and that FL was not linked to glyphosate at all," correct?
MS. FORGIE: Objection.
A That's what he says. I'm not sure that -- I'm not sure what he's basing that on.
BY MR. GRIFFIS:
Q You disagree that FL is not linked to glyphosate at all?
A I don't have -- I don't have an opinion one way or the other.
Q Do you have an opinion, one way or the other, whether FL is linked to glyphosate at all in the NAPP data?
A If you look at the greater than two days exposure, the odds are increased for FL. It's just not significant.
Q What is FL?
A Follicular lymphoma.
(Exhibit 16-16, 11/27/14 e-mail, was marked for identification.)
BY MR. GRIFFIS:
Q By the way, does this refresh your memory that you received e-mails from Aaron Blair?



MS. FORGIE: Objection. He already stated that.
A There were e-mails circulating --
MS. FORGIE: There's no question pending.
BY MR. GRIFFIS:
Q You remember earlier in the deposition you said you never got an e-mail from Aaron Blair?
MS. FORGIE: Objection, that mischaracterizes his testimony.
A No. What I said was that I had not communicated directly with Aaron Blair about -- these were group e-mails, okay, so they were going around to everyone. I didn't do any direct communication back and forth to Aaron Blair. These were all group e-mails.
BY MR. GRIFFIS:
Q So when you were interpreting our document requests for this deposition, you interpreted any communications with Chris Portier and Aaron Blair and others as meaning communications that were just the two of you going back and forth rather than e-mails coming to you and others from those people?
A They were group e-mails.
Q So you interpreted it to exclude any group e-mails; is that right?



MS. FORGIE: Objection. He's also stated he didn't save all these. How could he remember. This isn't fair.
MR. GRIFFIS: That's a speaking objection. I move to strike it.
A It's true, I don't have these e-mails in my computer anymore, so I didn't remember -- I didn't remember some of them, although I knew there was this group e-mail conversation, okay, and you have it here.
BY MR. GRIFFIS:
Q I have some of it.
Sir, do you know for a fact that there are no e-mails on your computer pertaining to glyphosate in any way that are to or from Aaron Blair or Chris Portier or the other people we listed with or without others copied?
MS. FORGIE: Objection, asked and answered.
A So the only things that I have are the PowerPoint presentations that were sent to Ms. Forgie and I assumed it had been sent on to you. So I gave her everything I had.
BY MR. GRIFFIS:
Q Were there e-mails associated with those PowerPoint presentations?



A With some of them there were, yes.
Q And the drafts of the NAPP study on glyphosate and NHL, are there e-mails associated with those?
MS. FORGIE: Objection. He never stated.
A You mean with the PowerPoint presentations?
BY MR. GRIFFIS:
Q I'm talking about the drafts of the in-press NAPP study on glyphosate.
MS. FORGIE: Objection, mischaracterizes his prior testimony.
A Sure there are e-mails associated with that because those were circulated in the group e-mails as well and people commented, made changes and this is -- this is normal.
BY MR. GRIFFIS:
Q Yes, sir. So you do have e-mails with some other people on our list that you're calling group e-mails that pertain to the exchanges about the drafts of the NAPP; is that right?
MS. FORGIE: Objection, mischaracterizes his testimony. Also, you've produced information that he would consider confidential and I do as well.
A I do as well.
BY MR. GRIFFIS:

Q Yes, sir. Is what I said correct, though?
MS. FORGIE: Objection. If it relates to confidential information about confidential drafts --
A I don't know. I didn't go back and look for manuscripts because we considered manuscripts confidential.
BY MR. GRIFFIS:
Q Yes, sir.
A And the conversations around manuscripts confidential. These are works in progress.
Q There are e-mails that are associated with the draft, for example, e-mails transmitting the drafts or commenting on the drafts between you and your coauthors with regard to the pending NAPP publication that is in press right now, correct?
MS. FORGIE: Objection, you're getting into confidential information. I've already told you he did not provide me any manuscripts because he considered them confidential. They didn't come to me and they're not going to you.
MR. GRIFFIS: I'm asking about the existence of any e-mails, not the content of e-mails.
A There were e-mails. I'm not sure if I have them on my computer or not.
BY MR. GRIFFIS:



Q I would ask you not to delete any e-mails that have the word "glyphosate."
MS. FORGIE: Don't respond.
MR. GRIFFIS: And I'll ask you to see that that that happens as counsel.
MS. FORGIE: You're not entitled to confidential information. I don't know where you received these e-mails. I don't know where you received these manuscripts. But I can tell you I did not receive any manuscripts from Dr. Weisenburger because that is confidential and you know it is. I don't have any draft manuscripts, but if I did, I would not produce them. It's privileged.
MR. GRIFFIS: Anything else?
MS. FORGIE: I'll probably think of something else.
MR. GRIFFIS: Save it for briefing.
MS. FORGIE: I think it's inappropriate. Have these been previously produced, Counsel, these draft manuscripts?
MR. GRIFFIS: Yes, it's all been produced.
MS. FORGIE: When were they produced?
MR. GRIFFIS: By Aaron Blair.
MS. FORGIE: That's not what I was told, but I'll look again. Thank you.



BY MR. GRIFFIS:
Q All right. I'm sorry. I've gotten a little confused. Can I see what you have marked in front of you.
So January 14th, 2016 e-mail from Kenneth Cantor to you, among other people, attaching five abstracts for the IARC meeting and these are NAPP abstracts, correct?
A Correct.
Q Tell me what the NAPP abstracts for the IARC meeting are.
A I'm not sure I can tell you all of them.
Q I don't mean list each one.
What's the IARC meeting and why is NAPP sending abstracts?
A So the IARC apparently has an annual meeting or a regular meeting in which new research is presented and the NAPP group targeted these five abstracts to the IARC meeting for presentation and one of them was the NHL abstract. The other ones, I don't know exactly what they were. I think one was myeloma. I don't know what the other ones were.
Q Was someone on the team tasked with putting these abstracts together?
MS. FORGIE: Objection.



A It was Pahwa and the Canadian group.
BY MR. GRIFFIS:
Q And Ken Cantor, Dr. Cantor writes, at the bottom of the first page here, "results in the second abstract (glyphosate) are less than convincing, given that control for other pesticides results in attenuated odds ratios which aren't in the abstract," correct?
A That's what it says.
Q And do you agree with that?
A I can't remember what was in that final abstract. These are drafts of abstracts. So apparently in the draft that he saw that was the case, but I don't remember.
(Exhibit 16-17, 8/22/16 e-mail, was marked for identification.)
BY MR. GRIFFIS:
Q Sir, on August 14th, 2016, you e-mailed Dr. Christopher Portier asking him the status of an EU glyphosate review and wanted to know the status?
A Correct.
Q Wanted to know if glyphosate had been approved for use and if there had been restrictions, right?
A Right. This is in followup to the letter

we had written as a group where he had been the first author and then the manuscript, so I was just curious to know whether there had been any action on the part of the EU, so it was a simple question.

Q Is this the only occasion on which you have directly corresponded with Portier directly, not with group e-mail, but you e-mailing him and him responding to you?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A To the best of my knowledge. I've never met him, I've never -- so I don't really know him. This was in followup to the document that I was a cosignature on.

BY MR. GRIFFIS:

Q The document on which you're a cosignature, there were actually a couple of them, there was a letter to the EU commissioner and there was a followup publication letter, correct?

A Right.

Q And as to those, did you receive e-mails from Chris Portier to you and to others soliciting your signing on to those letters?

MS. FORGIE: Objection, asked and answered.

A I received an e-mail from someone. I don't



know who it was.

BY MR. GRIFFIS:

Q And did you just respond and say yes, I will sign off or was there an exchange on the subject?

MS. FORGIE: Objection.

A There was not an exchange. I read it -- I read -- I read one or two drafts, I made some suggested corrections in the drafts and sent them back to Portier. They weren't substantial changes. They were mainly grammar and phrasing of things.

BY MR. GRIFFIS:

Q Are they still on your computer, the edits?

A No.

Q He sent a draft document in Word format or some other format and you edited it on your computer and sent the changes back?

MS. FORGIE: Objection.

A It would have printed -- I don't do a lot of stuff on my computer so I did it manually. It probably would have been scanned and sent back to him.

BY MR. GRIFFIS:

Q Would there be a PDF image on your computer possibly?



A Yeah, but this is two or three years possibly. I don't have it on my computer.

Q Have you looked for it?

A I know it's not there because nothing -- practically nothing there from 2016 is still there. And this was prior to this. I don't know when it was. It's probably '15.

Q Dr. Portier responded to you and told you that the EU approved the use of glyphosate for 18 months while the European Chemical Agency reviews the data and then you forwarded that to Aaron Blair, correct?

A I did, that's right.

Q And you said, "It seems important to get our US/Canadian paper on this" -- meaning the NAPP data, right -- "submitted soon so it could be considered in this review." You just nodded, but the court reporter can't take that down.

A True, I was concerned it was taking a long time to get the NAPP data submitted, so I was trying to push the group, the NAPP group to get the data submitted so that it could be publicly available.

Q What do you consider the NAPP data to contribute to the picture on glyphosate in NHL?

A Well, it -- as we've discussed, it pools



the data from two large studies and it's able to do -- have a more powerful approach to analyzing some of the dose response and subtype data.

Q What is the information that is different in the NAPP data from what is available in the underlying data?

A Well, the data is very similar to what's been presented in the various meetings.

Q When you say "the various meetings," you're referring to, among others, the Brazil slide show?

A Right.

(Exhibit 16-18, 5/5/16 e-mail, was marked for identification.)

BY MR. GRIFFIS:

Q Sir, Exhibit 18, a May 5th, 2016 e-mail from Kathryn Forgie to you forwarding an article, correct?

A Yes.

Q And you responded saying, "when do you want to discuss your first case," correct?

A Correct.

Q What did you mean by "first case"?

A Well --

MS. FORGIE: I'm going to object. I think this is all privileged information. I'm going to let

him answer, but I'm not going to waive our privilege.
A She had some specific cases she wanted to discuss.
BY MR. GRIFFIS:
Q Like cases about the specific people rather than about general causation?
A Yes.
Q And you forwarded that to Aaron Blair and said "FYI;" why did you do that?
A Probably to let him know I was consulting with her. I'm not sure he knew that I was retained by her.
Q When is the last time you purged your e-mails, sir?
MS. FORGIE: Objection, asked and answered. You can answer it again.
A Maybe within the last few months. I'm not sure exactly when.
BY MR. GRIFFIS:
Q Now, we discussed earlier that there was an open letter to the EU commissioner that you signed off on at the request of either Chris Portier or someone else who e-mailed you, you couldn't remember whom. And later, there was a publication on differences between the IARC analysis and the



analysis performed by the European Food Safety Agency, correct?
MS. FORGIE: Let me stop for a second. I've just been advised there's a problem with phone interference. Is there any way we can check on that?
MR. GRIFFIS: We can go off the record.
THE VIDEOGRAPHER: Off the record at 2:31 p.m.
(Brief recess.)
THE VIDEOGRAPHER: We are back on the record at 2:45 p.m. This marks the beginning of Videotape Number 3 of the deposition of Dr. Weisenburger.
MS. FORGIE: I've been advised that the rough draft, which is exhibit -- I mean the draft manuscript, which is Exhibit 13, was, in fact, produced by Dr. Blair but not attached to his deposition which is why I didn't know about it. So I apologize. I stand corrected on that. We still believe that all of this information is privileged in terms of the academic privilege and we don't think it's appropriate to discuss it, nor would we produce -- nor have any drafts been produced to me because of that privilege. That's all.
(Exhibit 16-19, 9/10/17 e-mail, was marked



for identification.)
MS. FORGIE: 19 is the additional materials; is that right?
MR. GRIFFIS: Plus your cover e-mail.
MS. FORGIE: I haven't seen the cover e-mail.
BY MR. GRIFFIS:
Q Sir, Exhibit 19 is an e-mail that we received yesterday, which was a Sunday, at 12:56 p.m. Eastern time, attaching what was called "an additional materials list."
Do you recognize the additional materials list?
A Yes, I prepared these lists.
Q When did you review the materials on the additional materials list?
A Over the last few months.
Q And there are 45 citations on the additional materials list, right?
A Yes, I guess so. Let me look.
Q Okay. They're numbered.
A It looks different than what I sent.
Q Let me see, make sure I give you the right thing. Yeah, that's what we received.
A So it was actually three separate lists



which looks like they've been consolidated into one list.
Q When did you send the three lists, sir?
A It was within --
MS. FORGIE: Objection, that's privileged.
THE WITNESS: Did I send it, it's privileged?
MS. FORGIE: Yeah, communications between us are privileged.
MR. GRIFFIS: Please direct him not to answer that.
MS. FORGIE: Don't answer that.
BY MR. GRIFFIS:
Q Sir, did you send the first of those lists more than a week ago?
MS. FORGIE: Don't answer that. Actually, you can go ahead and answer it. Don't say anything about any communications we had, just the date.
A Yeah, so it would have been sent last Tuesday, the day after Labor Day.
BY MR. GRIFFIS:
Q All three lists?
A Yes.
Q Have you been -- and why were there three lists?

A One was additional materials reviewed, one was additional materials relied on and one was other additional things reviewed.
Q And what is the difference between reviewed, relied on and other additional things reviewed?
MS. FORGIE: Objection.
A Well, I can't tell -- I mean, I could show you the three lists. I have them with me.
MS. FORGIE: No, that's okay. Just if you -- if there's a difference, you can tell us. If not --
A So there was a list of manuscripts that I relied on that I would have referenced in my -- in my report, if I had them at the time I wrote the report, there was a list of materials I reviewed that I wouldn't have referenced in my report and then there was a list of other materials that I reviewed that I thought were important like the -- for example, the letter to the commissioner of the EFS -- whatever it is, EFSA, and the manuscript that I was a coauthor on with Portier. I also listed the Aaron Blair deposition -- no, that was on my other one. I listed the draft of the Agricultural Health Study that was attached to the Aaron Blair deposition, I listed the



most recent meta analysis that was done, things that I had reviewed since I wrote my report.
BY MR. GRIFFIS:
Q When you reviewed the Blair deposition, did it come with exhibits attached?
A I don't think it did. I don't think it did. Because otherwise I would have printed it. So when I reviewed the Blair deposition, I had only the deposition and then only later, fairly recently, did I ask for --
MS. FORGIE: Don't give any statements about communications between us.
A Okay. I didn't -- I had no access to it.
BY MR. GRIFFIS:
Q So you asked to have it provided to you?
A Yes.
Q How long ago was that?
MS. FORGIE: Just give him the date on communications, approximately.
A I don't know the date. It was a month or two ago, fairly recent.
BY MR. GRIFFIS:
Q Okay. So you -- you originally had a list that showed which materials you considered important enough you would have included them in your expert



report had you had them at the time; is that right?
MS. FORGIE: Objection.
A I would have referenced them in my report, yes.
BY MR. GRIFFIS:
Q Do you have anything to add to your expert report or change about your expert report in the light of the various materials that you reviewed that were disclosed to us yesterday?
A No, there wouldn't be any substantial changes.
Q So these would be additional references that you would be relying on with sufficient importance to put a parenthetical referenced to them in your report; is that right?
A Yes.
MS. FORGIE: Objection.
BY MR. GRIFFIS:
Q And do you remember which references those are looking at the list in front of you?
A Well, this is a consolidated list.
Q Yes, sir.
A I couldn't go and tell you which was which off the top of my head. I couldn't.
Q So you can't unscramble the list without



looking at what was provided to us?
MS. FORGIE: Objection.
A Probably not.
BY MR. GRIFFIS:
Q You told us that you sent those lists two weeks ago.
Were there any materials that you have seen since you sent those three lists to plaintiff's counsel that you consider important enough to be on the list?
A No.
MS. FORGIE: Objection.
A I sent the lists last Tuesday which would have been less than a week ago.
BY MR. GRIFFIS:
Q I'm sorry, I wrote two weeks ago about something else.
MS. FORGIE: That's why I objected. It was the day after Labor Day is when he sent them. I know that because it was my daughter's birthday.
BY MR. GRIFFIS:
Q Did you see anything since you sent the three lists last Tuesday?
A No, I didn't review anything, anything new.
Q Yes, sir. So with last Tuesday as the

bound farthest forward in time, how far back does your review of documents on that list go; months?

A Yeah, to the time that I wrote my report, submitted my report.

Q So it's a catchup of everything from the time of your report until now?

A Yes.

Q And the -- when we looked at your billings, the 2017 billing and the April 19th, did that match up in any way to your expert report drafting?

A So the biggest -- the last and biggest bill was submitted I think right after I submitted my report.

Q Okay. So the hundred hours since then that you estimated that you had worked since April 19th of 2017 would include your review of these materials and other work that you did; is that right?

A Yes.

MR. GRIFFIS: I'm going to make an objection on the record. This isn't for you to respond to, it's to put it on the record at this time. That is, that the Federal Rules of Civil Procedure require a timely disclosure of an expert's opinions and the bases, therefore, this certainly pertains to the bases, therefore, and that disclosure



has to be timely and updated in a timely fashion to permit appropriate cross-examination.

Because this was provided to us 45 substantial citations the day before your deposition and on a Sunday while we were traveling to get all the way across the country, we reserve the right to reopen your deposition at plaintiff's counsel's expense to question you about these 45 citations and the substance thereof.

In addition, we reserve the right to reopen your deposition at plaintiff's counsel's cost and expense with regard to e-mails for which we will seek disclosure, drafts of the NAPP document and other documents that we requested in the Notice of Deposition that we were told, in response to the Notice of Deposition, would be produced to the extent that we didn't already have them or that they were not otherwise objectionable. And we did not receive them.

We will be filing appropriate motions. That doesn't call for any response from you or any action from you.

MS. FORGIE: I'm going to respond to it. We, of course, don't agree with that. We think that every document that was not already publicly



available or already produced in the MDL was produced to you except for those for which we claim academic privilege. And we believe that the academic privilege does apply to draft manuscripts of the NAPP. And he's already stated there were no e-mails that were provided that were already -- weren't already produced to you that we're aware of. And with regard to the articles, he said they don't change his opinion, they're just additional reading, they didn't change his opinion in his expert report.

MR. GRIFFIS: And sir, with regard to the request that I made earlier, that you do not delete or get rid of any e-mails or documents, et cetera, that also doesn't call for a response from you, but it does trigger legal obligations and I advise you to speak to counsel about that, without me sitting around, about what obligations that produces on your behalf and her behalf and the rest of the plaintiff's committee.

MS. FORGIE: And we don't agree with that either. We'll take it up with him separately and privately.

MR. GRIFFIS: Thank you.

BY MR. GRIFFIS:

Q Sir, one of the things that you have published on in the past is an increase in the



incidence of Non-Hodgkin's Lymphoma nationwide that began in the 1950s, correct?

A Yes.

Q And that was something that -- a number of hypotheses were generated about what could be causing that, including such things as better reporting, better surveillance and those were pretty much ruled out as explanations for the increase, correct?

MS. FORGIE: Objection.

A Well, we really don't know why it increased dramatically in that sort of 20-year period. We don't really understand why. Part of it was probably HIV/AIDS, part of it was probably better reporting, better recognition of lymphomas by pathologists. But most of it we don't understand.

BY MR. GRIFFIS:

Q And the -- what do you consider to be the known causes of Non-Hodgkin's Lymphoma that are firmly established by science?

A Okay. One is immunosuppression, another one is a family history of hematopoietic cancer or lymphoma, certain autoimmune diseases increase risk, certain infections increase risk, HIV/AIDS is an example, ST (indecipherable) virus infection, infection of other viruss like HTL V1 or HH V8 or

hepatitis C, certain bacterial infections. And then there are a variety of chemicals, solvents, pesticides, maybe other things I'm not thinking of. That's a good portion of the list.

Q Solvents and pesticides, those are obviously very broad categories.

Do you consider all solvents and all pesticides to be causes of Non-Hodgkin's Lymphoma?

A No. But there are certain solvents and general exposure to solvents which increase risk. And for pesticides, there are some pesticides which are accepted risk factors and other ones which are suspected and other ones that probably aren't risk factors.

Q Which solvents do you consider to be accepted risk factors for Non-Hodgkin's Lymphoma?

A So -- trying to think of the terminology -- it's usually exposure to mixed solvents, often solvents including what are called mineral oils. There's some evidence for benzene. But most of the solvent literature is on general exposure to mixed solvents, so it's not parsed out very well.

Q Okay. So what pesticides do you consider to be accepted risk factors for Non-Hodgkin's Lymphoma?



MS. FORGIE: Objection.

A Well, I think -- there's good data on 2,4-D, there's data on Lindane, there's data on -- off the top of my head, I think Malathion is another one. I mean, I don't have an active list for pesticides. But those are some examples of people commonly associated with NHL.

BY MR. GRIFFIS:

Q Other than solvents and pesticides, what other environmental factors do you consider to be causes of Non-Hodgkin's Lymphoma?

A There's some data on exposure to diesel fumes which, in a way, would be exposure to petrochemicals and solvents, so it falls within the same category.

Q Do you consider that to be a generally accepted risk factor?

MS. FORGIE: Objection.

A It's a reported risk factor. I don't know whether it's generally accepted or not.

BY MR. GRIFFIS:

Q Okay. Go on.

A That's all I can think of at the moment.

Q This rising epidemic of Non-Hodgkin's Lymphoma that began in the 1950s, at least the first



part of the increase could not have been caused by glyphosate since glyphosate wasn't around yet, correct?

MS. FORGIE: Objection.

A That's correct.

BY MR. GRIFFIS:

Q Do you agree, sir, that most Non-Hodgkin's Lymphomas are spontaneous?

MS. FORGIE: Objection.

A Well, I think most -- I think most Non-Hodgkin's Lymphomas, we don't have an obvious etiology that we can point to.

BY MR. GRIFFIS:

Q You testified in the past that 80 to 90 percent -- 80 to 90 percent of Non-Hodgkin's Lymphoma cases are idiopathic, correct?

MS. FORGIE: Objection.

A As far as we know, but I think that that's changing because we're finding more causes over time.

BY MR. GRIFFIS:

Q What do you think the percentage is now?

MS. FORGIE: Objection.

A I don't know. Maybe 70 percent.

BY MR. GRIFFIS:

Q It's more than half?



A Yes.

(Exhibit 16-20, article, was marked for identification.)

BY MR. GRIFFIS:

Q Exhibit 20 is the Eriksson study that you listed on Table 1 in your expert report; is that right?

A Yes.

Q And this is another study, like the others we've been discussing, that looked at potential associations between Non-Hodgkin's Lymphoma and a wide variety of different herbicides, insecticides and other pesticides, right?

A Yes.

Q So like McDuffie, it was an exploratory study, correct?

MS. FORGIE: Objection.

A Yes.

BY MR. GRIFFIS:

Q And you report that Eriksson showed a statistically significant response?

A Yes.

Q And you were talking about data from Table 2 on page 1659, right?

A Yes.

Q So less than or equal to 10 days of exposure, there was an odds ratio of 1.69, greater than 10 days there was an odds ratio of 2.36, correct?
A Yes.
Q And that wasn't adjusted for other pesticides, right?
A That's correct.
Q And the odds that are -- the odds ratio given in Table 3, which break down by NHL subtype, also were not adjusted for other pesticides, right?
A That's correct.
Q You don't know if any of the odds ratios reported on either of those tables would be statistically significant if they were controlled for other pesticides; is that fair?
MS. FORGIE: Objection.
A Yes.
BY MR. GRIFFIS:
Q Now, the only odds ratio that is controlled -- the only adjusted odds ratio adjusted for exposure to other pesticides is the multivariate analysis in Table 7; is that right?
A That's correct.
Q The multivariate analysis there is not



statistically significant, correct?
A That's correct.
Q And Table 2, sir, exposure to various herbicides and Table 4, exposure to various other pesticides, virtually every substance looked at has an unadjusted odds ratio above one, right?
MS. FORGIE: Objection.
A That's true -- well, there's one that's under -- two under.
BY MR. GRIFFIS:
Q Yeah, I said virtually.
MS. FORGIE: Objection.
BY MR. GRIFFIS:
Q It's true that virtually every one is over one?
A To me, virtually every one means every one, but not every one.
MS. FORGIE: You're talking about what's in the table.
BY MR. GRIFFIS:
Q Talking about Table 2 and Table 4.
A Almost every one.
Q Okay. That would suggest the possibility of systemic bias in the study, right, the fact that almost everything is found to be greater than one?



MS. FORGIE: Objection.
A Well, it would suggest some kind of bias.
BY MR. GRIFFIS:
Q It's impossible to tell from this study whether the unconfounded odds ratio that they give for glyphosate exposure for more than 10 years would be statistically significant if it was controlled for other pesticides, right?
MS. FORGIE: Can I have that question read back, please.
(The requested portion of the record was read by the reporter at 3:15 p.m.)
MS. FORGIE: Objection.
A I don't know -- I don't know what number you're -- or what category you're talking about.
BY MR. GRIFFIS:
Q I need to fix it because I meant days, not years. Table 2, exposure to various herbicides, glyphosate less than or equal to 10 days and greater than 10 days.
MS. FORGIE: What's the question?
MR. GRIFFIS: I'm pointing him to the table.
BY MR. GRIFFIS:
Q The question is, there's no way to tell



whether the purportedly statistically significant finding for glyphosate exposure of greater than 10 days duration would be statistically significant if adjusted for other pesticides, correct?
MS. FORGIE: Objection.
A There's no way to know that's correct.
BY MR. GRIFFIS:
Q There's no statistically significant odds ratio greater than one that is controlled for other pesticides in this study, the Eriksson study, correct?
MS. FORGIE: Objection.
A I'm sorry, can you repeat that again?
BY MR. GRIFFIS:
Q There's no statistically significant association between glyphosate and Non-Hodgkin's Lymphoma or any subtype of Non-Hodgkin's Lymphoma in this study that is statistically significant greater than one and controlled for other pesticides, right?
A That's correct.
MS. FORGIE: Objection.
MR. GRIFFIS: Mark as Exhibit 1 the De Roos 2005 study.
MS. FORGIE: Exhibit 1?
MR. GRIFFIS: 21.

(Exhibit 16-21, article, was marked for identification.)
BY MR. GRIFFIS:
Q You discuss that in your expert report on page 5, but it's not in your Table 1, correct?
A That's correct.
Q And you report that the study did not find a significantly elevated risk of cancer overall or types of cancer including NHL, right?
A Yes.
Q And you have a couple of critiques of it. You said the median followup time in the study was only 6.7 years, too short a time to detect a meaningful increase in NHL or other cancers including glyphosate, right?
A Yes.
Q Can you explain what you mean by that, please?
A Well, usually you do a cohort study, you follow the individuals for a long period of time, say 20 or even 30 years. So this was a very early preliminary analysis of data.
Q Okay. How long a period of time do you need between an exposure of an environmental -- possible environmental risk factor for Non-Hodgkin's



Lymphoma and presentation of the disease in order to detect it?
MS. FORGIE: Objection.
A You mean on average or --
BY MR. GRIFFIS:
Q Let's talk about epidemiology studies first of all.
How long a period do you need for an epidemiology study to provide useful data?
MS. FORGIE: Objection.
A For NHL?
BY MR. GRIFFIS:
Q Yes, sir, for NHL.
A Well, I don't think I can answer that in a general fashion. I think depending on the intensity of the exposure -- depends on the intensity of the exposure and length of the exposure, one can see cases of NHL as early as two years after exposure and as long as 30 or more years after exposure. So it's a very wide -- it's a very wide interval.
Q When you say as early as two years and as long as 30 years, you're talking about individuals, correct?
MS. FORGIE: Objection.
A Yes.



BY MR. GRIFFIS:
Q So if an individual is -- and you were making an intensity distinction, correct, so that if someone's -- has an intense exposure, their latency period to presentation would probably be shorter than someone with less intense exposure?
A In general.
Q So for an individual patient, you would expect to see NHL more than two years, less than 30 years after exposure, depending on intensity?
MS. FORGIE: Objection.
A So for NHL, I would expect cases to start appearing maybe two years after exposure, but you could see cases for many years, more than 30 years.
BY MR. GRIFFIS:
Q Okay. So from greater than two and no outer bound; is that right?
A Yes.
MS. FORGIE: Objection.
BY MR. GRIFFIS:
Q For epidemiology. Epidemiology obviously collects multiple people, it's not looking at one individual.
To have a meaningful test of whether a particular -- let's say pesticides to be topical, for



the particular pesticide can cause NHL, how long a period of time do you think you need between the exposures and the cancers that you're measuring?
MS. FORGIE: Objection, asked and answered. You can answer it again.
A I don't think there's any accepted answer to that. Obviously the longer, the better, yeah. So obviously the longer the better. I can't give you a more specific answer than that.
BY MR. GRIFFIS:
Q 6.7 years is too short in your view, right?
MS. FORGIE: Objection.
A In my view it's too short, yes.
BY MR. GRIFFIS:
Q Is 10 too short?
MS. FORGIE: Objection.
A No, probably not. But -- probably not.
BY MR. GRIFFIS:
Q Okay. Where -- I understand that you have to draw a line and it would be a little bit arbitrary, but we have it down between 6.7 and 10, where would you draw that line?
MS. FORGIE: Objection, mischaracterizes his testimony.
A I couldn't draw a line. I think 6.7 years

is too short for a cohort study. For the design of any epidemiologic study, it would be best to have a longer exposure, the longer the better, but I don't have a specific number that I can apply to say this is the magic number.

BY MR. GRIFFIS:

Q Okay. The longer the better, 6.7 is too short, 10 is probably long enough and you couldn't draw a line -- you couldn't be more specific in between those two; is that fair? That's fair, sir?

A Yes.

Q Okay. And the relevant period of time is the period between when the people in the study were exposed to glyphosate and when the people in the study get cancer, that's the period of time we need to look at, right?

A Correct.

Q Now, the De Roos 2005 study, Exhibit 21, that's part of a much larger effort called "the Agricultural Health Study," right?

A That's correct.

Q This is one of multiple publications that's come out of the Agricultural Health Study, right?

A Yes.

Q And that's a National Cancer Institute,



National Institute of Environmental Health Sciences, et cetera, government-funded study, right?

A Yes.

Q And this is the only prospective cohort study that looks at, among other things, possible association between glyphosate and cancer, right?

A To my knowledge, yes.

Q And as you reported in your expert report, the results of the study were negative, there was no association found between glyphosate exposure and Non-Hodgkin's Lymphoma either in crude analysis or in analyses controlled for pesticide -- other pesticide exposures, right?

MS. FORGIE: Objection.

A That's correct.

BY MR. GRIFFIS:

Q You don't rely on this as a study that supports your conclusion that glyphosate can cause Non-Hodgkin's Lymphoma, correct?

A That's correct.

Q And when the De Roos 2005 study looked at higher exposures to glyphosate, looked at the issue of dose response, it found no dose response; is that right?

A That's correct.



Q And the total days of exposure to glyphosate of exposed members in the Agricultural Health Study cohort was significantly higher than those in the case controlled studies that we've been looking at so far, right?

MS. FORGIE: Objection.

A Are you talking about cumulative days?

BY MR. GRIFFIS:

Q Yes, sir.

A Yes, that's true.

Q I mean, the lowest exposure group -- I'm looking at Table 3 on page 52 -- was between 1 and 20 days of glyphosate exposure?

A Right.

Q And the next group was 21 to 56 days and the next one is 57 to 2678 days, right?

A Right.

Q And what they found was the risk in the highest exposed group, people exposed from 57 to 2678 days, had a lower odds ratio than those in the lowest exposure group, 1 to 20 days, right?

MS. FORGIE: Objection.

A That's correct.

BY MR. GRIFFIS:

Q Now, it's both for cumulative exposure days



and intensity weighted exposure days, correct?

A That's correct.

Q Do you have criticisms of the De Roos 2005 study other than the followup time of 6.7 years being too short?

A Well, there are a number of criticisms. One, the people that were followed were quite young. The median age was only, I think, 45, so such a young cohort would need longer followup than, say, a cohort with the median age of 65. So that's another reason why the followup is too short.

The other -- one of the other criticisms is that they compared the highest tertile to the lowest tertile rather than to those that were unexposed which would tend to decrease that kind of analysis -- that kind of analysis would tend to decrease to the null. There are some things that -- which lead one to sort of question these results from such a preliminary analysis of -- of the data.

Q So your three criticisms are median age of 45 being rather young, that they compared the highest tertile -- and that was in the Table 3 we were just talking about?

A Right.

Q Highest tertile to the lowest tertile and

not to the unexposed population?
A Right.
Q And you considered the 6.7 year median followup to be too short, correct?
MS. FORGIE: Objection.
A Right.
BY MR. GRIFFIS:
Q And the only one of those three criticisms you made in your expert report was the last, 6.7 year median being too short to follow up, right?
MS. FORGIE: Objection.
A It ties in with the age. They tie in together. That's the major criticism.
BY MR. GRIFFIS:
Q Did you formulate the first two criticisms after you wrote your expert report?
MS. FORGIE: Objection.
A No.
BY MR. GRIFFIS:
Q Okay. You just didn't put them in your expert report?
MS. FORGIE: Objection, mischaracterizes his testimony. He said they are in there.
MR. GRIFFIS: He said they're not.
MS. FORGIE: He said they tied in together.



BY MR. GRIFFIS:
Q The highest tertile to lowest tertile, that's not in there at all, right?
MS. FORGIE: Objection.
A No, I didn't mention that in my report, something -- yeah, I don't -- I -- it's probably something that I came upon after I wrote my report.
BY MR. GRIFFIS:
Q And you came upon it after you wrote your report how?
A Either by reading the paper or perhaps reading the other depositions. I don't remember.
Q You mentioned that -- never mind.
The followup time of 6.7 years in the De Roos study, that's the number of years after the aegis gathered information on prior exposures, right?
MS. FORGIE: Objection.
A Right, that's the followup with regard to their survival or status.
(Exhibit 16-22, article, was marked for identification.)
BY MR. GRIFFIS:
Q Exhibit 22, Doctor, that I've just marked as such, is published in Environmental Health Perspectives in April 1996. It's titled "The



Agricultural Health Study" and it gives general data about the Agricultural Health Study and its participants, correct?
A Yes.
Q If you look at Table 1, sir, page 365, one of the pieces of information they give is years that the participants first reply back to pesticide; do you see that?
A Yes.
Q Do you see that the median number of years that people participating is something on the order of 15 years with that data?
A Yes.
Q And the information collected, is it based on information that was collected in 1993 to 1997, according to the Exhibit 21, correct, under materials and methods, talking about when recruitment of the applicator occurred?
A Yeah, just let me --
MS. FORGIE: Take your time.
A Let me see the De Roos study here. 1993 to 1997.
BY MR. GRIFFIS:
Q When these initial questionnaires were done, which was '93 to '97, the median exposure to



pesticides in the cohort was already about 15 years, right?
MS. FORGIE: Objection.
A That's correct.
BY MR. GRIFFIS:
Q And glyphosate, at the time, had been on the market for 20 or more years, right?
A That's correct. Almost 20 years.
Q So the potential period of time in the De Roos 2005 study for which people could have been exposed to glyphosate, just at the time of data collection, was 15 to 20 years, right?
MS. FORGIE: Objection.
A But we don't really know what the data is for glyphosate.
BY MR. GRIFFIS:
Q It's potentially 15 to 20 years, right?
MS. FORGIE: Objection, asked and answered. You can answer it again.
A This is for pesticides in general. So we really don't know what the data is for glyphosate.
BY MR. GRIFFIS:
Q Is there a reason that the differential would skew towards later for glyphosate and not for other pesticides?

A Yes, because glyphosate was not really very highly used for many, many years. Only until the mid 1990s did it really take off as being used. So it was, I think, made up maybe three percent or four percent of all the pesticides used during those early years. So it's unlikely that it contributed 15 years. It's unlikely.

Q It's certainly not the case that the people in the De Roos study had 6.7 years between their exposure to glyphosate and developing cancer if they did develop cancer, right?

MS. FORGIE: Objection, asked and answered. You can answer again.

A Yeah, they would have had exposure because exposure goes back. But we don't know how far back it goes.

BY MR. GRIFFIS:

Q It could have gone, on average, further than 10 years, right?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A It's possible.

BY MR. GRIFFIS:

Q You have no reason to say that it was 6.7 years and not greater than 10 years, your threshold



for a study yielding fruitful data on exposure to a substance and Non-Hodgkin's Lymphoma, correct?

MS. FORGIE: Objection, asked and answered. He just gave you a reason. You can give it to him again.

A I need to hear the question again.

BY MR. GRIFFIS:

Q Yes, sir. You have no reason to suppose that the true period of time for the people who were exposed to glyphosate, who developed Non-Hodgkin's Lymphoma, between their exposure and their diagnosis, was not 10 years or more, the period of time that you say it is, is a fruitful period for a study?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A I have no way to know what it was.

BY MR. GRIFFIS:

Q The real number is not 6.7, right?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A We really don't know what the number was. We really don't know what the number was because they could have -- they could have used glyphosate and they could have stopped before they were even enrolled in the study. So we really don't know what



the number is.

Q If the real number is 10 or greater as opposed to 6.7 you put in your expert report, then this is not an immature study, correct?

MS. FORGIE: Objection, asked and answered.

A It is an immature study because we -- for a cohort study of young applicators, it's very unlikely that you would see an increased odds ratio with such a short followup because you wouldn't have accumulated enough cases of NHL to do that.

BY MR. GRIFFIS:

Q And the followup, though, is only one part of the relevant time consideration, correct, the true time consideration is the time between exposure and the assessment of cancers, right?

MS. FORGIE: Objection, asked and answered several times. You're starting to badger. You can answer again.

A Yes, it's true. The exposure time is from the time -- it's actually the time from when they started the -- using the chemical to the time they stopped using the chemical. That's exposure time. And the latency would be the time they started using the chemical until they developed the cancer.

Q Okay. And that is a different number than



the time between the initial questionnaire and final followup; that's a different number, right?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A You're asking now exposure time or latency?

BY MR. GRIFFIS:

Q Well, the 6.7 that you said was too short a time is based on followup, right?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A Yes. That was the median followup time.

BY MR. GRIFFIS:

Q Okay. But the important figure is not how long between initial questionnaire and followup in a particular study, the important number for the issue of latency, which is your criticism, is between the initial exposure and the cancer assessment, correct?

MS. FORGIE: Objection, asked and answered like five times. You can answer it again.

A Yes.

BY MR. GRIFFIS:

Q How many years of followup, in addition to 6.7, do you think would make this no longer an immature study?

MS. FORGIE: Objection, asked and answered.

A I don't know the answer to that. I think -- I think the -- the best followup would be at least 20 years or more, but I think we don't really know the answer to that question.

MS. FORGIE: When you finish with AHS, can we take a quick break, when you're finished?

MR. GRIFFIS: Yeah. I'm seeing if I am. Okay.

THE WITNESS: Break.

THE VIDEOGRAPHER: We're off the record at 3:40 p.m.

(Brief recess.)

THE VIDEOGRAPHER: We are back on the record at 3:55 p.m.

(Exhibit 16-23, Draft publication, was marked for identification.)

BY MR. GRIFFIS:

Q I've marked as Exhibit 23 a draft of 2013 -- 2013 draft of updated data from the Agricultural Health Study; have you seen this before, sir?

A I have, yes. Thank you.

Q When did you see it?

A A few weeks ago.

Q And you saw it a few weeks ago because you



read about it in one of the depositions and asked for a copy?

MS. FORGIE: How did you know that?

A Well, I -- I knew about it because Aaron Blair was questioned about it and then I did see it referenced in other depositions and I -- so then I asked for a copy, yes.

BY MR. GRIFFIS:

Q The cancers assessed in the De Roos '05 April were done through December 31, '01, and these were in the 2013 data, they were assessed through December 31, 2008; did you see that when you reviewed these two papers?

A Yes.

Q It's another seven years of followup, correct?

A Correct.

Q 6.7 plus seven, even if we pay no attention to how long it was before initial questionnaires that people were initially exposed to glyphosate, would take us over your 10-year threshold for an effective epidemiology study on glyphosate and NHL, right?

MS. FORGIE: Objection.

A So I didn't -- I didn't give you any threshold, but it would -- it would put the followup



over 10 years.

Q Well, you told us that 6.7 was too short and you thought more than 10 would be too long and you couldn't tell us more specifically in between those two, right?

MS. FORGIE: Objection, mischaracterizes his testimony.

A I didn't give you any threshold.

BY MR. GRIFFIS:

Q So what is the --

A Other than 6.7 is too short and 10 would probably be a minimum number.

Q So 6.7 plus another seven is also too short?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A Well, I don't know. I mean it's better than 6.7. It's longer than 10.

BY MR. GRIFFIS:

Q Do you feel that the data in the 2013 draft is immature and has too short a followup time?

MS. FORGIE: Objection.

A No, but there are other issues with this manuscript which are problematic.

BY MR. GRIFFIS:



Q Okay. The followup time is no longer a criticism?

MS. FORGIE: Objection.

A The followup time is better, much better, okay.

BY MR. GRIFFIS:

Q It's a much larger cohort than the De Roos 2005, right, as far as number of cases?

A Yes.

MS. FORGIE: Objection.

A Yes.

BY MR. GRIFFIS:

Q And the people in the study are older, people in the cohort are older in the status which addresses your concern about average age of 45-year-old applicators, correct?

MS. FORGIE: Objection.

A Right, but they're still pretty young.

BY MR. GRIFFIS:

Q They're in a much better age range with the 2013 data than they were with the De Roos 2005 data, right?

A Yes.

MS. FORGIE: Objection, asked and answered.

BY MR. GRIFFIS:

Q Okay. Sir, go to page 31, please. I'm going to show you some data tables and each time I'm going to take you to the first page of the table so we can see what it is and then the part of the table that has glyphosate data.

So on page 31, we have Table 2, which is pesticide exposure, lifetime days and intensity weighted lifetime days and the age adjusted risk of NHL, correct?

A Yes.

Q And if you go to page 34, you see the glyphosate data there?

A Yes.

Q And first of all, you see that there were 250 -- 89 plus 78 plus 83 -- cases with exposure to glyphosate in the various exposure groups, correct?

MS. FORGIE: Objection.

A Correct.

BY MR. GRIFFIS:

Q And do you see that in each case, there is no significant trend and no P value even above one in the data showing any sort of association between glyphosate and Non-Hodgkin's Lymphoma in this data, correct?

A That's correct.



Q That's true for all of the dosage groups, correct?

A Yes.

Q Go to page 36, Table 3. This shows exposure, lifetime days and the age adjusted risk of NHL.

And this time it's breaking down by Non-Hodgkin's Lymphoma type, correct?

MS. FORGIE: Objection.

A Here it says "lifetime days."

BY MR. GRIFFIS:

Q Are you on page 36, Table 3?

A Yes.

Q So lifetime days -- yes, sir, lifetime days.

But it's broken down by NHL subtype, right?

A Correct.

Q If you go to page 39, there are no statistically significant positive associations for any NHL subtype in these data, correct?

A That's correct.

Q And the P trend for diffuse large B-cell lymphoma is actually statistically significant negative, right?

MS. FORGIE: Objection.



A That's correct.

BY MR. GRIFFIS:

Q Page 53, this table is showing -- wait for you to get there.

A Yes.

Q Page 53, this table is showing pesticide exposures, total days and intensity weighted total days, fully adjusted of NHL, '92 through 2008.

And glyphosate data is presented on page 59, and again, there are no statistically significant associations in these data, correct?

MS. FORGIE: Objection.

A So how is this different from the first table we looked at?

BY MR. GRIFFIS:

Q These are -- these have confounder adjustments.

MS. FORGIE: Objection. I object to his statement. There's more to it than that.

A So where is the --

BY MR. GRIFFIS:

Q Glyphosate data?

A Yeah.

Q On page 59.

A Okay.



Q So my statement is correct, there are no statistically significant associations, positive associations in these data, correct?

MS. FORGIE: Objection.

A That's correct.

BY MR. GRIFFIS:

Q And to cut short the flipping through additional tables, you looked through these data tables and you found no statistically significant positive associations between glyphosate and Non-Hodgkin's Lymphoma in these data, correct?

A That's correct.

Q What are your criticisms of the 2013 AHS data?

A Well, I think the main criticism is that when they administered the followup questionnaire, 37 percent of the participants failed to respond, so they had a large number of participants that dropped out of the study. And so there are two approaches on how to deal with that; one is to just analyze the data for the other 63 percent, but that would result in a significant -- potential significant selection bias because you don't know what the exposures of the 37 percent would have been.

The other issue is that instead, they

decided to imputate, in effect guess, what the exposures would have been for that 37 percent. And that's a very questionable approach to the missing data because they're basing data on participants that they do have data on and they're basing the data on the fact that participants with the missing data are assumed to have continued to use glyphosate.

And another significant criticism is that right about this time, around 1996, the usage of glyphosate took off and began to go up at about a 45-degree angle. And they don't really capture much of that at all in this -- in this analysis. So the issue of significant people dropping out of the study with no data and imputating the data, or guessing what the data was, I think is a major problem with this manuscript and is probably one of the reasons why this manuscript hasn't gone anywhere.

Q Do you have any other criticisms besides the two that you identified?

A I think those are the major criticisms.

Q Did you come up with those two criticisms by your own analysis of this study or from looking at some work from other persons?

MS. FORGIE: Objection.

A Well, part of it was from my own analysis



and part of it was from reading the rebuttal written by Dr. Ritz who provided a much more detailed and sophisticated explanation than I have.

Q Yes, sir. Dr. Ritz, of course, is an epidemiologist?

A Yes.

Q Do you feel qualified to assess the imputation methodology that was used in the study and critique it or are you really relying on Dr. Ritz for that?

MS. FORGIE: Objection, asked and answered.

A I'm relying on her assessment.

BY MR. GRIFFIS:

Q Okay. And with regard to the increase in usage on glyphosate and whether -- it would be necessary for there to be a differential between the cases and the controls for the increase in glyphosate use to cause a relevant fuzzing of the statistics; is that fair to say?

MS. FORGIE: Objection.

A Say it again.

BY MR. GRIFFIS:

Q Yes, sir. It would be necessary for there to be a differential in increased glyphosate used between cases and controls for that to alter the



statistics in a study, right?

MS. FORGIE: Objection.

A No, it would -- most likely what would happen is they have nondifferential -- you don't -- first of all, you don't know what the real values are for a significant proportion of the participants and the methodology they use would have created a nondifferential misclassification which would have made it -- which would have lowered any risk ratios towards the null. So it's a major problem with this -- with this updated manuscript.

BY MR. GRIFFIS:

Q Same question as for your first criticism, are you assessing the nondifferential bias that you say may exist from increase use of glyphosate using your own epidemiological expertise or are you mostly relying on Dr. Ritz's analysis from her supplemental expert report?

MS. FORGIE: Asked and answered.

A I'm relying on my expertise.

BY MR. GRIFFIS:

Q And the -- is it your position, sir, that epidemiology can't be done anymore because so many people are exposed to glyphosate?

MS. FORGIE: Objection.



A It's my opinion that this is -- this has become a very flawed study due to loss of participants, that it is probably never going to be able to provide relevant results with regard to glyphosate.

BY MR. GRIFFIS:

Q I was asking about the other criticisms, sir, not that one, increasing glyphosate use.

A I'm sorry, ask your question. I must have been thinking ahead of you. I'm sorry.

Q Yes, sir. Is it your view that increased glyphosate use makes further epidemiology in the current era impossible because so many people are exposed?

MS. FORGIE: Objection.

A It makes it much more difficult to demonstrate differences, because in a study like this, you need to have enough unexposed participants to compare to the exposed participants. And if the majority, 70, 80 percent of the participants are exposed, it makes it more difficult to do the study because you need a much larger number of participants to get enough contrast in the exposures to see any difference.

BY MR. GRIFFIS:

Q Do you know, sir, that some data from -- not involving glyphosate, but involving other substances, was published in 2014 from this later data collection?

A Yes.

Q And that included what was published despite the dropout issue that you identified as your first criticism?

A Yes, but in that study, the imputation was likely more accurate because although we don't really know, it's a guesstimate there too, but it's likely more accurate because they had -- because of the pretty level use of the various different pesticides. In other words, you didn't have this dramatic increase in those pesticides like we know occurred for glyphosate.

Q Would you support the submission of this data for publication as something important for people to know about?

MS. FORGIE: Objection, speculation.

A I think they should -- I think they should publish it, but I think, you know, if it has adequate and critical peer review, it may not be accepted.

BY MR. GRIFFIS:

Q You saw Dr. Blair's testimony in his



deposition that he and the other authors discussed publishing it in advance of IARC so that IARC could review it and thought it would be important for IARC to review it; you saw his testimony saying that?

MS. FORGIE: Objection, mischaracterizes the testimony.

A I don't remember exactly what was -- I don't remember that from his -- from his deposition. If you want to show it to me, I'd be happy to see it, but I don't remember that specifically.

BY MR. GRIFFIS:

Q You don't remember them discussing the possibility of publishing it before IARC?

A I don't remember that.

Q Do you remember that he testified at his deposition that he didn't tell anyone at IARC about this data that he knew about?

MS. FORGIE: Objection, mischaracterizes the testimony.

A I think it was generally known that there was data out there.

BY MR. GRIFFIS:

Q You think it was generally known by the IARC participants that there was updated AHS data?

A That's what you do with cohort studies, you



update them periodically, so that's -- that's the natural evolution of reporting on cohort studies. So people knew the original cohort study was there and people, I think, were and have been waiting for followup publications. So I don't know what the IARC people knew or didn't know.

Q Do you know if they've even tried to have it published?

A I don't know that.

Q Do you know why?

A No.

Q You read Dr. Ritz's expert report, not supplemental, but expert report -- did you read her expert report?

A Yes.

Q Did you see she said the NAPP data should be considered in any analysis?

A I think once the NAPP data is published, it could be -- it could be included in a meta-analysis, yes. But prior to having it published, I would say no.

Q And you know that Dr. Blair testified -- if you read his deposition, did you see he testified if the NAPP data were included in a meta-analysis, the risk would have been nonsignificant?



MS. FORGIE: Objection, mischaracterizes his testimony.

A I don't think we know that until it's actually done. It wouldn't surprise me actually because it's the same data that's already in the meta-analysis, right? You're taking the NAPP and putting it in and taking the De Roos 2003 and the McDuffie out, so you're basically putting -- you're basically putting the same data back into the meta-analysis.

BY MR. GRIFFIS:

Q There are analyses and tranches of data reported in the NAPP data that don't show up at all in De Roos '03.

MS. FORGIE: There's no question.

Q Correct?

MS. FORGIE: Objection.

A The NAPP includes De Roos 2003 and the McDuffie --

Q McDuffie.

A -- groups. So it's -- you're really not changing the data very much.

Q For example, the combined data of intensity by year and by number of days of use during the year, that's new, it wasn't reported in McDuffie or in De

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Roos '03, right?
MS. FORGIE: Objection.
A That's true, that's new data that would contribute to a meta-analysis, but I doubt whether it would take the odds ratios down. It would keep them the same or even increase them because it's the same basic data.
BY MR. GRIFFIS:
Q When we say --
A But you have to do the analysis. It's hard to sort of guess what the results would be without doing it.
Q Why haven't the NAPP data been published yet?
MS. FORGIE: Objection, calls for speculation.
A Well, I wish I had the answer to that. It's been slow and methodical. As you know, I've been pushing hard to get it published and it's slow and methodical.
BY MR. GRIFFIS:
Q You don't know the reason for the holdup?
MS. FORGIE: Objection, asked and answered. You can answer it again.
A I don't. It's been slow and methodical.

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BY MR. GRIFFIS:
Q Do you know whether the AHS data is suffering from the same mysterious slowdowns?
MS. FORGIE: Objection.
A I don't know. I don't think so, but I don't know.
BY MR. GRIFFIS:
Q In your expert report, sir, the section on animal studies, it starts on page 6.
A Yes.
Q You say, "glyphosate has also been tested for carcinogenicity in mice and rats in multiple studies," and you give some sites, "and some studies have been positive for the development of tumors," right?
A Yes.
Q And what you mean by positive is statistically significant associations found for particular tumors in particular studies, right?
A Yes.
Q And as we've discussed, if a study looks at multiple end points, like dozens of cancers in a group of animals, about one out of 20 of those associations are going to be positive in any particular study, right?

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MS. FORGIE: Objection.
A That's possible.
BY MR. GRIFFIS:
Q That's true by the play of chance alone, it's a math thing, not a science thing?
A Right.
MS. FORGIE: Objection.
BY MR. GRIFFIS:
Q So it's really important to look at whether the number of associations exceeds the number that you would expect due to chance, whether the associations that you see are consistent across animal species, whether they're consistent across males and females, whether they're consistent with the tissues targeted, et cetera, correct?
MS. FORGIE: Objection, speculation.
A All of those things are important to consider, yes.
BY MR. GRIFFIS:
Q And none of those analyses appear in your expert report; is that fair?
A I think they do. I mean, I comment on whether things were statistically significant or not. I discuss whether they were males or females or both.
What are the other issues that you brought

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up?
Q Whether the same associations are found across multiple studies.
A So I comment on that in my closing remarks on Bradford Hill.
Q And I think that might have been it.
Do you say, in your section on animal studies, we have seen the consistent results targeting similar tissues in mice and in rats, in males and in females across multiple studies?
MS. FORGIE: Objection, asked and answered. You can answer it again.
A Well, yes, if you read through the animal studies, you'll see I do comment on that.
BY MR. GRIFFIS:
Q Show me where.
A So --
MS. FORGIE: You mean other than what he's already pointed out?
MR. GRIFFIS: He hasn't pointed out anything yet.
Q Show me where, please.
MS. FORGIE: Objection.
A Well, there -- you know, there is -- so for example, probably the best example is the lymphoma

studies on page 7, in the middle paragraph, where you see, in one study, lymphomas in both males and female mice. In another study, you see it in males, another study you see it in males and another study you see it in females. So, I mean, that's probably the best example.

Most of the tumors occurred in males and not in females. But there was -- and so I -- I summarized where there was a consistency in the -- under the Bradford Hill Criteria for replication of results where I say animal studies are replicated, the findings for pancreatic islet cell adenoma, cellular adenoma, hemangioma, hemangioma sarcoma and malignant lymphoma. And actually, there a couple other ones that were also replicated when I reviewed the more detailed toxicology studies of Portier and Jameson, T-cell tumors of the thyroid were replicated and kidney tumors were replicated.

Q You said the studies; do you mean the expert reports of Portier and Jameson?

A Yes, the expert reports of Portier and Jameson.

Q Are you relying on their expert reports for their --

A Yes, I am. It was something -- they



reviewed -- they reviewed the actual animal studies. I was limited, like IARC, to reviewing summaries of the studies, either from IARC or from EPA or from the EFSA or -- yeah, so those are the sources that I used to compile what I found.

Q Did you see in Dr. Portier's deposition that he said that the pooling methodology that he applied to malignant lymphomas did not work and did not show a significant trend when he applied it to 24-month studies as opposed to the 18-month studies?

MS. FORGIE: Objection. He didn't read that.

A His report?

BY MR. GRIFFIS:

Q His deposition.

Did you tell me earlier you read his deposition?

A That was a mistake. I didn't read his deposition.

Q You don't know what he said about his pooling results and what they didn't show in his deposition?

A No.

Q If he said the various things that he said in his expert report were not so in his deposition,



that would undermine your reliance on the expert report; would that be fair to say?

MS. FORGIE: Objection, mischaracterizes the deposition of Portier and -- well, I won't make a speaking objection, but you might want to ask him about timing of when he read things.

A So I'm mainly relying on my own evaluation of the published reports that I had in hand.

BY MR. GRIFFIS:

Q Okay. Now, you also said a little earlier, sir, that you didn't have available to you original animal data and that IARC also didn't have available to it original animal data.

Did you read the Greim paper?

MS. FORGIE: Objection.

A I did and I referenced it and I actually discussed it in my report.

BY MR. GRIFFIS:

Q Did you look at the raw data that was provided, the original data that was provided along with the Greim paper?

A The Greim, no, I did not.

Q That was available online, as it says in the Greim paper, and it's still available online and always available online since the Greim paper was



published; did you know that?

A Yes, I did.

Q Did you look at it?

A No, I did not.

Q And did you read, in the depositions of Dr. Blair and Dr. Ross and others who participated in IARC, that the Greim data was -- that they could have looked at it if they had chosen to, but it was too voluminous and they chose not to look at it?

MS. FORGIE: Objection, mischaracterizes the testimony.

A From the IARC report, what they said is it wasn't published in a peer-reviewed journal and it wasn't reviewed by another regulatory agency, so by their rules that IARC has, they would not review it and do an independent analysis. So I'm not -- I'm not sure what you said is true.

Q Okay.

A I'm not sure. Maybe you should rephrase it or ask me again.

Q Well, you may not be the right person to know about the details of IARC's procedures, and tell me if you're not, but do you know that IARC has a rule that if something as incorrect as Greim was at the time of the IARC review, they will review it?

MS. FORGIE: Objection.
A If they knew about it.
BY MR. GRIFFIS:
Q And do you know that they admitted that they knew about it, it was in their hands and there's e-mails proving it?
MS. FORGIE: Objection, mischaracterizes.
A I'm not privy to what happened at IARC.
BY MR. GRIFFIS:
Q Well, whatever happened at IARC and whatever their rules are, is it your rule that you won't look at animal data that's provided in an electronic annex along with the published article like the Greim report?
MS. FORGIE: Objection.
A I would probably rely on someone who -- like Portier or Jameson or somebody else who has more experience in doing this than I do.
BY MR. GRIFFIS:
Q Fair enough. So knowing that Dr. Portier, maybe Dr. Jameson have looked at that data and analyzed it and have more experience, you wouldn't look at the raw data yourself, you would rely on what they have done; is that fair?
MS. FORGIE: Objection.



A I probably wouldn't, no. I think, based on what's already been published in the review articles and in the analyses that IARC did and that EPA did and that EFSA did and the German group did, I mean -- and -- and in the reports of Jameson and Portier, there's an abundance of evidence, which I sort of listed here, that I'd like to say reduces tumors of various types in rats and mice. And there's some consistency in that. It was reproduced more than once, twice, three times for some tumors.
Q Sir, you don't have any problem philosophically with unpublished as opposed to published data, do you?
MS. FORGIE: Objection.
A I personally think that all data that's considered should be published and peer reviewed.
BY MR. GRIFFIS:
Q What do you mean "all data that's considered"?
A That's considered in any kind of evaluation like this, that's considered by the EPA, by IARC, by anybody. The data should be publicly available, peer reviewed and available for anybody to analyze and that has not been the case.
Q Okay, sir. I want to understand why you



have that view.
Is it because you think that that sort of data should be transparent to the general public and scientists so that anyone can look at it or you think that data that is unpublished is of a low quality, and therefore, shouldn't be looked at by regulators?
MS. FORGIE: Object to form.
A No, I think all the data should be looked at by regulators and judged based on its quality. And I think probably for the most part it is high quality, but one cannot know unless one has the opportunity to review it.
BY MR. GRIFFIS:
Q Okay. Well, when you said that all data that is looked at by EPA and by regulators should be published, why do you say that?
A Well, because then it would be publicly available. Then I could sit down and evaluate it, if I wanted to, or somebody like Portier could sit down and evaluate it or other regulatory agencies could sit down and evaluate it. If it's not publicly available, it -- you can't evaluate it for quality and you can't make up your own mind about, you know, what does the data really show, were the analyses done by the company pathologist, by the company



biostatisticians correct.
Q I know it's getting late and you're a little tired, but I want to be clear about this.
The reason that you say that all this data should be made public isn't because of -- isn't because the process of making it public improves its quality so much as you think that all such data should be available so that anyone who wants to can see, it's an open access sort of --
A Yes.
MS. FORGIE: Objection, mischaracterizes his prior testimony.
A There should be total transparency.
BY MR. GRIFFIS:
Q Okay. You understand, sir, that regulators very frequently do make decisions based on largely an unpublished data, correct?
MS. FORGIE: Objection.
A That's been the tradition, but I -- I think that transparency is a much better approach to this.
Q And -- late for me too. Take a few minutes.
MS. FORGIE: For all of us.
THE WITNESS: Are we taking a break?
MR. GRIFFIS: Sure.

THE WITNESS: Can I grab a coffee?
MR. GRIFFIS: Yeah, let's make it like two rather than 10 minutes.
THE VIDEOGRAPHER: Off the record at 4:34 p.m. This marks the end of Videotape Number 3 in the deposition of Dr. Dennis Weisenburger.
(Brief recess.)
THE VIDEOGRAPHER: We are back on the record at 4:39 p.m. This marks the beginning of Videotape Number 4 in the deposition of Dr. Dennis Weisenburger.
BY MR. GRIFFIS:
Q Sir, I'm looking at your expert report on pages 8 through 10, "mechanisms of carcinogenesis," and you describe several different kinds of studies here and the first is human in vivo genotox and then in vitro studies and then some studies in in vivo, in vitro mammals and other organisms, animals and plants both.
Which category is the most important and most relevant to assessing whether glyphosate can cause Non-Hodgkin's Lymphoma?
MS. FORGIE: Objection.
A For me, the most relevant is the studies done to humans, human cells, in mammals, in mammal



cells --
Q All right. And of those, which is the most important --
MS. FORGIE: Are you finished?
A And other living organisms.
BY MR. GRIFFIS:
Q What did you leave out? Was it without a rank order or was that just listing everything?
A It was sort of a rank order.
Q So the most important is in living humans, right?
MS. FORGIE: Objection, asked and answered. You can answer it again.
A The most important is in humans and mammals, in vivo and in vitro. And then other, how do you say it, other in vivo studies, non-mammals.
BY MR. GRIFFIS:
Q That's another rank of everything?
A Yes.
Q Of everything?
A More or less.
Q You say on page 8, the first two things you talked about are the Paz-y-Mino 2007 and Bolognesi 09 studies and you say they are particularly informative with regard to the genotoxicity of these chemicals in



humans in your expert report, right?
A Yes.
Q What do you mean by "particularly informative"?
A Well, they're both studies of workers and other people who were exposed to glyphosate that was sprayed. And in the first study, the exposures were quite high, perhaps like you would see in an animal study, and in the second study the exposures were lower. And in both cases, they saw significant increases in genotoxicity in cells of the humans who were exposed. So for me, this is strong evidence that the formulations that they were exposed to were genotoxic.
(Exhibit 16-24, article, was marked for identification.)
MR. GRIFFIS: That's Exhibit 24, right?
THE WITNESS: 24.
BY MR. GRIFFIS:
Q Exhibit 24, sir, is the Paz-y-Mino 2007 study. And the study reports the results of something called a comet assay test looking at blood samples from 24 individuals living in Ecuador near the Columbian border and comparing that to individuals in a control group not living near the



border, right?
A Yes.
Q Do you know where the controlled population lived?
A They lived in an area that wasn't sprayed with glyphosate. I'll see if they give more details to that. Unexposed control group consisted of 21 unrelated, healthy individuals living 80 kilometers away from the spraying area, similar exposed group, et cetera.
Q Where are you reading?
A It's top of 258, first paragraph on the left.
Q 258?
A I'm sorry, 458, third page.
Q They're similar to the exposed group regarding demographic characteristics and occupation, but were not matched controls, correct?
A Yes.
MS. FORGIE: Objection.
BY MR. GRIFFIS:
Q That's what it says, right?
A That's what it says.
Q And do you know if they had differences in income levels?

A No.
Q Do you know if they had differences in access to sanitation like indoor plumbing?
A No.
Q Do you know if they have differences in the degree to which they were urban or rural?
A Well, they were matched for demographic characteristics, so I'm assuming there was some matching. They don't give you the details, but urban and rural would fit into that category.
Q You consider urban and rural a demographic characteristic?
A Yes.
Q Do you know whether they match that?
A No.
Q Do you agree the differences in sanitation, like indoor plumbing, housing, income levels, et cetera, could affect general health and background level of genotoxicity?
MS. FORGIE: Objection.
A I don't know that without more specifics.
BY MR. GRIFFIS:
Q The only demographic information they give us about the cases and controls in the study in Table 1 are the gender and age, correct?



MS. FORGIE: Objection, mischaracterizes what he just said.
A They give the gender and age. In the next paragraph actually below the one we were just on, it says "neither the exposed or the control group smoked tobacco, drank alcohol, took prescription drugs or had been exposed to pesticides during the course of their normal daily lives and mainly worked at home, cultivating and harvesting crops, pesticides, other herbal substances" and then named activities. So it sounds like they were matched for activities and other -- other things that could affect genotoxicity studies.
Q It says --
A It doesn't say how they were matched, but it sounds like they were similar.
Q It says they were not matched controls in the previous paragraph, right?
A Right.
MS. FORGIE: Objection.
BY MR. GRIFFIS:
Q What's a matched control?
A Well, a matched control, it depends on what you match on. Usually you match at a minimum on age and sex, but you could match on many things.



Q The study population, the people living near the border who were sprayed were complaining of multiple acute illnesses, correct?
A Yes.
Q Page 457, left-hand column, intestinal pain and vomiting, diarrhea, fever, heart palpitations, headaches, dizziness, numbness, insomnia, sadness, burning of eyes or skin, blurred vision, difficulty in breathing, blisters or rash, correct?
A Correct.
Q And they didn't match controls for suffering from those symptoms or for level of illness, correct?
MS. FORGIE: Objection.
A No, because I think many of those symptoms were due to the pesticides that they were sprayed with.
BY MR. GRIFFIS:
Q Having intestinal pain and vomiting, having diarrhea, having heart palpitations, having systemic complaints significant enough to cause clinical symptoms can itself cause genotoxicity and occupational stress; is that right?
MS. FORGIE: Objection.
A Severe stress could do that, yes.



BY MR. GRIFFIS:
Q And whatever illnesses that they were suffering from, which you don't know, were due to pesticides could do that as well, right?
MS. FORGIE: Objection, asked and answered.
A It's very likely the illnesses were due to pesticides -- due to the sprayed pesticides.
BY MR. GRIFFIS:
Q And if genotoxicity was secondary to the symptoms that they were showing and not primarily caused by the pesticides, it would be not evidence of glyphosate-induced genotoxicity, right?
MS. FORGIE: Objection.
A Well, it would be hard for me to believe that any of these symptoms would cause enough oxidative stress to produce the kinds of measurable changes we saw in genotoxicity in this study. It would be hard for me to believe.
BY MR. GRIFFIS:
Q Do you know the degree to which systemic illness causes oxidative stress?
MS. FORGIE: Objection.
A It does increase the oxidative stress, but by and large, the body can deal with the oxidative stress that's -- that's generated from things like

that unless it's -- unless it's chronic oxidative -- chronic illness that causes increased oxidative stress. I'm talking in generalities though.
BY MR. GRIFFIS:
Q Yes, sir. Oxidative stress is damage to DNA caused by reactive oxidative species, correct?
MS. FORGIE: Objection.
A Well, oxidative stress is the physiologic term for the process that generates the free radicals, but otherwise what you said is true, yes.
BY MR. GRIFFIS:
Q The reason that we care about oxidative stress with regard to glyphosate is because the hypothesis has been generated that oxidative stress is a mechanism by which glyphosate can damage DNA and ultimately lead to cancer; is that right?
MS. FORGIE: Objection.
A Oxidative stress is one mechanism, another is direct genotoxicity.
BY MR. GRIFFIS:
Q Yes, sir, I'm talking about oxidative stress.
A Okay.
Q That's the hypothesis, right, that oxidative stress can cause damage to DNA, which after



an additional specific of events can potentially lead to cancer; is that right?
MS. FORGIE: Objection, asked and answered.
A That's one hypothesis.
BY MR. GRIFFIS:
Q Are there other hypotheses about how glyphosate, through oxidative stress, could cause cancer?
A No, through oxidative stress, that is the hypothesis.
Q And oxidative stress is something that's going on all the time in every cell in our body whether we're exposed to glyphosate or other substances or not, correct?
A That's right.
Q There are up to 10 thousand or more DNA lesions per cell throughout our body per day due to oxidative stress, correct?
MS. FORGIE: Objection.
A I don't know if that's correct. It's common and it occurs in all of us.
BY MR. GRIFFIS:
Q That number doesn't surprise you?
A It does surprise me, but it could be true.
Q Many lesions per cell, would that surprise



you, per day?
MS. FORGIE: Objection, speculation.
A Again, I don't know the answer to that. There would be -- if there was that much -- if there was that much stress, there probably would be many lesions. The good thing about it is the body has ways to compensate and either heal the lesions or the cell dies.
BY MR. GRIFFIS:
Q Too many lesions in DNA can be dealt with by the body in multiple ways by DNA repair which is going on all the time in every cell in our bodies, correct?
A Correct.
MS. FORGIE: Objection.
BY MR. GRIFFIS:
Q By various actions taken to remove a damaged cell from circulation being eaten by other cells or programmed to just die on its own, for example, correct?
MS. FORGIE: Objection.
A Yes.
BY MR. GRIFFIS:
Q And even if a DNA lesion survives and is reproduced, it would be necessary for it to be the



right kind of lesion to cause changes in the cell that are stable and lead to cells either to become immortal or to reproduce itself at a disproportionate rate in order for it to cause cancer; is that right?
MS. FORGIE: Objection.
A It would require one or more changes to have that kind, yes.
BY MR. GRIFFIS:
Q There are multiple steps in the process, right?
MS. FORGIE: Objection.
A Yes.
BY MR. GRIFFIS:
Q Our body has very robust mechanisms to make sure that cells don't become carcinogenic even if exposed to genotoxic substances or oxidative stressors, right?
MS. FORGIE: Objection.
A That's true.
BY MR. GRIFFIS:
Q It's only when those mechanisms are overwhelmed that we have a problem, right?
MS. FORGIE: Objection.
A Or fail.
BY MR. GRIFFIS:

Q Blood samples are -- on page 458 in your 2007 study -- blood samples were collected and processed from the controls, but not at the same time as the blood samples that were collected and processed in the exposed group, right?

MS. FORGIE: Objection.

BY MR. GRIFFIS:

Q I'm in the very first paragraph on page 458.

A Yeah. Blood samples were collected and processed as per the exposed group, but not concommonly.

Q You mean not at the same time, correct?

A Correct.

Q So we don't know if blood samples were drawn during the same kind of season with the same exposure to ultraviolet light during a sunny season versus a rainy season, et cetera, correct?

MS. FORGIE: Objection.

A We don't know that.

BY MR. GRIFFIS:

Q If blood samples from the exposed group were frozen, that would be an improper methodology for comet assay samples, correct?

MS. FORGIE: Objection.



A I don't know the answer to that question.

BY MR. GRIFFIS:

Q Okay. Have you done comet assays yourself?

A No.

Q So you don't know whether it would be a violation of methodology to freeze samples from the controls and not freeze samples from the -- I'm sorry, freeze samples from the exposed group and not freeze samples from the controls?

MS. FORGIE: Objection, asked and answered.

A Typically when you do a study, you want to handle the samples the same way. So I don't know whether it would affect the results, in some assays it doesn't and some assays it does, so you would have to know that. And I don't know that.

BY MR. GRIFFIS:

Q Right. The spray that was involved in the study, sir -- I'm on the first page -- was Roundup Ultra and Cosmo-Flux 411F, correct?

A Trying to see where you're at -- there it is. Yeah, POEA and Cosmo-Flux 411F.

Q And it says that's a proprietary Columbian component, right?

A Yes.

Q Do you know if Cosmo-Flux 411F is



genotoxic?

A I do not.

Q Do you know what's in it?

A No.

Q Do you know how long a comet assay can detect DNA damage purportedly caused by specific exposure?

A How long -- how long after the exposure?

Q Yeah.

A As long as the DNA damage is there, it can detect it.

Q Do you know how long DNA damage would remain without either being repaired or eliminated from the body?

MS. FORGIE: Objection.

A DNA damage can be repaired, it can be eliminated or it can persist.

BY MR. GRIFFIS:

Q Do you know how much DNA damage can persist months after an exposure?

MS. FORGIE: Objection, asked and answered. You can answer it again.

A No, but if the cells are -- don't repair it and it's not significant enough to kill the cell, then the cells can divide and proliferate and they



can carry the lesion and that can occur -- that can occur. That's how cancers develop.

Q So the only cells that would still be around a couple of months after an exposure would be cells that are proliferating with the genetic defect in them; is that right?

MS. FORGIE: Objection.

A That's true.

BY MR. GRIFFIS:

Q And that would be a whole lot fewer than the cells that were initially damaged; is that right?

MS. FORGIE: Objection.

A It would depend entirely on what their proliferate advantage would be.

BY MR. GRIFFIS:

Q Is there any indication that the investigators that were scoring the comet assay were blinded as to the scoring samples?

A I don't know. I would have to read the methods to tell you that. I don't remember.

MS. FORGIE: Do you want him to read the paper?

MR. GRIFFIS: No. I want to take pity on our court reporter.

BY MR. GRIFFIS:

Q If they weren't blinded, then that would be a flaw; is that right?
MS. FORGIE: Objection.
A Yes, they should be blinded.
BY MR. GRIFFIS:
Q And if it doesn't say they were blinded in here, you don't know whether they were or not; is that fair?
A That's fair.
Q Table 1 shows the data that was collected, correct?
MS. FORGIE: The data that was what? I didn't hear.
MR. GRIFFIS: Collected.
A Yes.
BY MR. GRIFFIS:
Q And in the final scoring, the median length of the comet assays in all but one of the 21 controlled subjects was identical, right, 25.0?
A Yes.
Q Which was not the case in the exposed glyphosate group, right?
A Yes.
Q That's virtually impossible for the median in 21, 20 different people to be identical in a comet



assay, right?
MS. FORGIE: Objection.
A They aren't identical. There's one that's higher. That might be the minimal level they measure at.
BY MR. GRIFFIS:
Q It says median, right?
MS. FORGIE: Objection, asked and answered.
A If it was the minimal level and they were all the same, then the median level would be the minimum, right.
BY MR. GRIFFIS:
Q So they were all 25 or shorter, 25 or longer, what?
A I don't know. I don't know -- I don't know why that has occurred. They don't comment on it in the papers I remember, but it might be the -- it might be the lower level of detection. I don't know.
Q Have you done comet assays so you know whether there is a lower limited detection?
A I have not done comet assays, no. But all the other values in the exposed are higher than 25 which would tell me that 25 is probably the lower limit of detection.
Q That's your guess, right?



MS. FORGIE: Objection.
A That's a guess.
BY MR. GRIFFIS:
Q Now, Dr. Paz-y-Mino performed a second study of people exposed to glyphosate containing compounds near the Columbian border, correct?
A Yes.
Q And have you reviewed that study?
A Yes.
Q When did you review it, sir? It wasn't listed in your report.
A Yeah, it was listed in my -- either in my other papers reviewed or maybe more in my -- or in the more recent list that you have. I can't remember where it's listed.
Q Okay. You didn't describe it in the body of your expert report or cite it there?
A No, I didn't rely on it; I didn't.
Q Why not?
A Because I didn't think it was useful.
(Exhibit 16-25, article, was marked for identification.)
BY MR. GRIFFIS:
Q This is a study in which the investigators from the first -- some of the investigators from the



first study looked at -- looked for geno -- indications of genotoxicity based on blood samples of people sprayed with glyphosate containing compounds near the Columbian border, right?
A Yes.
Q They say in the abstract -- this is near the end of the abstract -- "in conclusion, the study population did not present significant chromosomal and DNA alterations," correct?
A Correct.
Q They were looking for chromosomal fragmentation in karyotypes which is a step farther up the chain than genotoxicity, right?
MS. FORGIE: Objection.
A Yeah, it's a more specific assay.
BY MR. GRIFFIS:
Q Genotoxicity that it's going to lead to cancer is going to move through higher phases like that, like cause chromosomal damage, not just spot damage to detected --
A Correct.
Q So genotoxicity can be assessed at various levels at the very early stages of the process, damage occurring to the DNA and at higher levels looking at whether there's damage to chromosomes,

whether damage is persisting and being replicated, et cetera, right?
A Correct.
Q And they say at the end here several -- I'm sorry, I'm on page 50, the last paragraph of the study.
A Okay.
Q Several research studies related to glyphosate exposure have been conducted in Columbia, by Bolognesi, et al., and that's actually referring to one of the studies that you cited in your expert report?
A Correct.
Q Solomon, et al. And which stated the publications have low geotoxic risk associated with glyphosate, correct?
A That was --
MS. FORGIE: Objection.
A That was the conclusion of some of the studies, yes.
BY MR. GRIFFIS:
Q Regarding our study, you obtained results showing no chromosomal in the analyzed individuals?
A Right.
Q This is a negative study on the issue of



genotoxicity in the study that causes --
A Yes, this was a study done two years later. So I would be very surprised to see abnormalities in chromosomes or DNA alterations two years later unless the patients had cancer or something. So this is a long time after the exposure.
Q For genotoxicity, for genotoxic exposure to cause cancer it has to persist and they found no persistence in the study, right?
MS. FORGIE: Objection.
A It's a small sample size. I would say for the vast majority of us, the -- the damage is repaired and doesn't persist. So it's not surprising they didn't find anything. This is what I would have predicted.
Q And you recall from the Bolognesi study, which you also cite in your expert report, that they concluded in 2011 that the genotoxic risk potentially associated with exposure to glyphosate in areas where it is applied on it and was low, that was their conclusion, right?
MS. FORGIE: Objection.
A I'd like to see the conclusion but I --
Q Towards the end of the abstract, sir.
(Exhibit 16-26, article, was marked for



identification.)
MS. FORGIE: Is that a new exhibit?
THE WITNESS: Yeah, 26.
MS. FORGIE: Do you have another copy?
A That was their conclusion. The basis of that conclusion is kind of unclear.
BY MR. GRIFFIS:
Q They say, sir, in the abstract, overall data suggests that genotoxic damage associated with glyphosate as evidenced by small -- and appears to be transient, correct?
A Yes.
Q And they go on to say, potentially associated to glyphosate in areas where herbicide is applied is low, correct?
A That's what they say.
Q A little higher in the abstract, the increase in frequency of BMNN, that was one of their measures of genotoxicity, right?
A Yes.
Q Observed immediately after the glyphosate spraying was not consistent with the rates of application used in the regions and there was no association between self-reported direct contact with eradication sprays and frequency of BMNN, correct?



A That's what they say, but it's actually contradicted in another area where they actually contradict themselves. So again, it was a bit -- bit confusing.
Q It said in multiple places that greater -- I'm sorry, that there -- that the rates of BMNN that they observed was not consistent with rates of application used in the regions, correct?
MS. FORGIE: Objection.
A Yeah, but the other statement is the one I'm questioning.
Q That no significant association between self-reported direct contact and frequency of BMNN?
A Right. Unfortunately I don't know where they say that here.
Q Take a look at page 994, sir, right-hand column, the last full paragraph, second to last paragraph. There was no significant association between self-reported direct contact with eradication sprays and frequency of BMNN. The frequency of BMNN and participants who self-reported because they entered the field immediately after spraying to pick the copa leaves, felt spray drops in their skin who thought they were exposed was not significantly greater than folks living in the same areas who were

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not present during spraying; that's what they reported, right?
A Right.
MR. GRIFFIS: What's our time?
THE VIDEOGRAPHER: 5:40.
MR. GRIFFIS: I'm going to pause for a minute.
THE VIDEOGRAPHER: Off the record at 5:13 p.m.
(Brief recess.)
THE VIDEOGRAPHER: We are back on the record at 5:18 p.m.
MR. GRIFFIS: Dr. Weisenburger, during the break, I was told that we have used 5 hours and 40 minutes of deposition time of seven hours, default under the federal rules. Because we have identified multiple areas of documents, including the documents that you had told us about that you had relied on yesterday -- this is going to be another one of those statements that don't require you to say anything, sir. There were multiple documents that you provided to us only yesterday for which we have not had time to even acquire the relevant documents in this location or review them or prepared to ask you questions about them for which you originally provided information about which ones you

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considered important enough to put into that expert report. But that information is lost to us by the manner in which they were presented to us.
And the identification of multiple documents that reflect other areas of interest to us, such as drafts of NAPP study, e-mails with the authors of those studies, et cetera, things that were requested in the document production request and not produced, I'm going to reserve the remainder of my time to return and question you about those matters and forego a good deal of questioning I could do otherwise on remaining areas of your expert report, we feel that the newly disclosed and identified stuff that we can't get into today because we don't have it at all or because it was so recently disclosed is more important.
So I'm going to stop at this time and suspend my questioning of you at this time. There will probably have to be motions practice as to circumstances of our return, but I'll have an hour and 20 minutes. Turn it over to you.
MS. FORGIE: Yeah. And, of course, we don't agree with any of that. We are producing him today. We are prepared to complete the deposition and go forward in the other hour and 20 minutes and I highly intend that you do.

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MR. GRIFFIS: I can do that only if you provided me with all the documents we asked for.
MS. FORGIE: We're not going to argue. We're going to take a two-minute break because we may have a few questions to ask.
THE VIDEOGRAPHER: We are off the record at 5:21 p.m.
(Brief recess.)
THE VIDEOGRAPHER: We are back on the record at 5:31 p.m.

EXAMINATION

BY MS. FORGIE:
Q Doctor, I have just a few questions for you.
You were asked some questions about expert work you have done for defendants in the past; do you remember those questions?
A Yes.
Q And have you reviewed literature for defendants with regard to asbestos and whether or not asbestos is a risk factor for Non-Hodgkin's Lymphoma?
A Yes, I've handled quite a number of cases alleging that asbestos causes Non-Hodgkin's Lymphoma and my position has always been that asbestos does

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not increase the risk or cause Non-Hodgkin's Lymphoma.
Q And you gave those opinions to defendants, is that correct, defendant's lawyers?
A Yes.
Q You mentioned that you had read the expert's -- had read the expert report of Dr. Portier; do you remember that testimony?
A Yes.
Q And you also mentioned that you read the expert report of Dr. Jameson; do you remember that testimony?
A Yes.
Q Did you read those reports before or after you wrote your expert report?
A After -- after I wrote my report. Actually, I read them just recently.
Q But after you wrote your own report?
A Yes.
Q So you couldn't have relied on those reports in forming -- in drafting your report since you read them afterwards, correct?
MR. GRIFFIS: Objection, leading.
A That's correct.
Q With regard to your criticisms of the draft

manuscript of unpublished -- of the unpublished health study, you relied upon your review of the drafts in making your criticisms about the imputation of exposure data given the increased use of glyphosate; is that correct?

MR. GRIFFIS: Objection, leading.

A That's correct.

Q And you only relied upon the Ritz rebuttal report to confirm your opinion; is that correct?

MR. GRIFFIS: Objection, leading contrary to his testimony.

A Yes.

Q You were asked numerous questions about the NAPP study and the draft manuscripts of the NAPP study; do you remember those questions?

A Yes.

Q Do you recall if the NAPP study made a breakdown of odds ratios for people who used glyphosate for more than two days per year?

A Yes.

Q Do you remember approximately the odds ratio for people in the NAPP study for people who used glyphosate for more than two days per year?

A Yes, it was approximately two -- twofold increase and that was -- it was statistically



significant and had been adjusted for the other three pesticides.

Q Okay. And was that data presented in one of the slide shows that are publicly available in connection with the NAPP study?

A Yes.

Q Did you provide me any draft manuscripts of the NAPP study?

A No.

Q Why is that?

A Because it wouldn't have been ethical or correct or academically correct.

Q Why is that?

A Well, because it's -- it's -- can't think of the terminology. It's -- it's not academic practice to make preliminary publications available for public use.

Q Okay. And you were asked -- you provided additional studies to me that -- the day after Labor Day and then I provided them to the defense; do you remember that testimony?

A Yes.

MR. GRIFFIS: Objection, counsel's testifying.

MS. FORGIE: I'd love to, but I can't.



BY MS. FORGIE:

Q Where any of those additional studies necessary to your expert report?

A No.

Q And do any of those additional studies change any of the opinions that were expressed in your expert report?

A No.

MS. FORGIE: I don't have anything else.

RE-EXAMINATION

BY MR. GRIFFIS:

Q Did you discuss the content of any of these questions during the break just now?

MS. FORGIE: Objection, don't answer that. That's privileged.

MR. GRIFFIS: Questioning on a break during a deposition is privileged?

MS. FORGIE: Yeah, any discussions between us are privileged, you know, both by agreement and by the rules.

MR. GRIFFIS: No further questions.

MS. FORGIE: Thank you.

THE VIDEOGRAPHER: This concludes today's proceedings of Dr. Dennis Weisenburger. The total



number of videotapes used today was four and we're off the record at 5:36 p.m.

STATE OF CALIFORNIA )
) ss
COUNTY OF LOS ANGELES )

I, KATHERINE FERGUSON, Certified Shorthand Reporter, for the State of California, do hereby certify:

That prior to being examined, the witness named in the foregoing deposition, was by me duly sworn to testify the truth, the whole truth and nothing but the truth;

That the testimony of the witness and all objections made at the time of the examination were recorded stenographically by me;

That the foregoing transcript is a true record of the testimony and all objections made at the time of the examination.

Before completion of the deposition, review of the transcript [x] was [ ] was not requested. If requested, any changes made by the deponent (and provided to the reporter) during the period allowed are appended hereto.

I hereby certify that I am not interested in the event of the action.

IN WITNESS WHEREOF, I have subscribed my name this 13th day of September, 2017.

_____

Katherine Ferguson, CSR 12332



NAME OF CASE: In re: Roundup Products Liability Litigation
DATE OF DEPOSITION: 9/11/2017
NAME OF WITNESS: Dennis Weisenburger, M.D.
Reason Codes:

1. To clarify the record.
2. To conform to the facts.
3. To correct transcription errors.

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