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SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF CONTRA COSTA

CHRISTOPHER DANA REMBOLDT, Plaintiff, vs. CHEVRONTEXACO CORPORATION, a Delaware corporation; et al., Defendants.	Case No. C-04-00739

DEPOSITION OF JOHN WHYSNER, M.D.
Los Angeles, California
Friday, May 19, 2006

Reported by:
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Deposition of JOHN WHYSNER, M.D.,
taken on behalf of Plaintiff, at 633 W.

5th Street, Suite 700, Los Angeles, California, beginning at 9:00 a.m. and ending at 4:00 p.m. on Friday, May 19, 2006, before REBECCA CORRAL, Certified Shorthand Reporter No. 7021.

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EXHIBITS

INFORMATION REQUESTED

(None)

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Los Angeles, California, Friday, May 19, 2006
9:00 a.m. - 4:00 p.m.

BY MR. METZGER:

Q Good morning, sir. Would you introduce yourself.

A Good morning. John Whysner.

MR. RIFF: Shall we state appearances for the record?

MR. METZGER: Excuse me, go right ahead.

MR. RIFF: Please.

MR. METZGER: I am Rafael Metzger. I represent the plaintiff, Christopher Remboldt.

MR. RIFF: Lawrence Riff and Sonia Williams, Steptoe & Johnson for various defendants. And on the phone we have Kimberly McIntyre, Kenney & Markowitz for U.S. Oil and Refining Company.

MS. CHIN: Hana Chin from Walsworth, Franklin, Bevins & McCall for Berry Petroleum.

MR. RIFF: Is that it? May we have a stipulation that the objection of any defense counsel actually attending the deposition shall be deemed the

objection of all such counsel attending the deposition.
MR. METZGER: Absolutely.
MR. RIFF: With that, shall we proceed.

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BY MR. METZGER:
Q All right. Good morning, Mr. Whysner; correct?
A Yes.
Q Am I pronouncing the last name correctly?
A Yes.
Q We are here for your deposition, and have you given depositions before?
A Yes.
Q About how many?
A Approximately about 20 times.
Q Do you feel comfortable with the process so I don't need to tell you all those things lawyers usually do at the beginning of the depositions?
A I think so.
MR. RIFF: If you don't understand the question, tell him you don't understand. Okay. You are under oath, you understand that, don't you?
THE WITNESS: Yes.
MR. METZGER: He is doing it for me.
MR. RIFF: Do your best to answer a question no matter how stupid you think the question is. Can you do that? Laughter abounded.
BY MR. METZGER:
Q Okay. Dr. Whysner, is this your current curriculum vitae?

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A Yes.
MR. METZGER: We'll mark this as Exhibit 1.
(Plaintiff's Exhibit 1 was marked for identification by the court reporter.)
BY MR. METZGER:
Q And does Exhibit 1 contain a current list of all of your publications?
A Yes.
Q Are there any publications of yours from any time in your life that you have written which are not listed on here?
A Not that I recollect, no.
Q And is Exhibit 2 a list of cases in which you have testified during the last 10 years?
A Yes.
(Plaintiff's Exhibit 2 was marked for identification by the court reporter.)
BY MR. METZGER:
Q And at the top of Exhibit 2 it says, "Trial Testimony: Last 10 Years." Is every one of these cases here a case in which you actually testified at trial?
A No.
Q All right. I would like to just -- it is not that long of a list. I would like to go through it, if

you could just tell me generally what each case was
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about, I will ask you some questions one by one.
A Okay. The first one, Charles Robinson vs. Rockwell was a case involving PCB's in the mud river in Kentucky, and it was a case -- the suit was for medical monitoring, as well as property damage.
Q Just a moment. Did you give a deposition in that case?
A No.
Q It is indicated here there was a Daubert hearing. Did you provide a written declaration or affidavit for a Daubert hearing?
A I believe so. I believe so.
Q Did you also provide testimony at a Daubert hearing?
A Yes.
Q This case, it indicates that there was a trial?
A Yes.
Q Did you testify at trial?
A Yes. It is real complicated. The Daubert hearing -- after the Daubert hearing, the case for medical monitoring was dismissed, and so the trial went on for property damage, but there were issues related to toxicology and PCB's that I was asked to testify about.
And as you asked about it, a deposition, I don't believe there was a deposition. It is not on this
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list, and -- but it's been a while and this was almost 10 years ago.
Q I see. Okay. Now, in that case, did you give any testimony regarding leukemia or lymphoma?
A No.
Q Or benzene?
A No.
Q All right. The next case, Maertin. Can you tell me what that was about?
A This was a case involving PCB's again in ceiling tiles in a college in New Jersey, and there were, I think, 13 plaintiffs who had various forms of cancer. And this is, again, a while ago and I haven't looked at that because I have been asked about this recently, I can't remember, but I think one of the cases was either leukemia or possibly a lymphoma, but I don't recall specifically.
Q Who asked you about this recently?
A I believe it was my deposition in Ringstaff.
Q Who took your deposition in that case?
A But it could have been the Fullen case. Ringstaff, the deposition was -- I really don't have a good memory for the names of the plaintiff's law firms, I am sorry, but all I can tell you is that a Texas law firm and it was a fairly prominent one, from what I had
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been told.
Q Baron & Bud?
A It wasn't Baron & Bud. It was the Avis, I guess, the No. 2, that's what I was told or something.
Q We'll get to that, that's on the list.
Do you happen to know who took your deposition in the Maertin case?
A No, I don't remember.
Q Next case, Smith vs. Tucson Airport. What was that about?
A TCE, trichlorethylene. And, again, that was a case for, I believe it was medical monitoring, and I do remember who took my deposition, that was Fred Baron.
Q All right. Ballinger vs. -- well, I am familiar with that case. That's fine.
We'll go on to Hudson Riverkeeper. What was that case about?
A PCB's, and the former Anaconda copper and wire facility in Hastings, New York.
Q A case involving cancers?
A No, this was a case that had to do with remediation and cleanup.
Q Who took your deposition, do you recall?
A It was a professor at one of the local universities. I will think of the name in a minute, but

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it was sort of, kind of interesting because he had his students there and it was like one of these kinds of things.
Q All right. Then the San Jose IBM workers litigation, I don't need to ask you about. I see you gave a lot of depositions and a lot of trial testimony?
A I know who deposed me there, Amanda Hawes.
Q I was going to guess that. Krutsinger vs. Pharmacia?
A Was a PCB case again, alleged PCB exposure that involved somebody who was crawling inside of a transformer and got a rash and then got sick and was suing for, you know, medical damages.
Q Who took your deposition in that case?
A I have to memorize all these names in the future. I don't remember.
Q I am looking at Illinois, Southern District of Illinois. Would that have been somebody from Simmons & Cooper, do you recall?
A No.
Q All right. Cooper is Mr. Riff's case or, actually, I guess Phil Harley's case. I don't need to ask you about that.
So now tell me about Fullen, if you would?
A Okay. Fullen is a case involving 10 plaintiffs

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and I only testified regarding three of them. One of them was an alleged exposure to beryllium, alleged

chronic beryllium disease.
One of them was a lung cancer with -- when I was testifying about the toxicology of arsenic and cadmium. And one of them was a CML case and there was alleged exposure to solvents, various petroleum-based solvents in that case.
Q And you gave your deposition in that case in January of this year?
A That is correct.
Q Who deposed you?
A Again, I can't remember.
Q West Virginia, Dean Hartley?
A That name sounds familiar. It might be. What's the firm name?
Q Hartley & O'Brien.
A It might be.
Q Okay. And, lastly, Ringstaff?
A Correct. Ringstaff was a case of CLL and, again, alleged exposure to -- this is -- I think it was primarily benzene.
Q And as you sit here now, can you recall who took your deposition?
A I know the attorneys on my side.

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Q Who were they?
A Well, this started out being Stan Perry and -- but they went out of the case and then it became Phillip Warner, of Warner & Carrigan.
Q That case went to trial. I see that was -- you gave your deposition in March. It went to trial?
A Went to trial and it settled during jury deliberation.
Q All right. Other than the cases which you just discussed, is there any -- are there any other cases in which you have given deposition or trial testimony in the last 10 years?
A No, not that I recollect.
Q With respect to these cases that we have discussed, in any case, did you ever testify on behalf of a worker claiming to be injured?
A No.
Q Did you ever testify on behalf of any person claiming to be injured?
A No.
Q In every case where you testified, were you testifying on behalf of a company that was being sued?
A Well, with the exception -- and, again, this John Smith, underwriter, Lloyds of London, it was an insurance dispute and I am not really sure how to answer

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that question. I think that the insurance company didn't agree with the settlement that the airport had agreed to and I was testifying on behalf of the insurance company.

Q Okay. Now --
A And the Hudson River case was a case about a cleanup, so --
Q And were you testifying on behalf of Arco in this case?
A Yes.
Q All right. Now, when is the first time that you ever gave a deposition?
A It would have been, I think, in the earlier '90s and it was with regard to the Paoli litigation case.
Q On whose behalf did you testify in that case?
A The three railroad companies, SPTA, which is Southeastern Pennsylvania Transit Authority, Amtrak, and at that time, I think it was called Penn Central, and also Monsanto and General Electric.
Q Now, other than the cases that we have mentioned, are there any other cases in which you have testified at all regarding benzene?
A No.
Q Are there any other cases in which you have

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testified about solvents?
A There is a case that I was asked to testify about cutaneous absorption issues that involved solvents, but I wasn't testifying about health effects.
Q Do you recall the name of that case?
A No.
Q Any other cases that you recall testifying about solvents?
A No.
Q Are there any other cases that you recall testifying about leukemia?
A No.
Q Are there any other cases that you recall testifying about lymphoma?
A Well, let me just say that some of my earlier PCB cases had to do with the general question of whether or not PCB's caused any form of cancer. So in that context, yes, I mean, but these weren't injury cases where the -- there was a plaintiff who had one of those kinds of cancers.
Q I asked you about these 10 cases. Now I want to broaden it. Over your entire career, have you ever testified on behalf of a worker claiming to have been injured?
A No.

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Q Or a person claiming to have been injured?
A No.
Q All right. Now, let's talk about some other kinds of testimony. Have you ever testified before any governmental agencies?
A I have done -- I have testified in front of, I

guess you would call it governmental agencies, regarding permitting of some power plants. It was an administrative judge-type hearing.

Q Where and when was that?

A These would have been in the early to mid-'90s, and one of them was in Bucksport, Maine, one of them was in Orlando, Florida, one of them was in Puerto Rico. That's all I can remember.

Q And what was the general rest of your testimony in that?

A Well, I was asked -- this is, again, in the context of risk assessment work because I have done a lot of risk assessment work, what were the risks of cancer or from various -- were there diseases that were going to be caused from emissions from the power plant.

Q In those cases, were you testifying on behalf of the power plants that wanted to get licensed?

A Correct.

Q Any other agencies that you could give -- have

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given testimony before?

A I don't believe so.

Q Congress or OSHA or EPA?

A No.

Q Now, there is also another kind of testimony that one can provide, which is written testimony submissions, for example, rule-making proceedings. Have you ever provided any declarations or affidavits to any agencies in connection with rule-making proceedings or any proceeding?

MR. RIFF: Agencies?

MR. METZGER: Yes.

THE WITNESS: I think I provided, but I don't know if it actually -- my comments actually went in directly or through a law firm on a ruling on PCB transformers that had caught fire and the issue of dioxins.

This had been in the early -- wait a minute. This would have been in the mid-1980's, but I don't think that I would have been identified as somebody specifically who had done that.

BY MR. METZGER:

Q What agency was this?

A This would have been the EPA.

Q What is the organization that would have

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submitted your testimony or comments?

A I don't remember. This was, I guess, going back almost 20 years.

Q All right. Any other written testimony that you have provided that you can recall?

A Not that I can recall.

Q Okay. All right. Have you in any way listed any opinions that you have for this case that we are

here about today?
A No.
MR. RIFF: In a writing, you mean?
MR. METZGER: Yes, in some type of writing.
THE WITNESS: No.
BY MR. METZGER:
Q Do you have them in your mind that you can give them to me sequentially?
A Well, I mean, I don't know if I can think of all of them immediately. Now, I am sure I will in the course of the deposition.
Q Let's start.
A Okay. Well, I was asked to give an opinion about whether Non-Hodgkins lymphoma could be caused by any of the chemicals that Mr. Remboldt was allegedly exposed to, whether or not it is general causation. And I was asked to give an opinion about whether

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Mr. Remboldt's Non-Hodgkins lymphoma could have been caused by any of the chemicals that he was allegedly exposed to.
Q Let me just ask you: Is there a difference, I mean, is your testimony or your opinions in this case limited to the issue of general causation or are you actually doing specific causation, too?
A Well, I think, specific causation. I am also talking about specific causation.
Q Okay. All right. Go ahead.
A I was also asked to provide testimony about the plaintiff's expert's opinions and whether or not they used, you know, whatever you want to call it, a reliable and sound methodology in terms of reaching their opinions. Those are the two main things that I was asked to do.
Q Well, let's talk about those, then. That helps. I can at least formulate some questions now.
In considering whether Non-Hodgkins lymphoma can be caused by chemicals which Mr. Remboldt was exposed, what chemicals was it that you considered?
A Well, we are talking about allegedly exposed to, I am assuming. The chemicals that I considered was -- were chemicals that -- some of the chemicals were identified in the complaint. For example, benzene,

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certain petroleum solvents, petroleum-derived solvents such as xylene and toluene.
And I also looked at the, you know, the literature related to what are known generally as solvents, which is kind of a catchall term for, as you probably know, anything that can dissolve anything, which is what a solvent means.
But I have tried to look at literature where there was something -- some definition of what the actual solvents really were that were being

investigated, whether or not there was any way in which those solvents could have, in any way, have been involved in a refinery process and in chemicals and in the refining process.

Q Let me just ask: When you refer to solvents that you considered generally, did you limit it to petroleum-based solvents?

A Well, I certainly looked at some of the literature Drs. Infante and Harrison used so, therefore, I cast a bit of a wider net because a lot of their literature involves other kinds of solvents as well, so I reviewed that kind of literature.

Q Okay. Any other chemicals that you considered?

A Well, I was asked to -- originally to look at the issue of butadiene, but since I couldn't find

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anywhere where Dr. Infante or Dr. Harrison even mentioned butadiene in their testimony, I decided to put that on hold, but I would be able to discuss that, but I haven't really prepared today to do so.

Q Okay.

A I looked at something called butoxyethanol because Dr. Infante talked a bit about it in his deposition and, actually, I found that what he was saying about it wasn't correct, and so I wanted to be prepared to deal with that.

Q All right. Have we now covered the chemicals that you considered?

A Yes.

Q Okay. I suppose I don't need to ask it, but what is your opinion as to whether any of these chemicals can cause Non-Hodgkins lymphoma?

A My opinion is that based upon the reliable scientific literature, that they have not been shown to cause Non-Hodgkins lymphoma.

Q When you say that "they have not been shown to cause Non-Hodgkins lymphoma," are you saying they cannot cause it or that, in your view, it has not sufficiently been demonstrated that they can cause it?

A I think the two of those are the same.

Q Really?

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A At least in terms of our knowledge. I mean, if you are asking me -- you are asking me as an expert, I am assuming. Now, if you are asking me a question can anything happen, you don't need an expert opinion for that.

Q No, no, I am not asking that. What I am getting at is I have something different -- a little different in mind. IARC classifies chemicals in four categories, four basic categories; right?

A One, two, three, four.

Q One, two, three, four. And four is actually a category where the chemical has been shown not to cause

cancer, and there are very few chemicals in that category. I think there is one?
A It is not there for good reason, I can tell you that much. I have been in the IARC process, I have been in the working groups, and it is -- that category, we were told not to even try to go there during the deliberations.
Q Who told you that?
A Jerry Rice, who is the head of the monograph program. It is just impossible to put a category, it is proving the negative.
MR. RIFF: What's the chemical in category four?

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THE WITNESS: I don't remember.
MR. METZGER: I don't either. I just remember Stellman's summary and it was one there and -- anyway.
Q Okay. All right. Now, I am sure there is a lot of information that you could provide me as to why you hold your negative opinion on general causation for these chemicals.
Before we get into all the details, could you kind of give me an overview of the broad, general concept or categories that you considered that had you reach this opinion, kind of a framework?
A Okay. First of all, there are several cohort studies that include benzene and, in general, those studies do not show an association with Non-Hodgkins lymphoma.
Q Okay. What else?
A Other chemicals that have actually been studied as such not only don't show it in association with Non-Hodgkins lymphoma, such as xylenes and toluene, but the animal studies don't even show any similarity with, for example, benzene.
So even to the extent that benzene has been found to cause one form of cancer in humans, acute myelogenous leukemia, and it's been shown to cause a number of cancer in end points in animals, other

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so-called solvents like xylene and toluene are negative.
Q For what, am I missing you?
A For -- in cancer bioassays.
Q Animal bioassays, is that what you are talking about?
A Right, for those same kinds of end points for the same, so that raises the whole question of what do studies in humans regarding, quote, "solvents" really mean? When we know from a toxicological standpoint in terms of ability to cause cancer, these chemicals are very different.
We know that about those chemicals, we know that about some of the chlorinated solvents, hydrocarbon solvents, they cause, yet, different kinds of cancers in

animals, such as liver cancer or kidney cancer, but they don't cause the kinds of cancer that benzene causes.

So from a toxicological standpoint, from what we know about how chemicals can cause cancer, it doesn't make any sense, first of all, to lump all solvents together.

So that makes their kind of a limited number of studies where one can actually look at the alleged exposures that are at issue in this case so, therefore, we come up with studies that have to do with, for instance, petroleum workers. This is a case about a

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petroleum worker in those studies.

Q I am sorry, what kinds of studies are you referring to?

A I am sorry, human studies, epidemiology studies. So those studies now are at least about the same kind of industry and those studies don't show any association -- overall, these studies don't show any association with Non-Hodgkins lymphoma and those are probably the most relevant studies related to this case, because at least they are about the same industry and occupations.

Even so -- even so, even the studies overall about solvents and however you want to cut solvent classification up, in general, there are certainly more negative studies than there are positive studies. You will always find a few studies that are positive.

Q Which, I am sorry, regarding solvent studies, what kind of studies are you talking about, are these cohort or case control studies you are talking about?

A Either one. But in those cases, you know, we have to be very careful about what we can actually say are at all relevant to the case at hand and you have to go -- those have to be dealt with on an individual basis going through them.

Q "Those" referring to what?

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A Those studies.

Q The cohort studies and the case control studies?

A Yes. And as I mentioned, the benzene studies are also, in general, negative.

Q By "benzene studies," what, specifically, are you referring to?

A Okay. Well, we have cohort studies.

Q We'll get to that. I am just asking generally, you are talking about cohort studies?

A Yes, and case control studies.

MR. RIFF: Are you done with your category -- response to his category question, the framework that he asked you about?

THE WITNESS: I think so.

MR. RIFF: Fine. I want to know if you are

coming up for air or whether you were done.
MR. METZGER: I am sure we'll flush it all out in the course of this deposition. It gives me the landscape we are going to talk about.
Q In reaching your opinion on general causation for benzene and organic solvents and Non-Hodgkins lymphoma, how do you -- have you considered any case reports?
A In terms of coming to a conclusion regarding --

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I have reviewed case reports. There are lots of them in the past literature, but I don't think that they can be used to establish causation.
Q Okay. Do you have the case reports here that you have reviewed?
A No.
Q Can you identify them for me?
A Regarding Non-Hodgkins lymphoma or -- I mean, certainly with benzene, I remember the case studies that people like Vigliani did. There are some case reports by Hunter from Mass General from the 1930's.
Q Did Hunter and Vigliani report lymphomas?
A I don't recall specifically.
Q Are there -- can you identify for me any particular case reports that concern benzene or solvents and Non-Hodgkins lymphoma?
A Not right here.
Q All right. In reaching your opinion on general causation, did you consider any mechanistic studies?
A Such as -- what do you mean by "mechanistic studies"?
Q Well, that's probably a bad question.
MR. RIFF: Objection. Bad question.
MR. METZGER: I don't know what I do mean, so let me --

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MR. RIFF: Objection. Plaintiff's counsel doesn't know what he is talking about.
MR. METZGER: Let me withdraw that.
Q Did you review, for this case, actually review any studies regarding the genotoxicity of benzene?
A Well, I know a lot about the general toxicity of benzene because --
Q Did you say "general"?
A Yes.
MR. RIFF: That's what you said.
MR. METZGER: Yes, it is.
MR. RIFF: Do you want to have it read back? I don't understand the question.
MR. METZGER: No, let me restate it so we are on the same page.
Q In the course of your reaching your opinions for this case, did you review any literature regarding the genotoxicity?

A Oh, genotoxicity.
Q If you can pronounce that that way.
A Well, I published a paper where I reviewed 1,400 genotoxicity tests.
Q I know. Are you relying on any of that for your opinions in this case?
A Only to the extent that I think it allows us
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some understanding of how benzene causes the one cancer we know that it causes, and that's acute myelogenous leukemia. And so we don't -- that would at least provide an explanation for how AML develops.
Q The mechanism?
A The mechanism by which AML develops.
Q See, my question wasn't that bad after all. Okay. Got it.
In reaching your opinion on general causation in this case for benzene solvents and Non-Hodgkins lymphoma, did you review any studies regarding immunotoxicity?
A Not specifically for this case, but I have reviewed the literature on -- generally on benzene a number of times that have to do with all sorts of end points.
Q But, specifically, have you reviewed and considered the studies concerning the immunotoxic effects of benzene and organic solvents?
A By "immunotoxic," you mean generally or specific kind of immunotoxicities?
Q Starting with the general. We can get into the specifics, if that's something that you are relying on, and if it is not, then I don't know that we really need to go there.
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A I would say that the -- that I haven't, except to the standpoint that I know that benzene causes -- can cause bone marrow suppression and bone marrow suppression, if you knock out all of the white blood cells from the bone marrow, is going to effect the immune system, but that really doesn't speak to the issue of Non-Hodgkins lymphoma.
Q Why not?
A Because Non-Hodgkins lymphoma doesn't arise in the bone marrow.
Q It arises in extramedullary sets?
A In the lymph system.
Q Okay. Well, have you reviewed any studies regarding the capability of benzene or other organic solvents to suppress B cell function?
A In what sense, B cell function?
Q In any sense.
A Do you mean its ability to produce gammaglobulins or --
Q In any sense. I mean --

A Specifically for this particular case, no.
Q So do I understand, then, that your opinions in this case are not based upon any of the literature regarding the immunotoxic effects of benzene?
A Well, again, we are getting back to

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immunotoxic, meaning both lymph and bone marrow development. I know that benzene pretty clearly has an effect on the bone marrow, okay, and, therefore, it can produce an immuno effect related to the bone marrow. Immune function effect. Lack of white blood cells, okay.

But the effects on the lymphatic system, it is not -- I mean, everything can do everything at a particular dose. If you give a high enough dose of something, it is going to have an effect on most systems, but it is -- benzene is not really one of those kinds of chemicals that is specifically aimed at producing immune suppression.

And if you look at the general pattern of various chemicals and what they do toxicologically, benzene doesn't stand out as an immunotoxic like some things do.

Q Isn't it true that benzene was actually once in medical history used as a cytotoxic and immunosuppressant agent in humans?
A Not to my knowledge.
Q Okay. Well, when you say that benzene can cause bone marrow suppression, what do you mean by that?
A It decreases -- it is toxic to the bone marrow so that there are -- the blood-forming elements are

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suppressed so that there are -- it causes pancytopenia, you know, that being -- pancytopenia means low white count, low red count, and it can also cause aplastic anemia.

Q When you say it is toxic to the blood-formimg elements, is it toxic to myelocytes?
A Yes.
Q And is it toxic to lymphocytes?
A Well, the lymphocytes that are derived from the bone marrow certainly can effect those at a sufficient dose. I mean, we are talking about people who have been exposed to benzene in a couple hundred parts per million in the air.
Q Are you unfamiliar -- strike that.

Are you familiar with any studies showing toxic effects from benzene to lymphocytes at doses lower than 100 parts per million?
A Depends what you mean by "toxic effects."
Q Any toxic effects of benzene to lymphocytes at doses lower than 100 parts per million?
A Well, I think there are some -- couple of things come to mind here. First of all, there are case

reports, but, then, again, I don't know how good case reports are because you always have the attribution problem of people that have been exposed to, for

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example, the Hunter painter.

There was a person who got exposed to 25 parts per million and another person was exposed, supposedly, only to 10 parts per million on a regular basis, who had a toxic effect to the bone marrow, but this is among 80 people that they reported.

So -- and, again, these are case reports, so I don't know how -- whether or not that's real or not because there is no control group to know, wasn't a regular scientific study to be able to figure that out.

Q Are you aware of any epidemiologic studies which have investigated the effects of benzene on lymphocytes of humans, either worker studies or evaluating human cells in vitro?

A Well, certainly lymphocytes are used in genotoxicity studies. So people that have been exposed to benzene have -- can be found to have certain abnormalities in their peripheral lymphocytes because those are the cells that are easy to look at the DNA in the body.

Now, there are probably those kinds of genetic alterations going on in all of the cells of the body, so it is capable to mean of causing these kinds of effects, these kinds of genotoxicity, which is a chromosomal aberration in a small number of cells.

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Q Regarding -- we'll talk about the genotoxicity. For a moment, let's talk about hematotoxicity to lymphocytes, peripheral lymphocytes, blood lymphocytes. Are you aware of any epidemiological studies that have investigated that either in workers or in human cells exposed in vitro?

MR. RIFF: Hematotoxicity?

MR. METZGER: Yes, to lymphocytes.

MR. RIFF: Got it.

THE WITNESS: Well, as part of white cells in general, you know, as you probably know, the worker OSHA standard, one of the ways of monitoring for bone marrow suppression secondary to benzene is you are supposed to monitor the blood of a worker population. I know that's been done a number of times in the context of epidemiology studies, as well.

BY MR. METZGER:

Q But can you identify for me, are you familiar with any epidemiologic studies which were done in the last 10 years which have specifically evaluated benzene toxicity to human peripheral blood lymphocytes at different doses?

A You mean in different exposure levels?

Q Yes.

A Yes. Well, I know that there was a study a few
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years ago out of China by -- I think this is one that Martin Smith was involved in, I think the first author is Gu, G-u, where they found some small -- statistically significant, but very small decreases, I think it was lymphocytes, although it might have been total white cells at different benzene exposure levels.
Q That exposure levels even below one part per million; true?
A I believe so.
Q Are you familiar with any other studies than the one you just mentioned on this topic?
A Well, I think there have been studies, but that's the only real one I have really seen recently. In the past, I may have reviewed some studies where there were changes again in -- again, we are not talking about chronically significant, when I was a physician, called clinically significant changes, and white blood counts.
But if you look at enough people and you do statistical analysis, I think the decrease was a couple percentage points of the total count. It wasn't that great. And other people have reported that in the literature, as well, but sitting here specifically right now, I can't remember that particular literature.
Q All right. I want to go back to something you
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said earlier. By the way, any time you want to take a break, let me know because I kind of find all this morbidly fascinating and I will just go on without a break unless you tell me you want one.
A Okay.
Q You said something about that you were like -- I think what you said was that you were relying on the genotoxicity studies of benzene only to the extent of how benzene causes AML and I want to ask you what are you talking about, what do you mean by that?
A Well, like I said, that's the only -- I mean, when I think of a genotoxicity test, I think of trying to understand what you call the mechanism of the way in which a disease process happens, and since AML was the only cancer that we know of that is caused by benzene, you know, I have spent some time trying to understand how that actually happens.
And so it is in the context of trying to understand, like I said, how it causes acute myelogenous leukemia.
Q And have you come to some views on that?
A Well, yes. I think that the -- let's put it this way, nobody is really certain of how this happens, but when we look at all the genotoxicity tests, we thought that they fit the best with inhibition of an
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enzyme called Topoisomerase II, that the kinds of chromosomal changes that are seen in the genotoxicity test were clastogenic changes and, in some sense, is very similar to the kinds of changes one sees in certain chemotherapeutic agents that inhibit Topoisomerase.

And, also, you know, David Eastman over at Riverside has shown that some of the benzene metabolites are capable of inhibiting Topoisomerase, which is a really interesting enzyme. Since you are interested in this, it is an enzyme that when DNA is all strung out when it is in a quiescent cell, in order for it to replicate DNA, has to package itself up.

Well, the problem is that DNA has formed all these knots, so like you throwing a bunch of rope around and, all of a sudden, you got knots and how then do you wrap up your line so that you can package it properly. Well, Topoisomerase actually cuts the DNA and allows it, then, to relegate without the knot in it and so it is responsible to being able to package up chromosomes.

Q I see. What happens if this enzyme, I think you said, inhibited?

A Yes.

Q What happens, then?

A What happens is that they don't relegate properly and so you get the possibility to have

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chromosomes that exchange parts of each other.

Q What's that called?

A Translocation.

MR. RIFF: He is playing dumb with you. He knows all this stuff cold.

MR. METZGER: I don't.

MR. RIFF: He is doing a "butter wouldn't melt in my mouth" examination right now. Gee, what's that called, how does that work?

THE WITNESS: It is very specific. I mean, the type of translocations that are -- it causes. For example, in CML, you have the Philadelphia chromosome.

BY MR. METZGER:

Q I have heard of that.

A And that isn't caused by benzene in particular; in other words, that particular translocation, which is the 922 translocation, so it is very specific to whatever it is that -- whatever kinds of translocations in genetic effects seem to arise -- AML seems to arise from. That benzene is able to produce this change.

Now, other people will say that there are other mechanisms by which benzene also produces leukemia. I mean, I am not trying to say that we know for sure how this happens, but that's at least my working hypothesis and I think it has been fairly substantiated in the

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literature.

Q You mentioned that there are certain

translocations that are associated with Topoisomerase inhibition. What are those?
A Well, the main one, I think, is the 1123 translocation that has been described in benzene workers but, again, it may not be just the translocation itself. It may have to do with something in addition to the translocation. I mean, this is the way that I think mechanistic studies really work.
You can't necessarily go from the mechanism and say, well, gee, if it can do that, then maybe it can do this and maybe it can do this, as well. But if we know that a disease is being caused by a particular agent, then we can go and take a look and see if we can understand how that actually happens, and I think those kinds of translocations are important to understand.
Q Are there any other translocations other than the 1123 that fall into this category?
A There are a number of them, I think, that have been described but, again, we run into the problem of knowing whether or not they are, indeed, secondary to benzene exposure.
Q I thought you were talking about Topoisomerase inhibition. Do you equate that with benzene exposure?

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A Well, I said that's my working hypothesis, that the way in which benzene works to cause these chromosomal translocations is through inhibition of Topoisomerase.
Q I understand. And are there any particular chromosomal translocations other than 1123 that are associated with Topoisomerase inhibition? You said, for example, 922 is not. Are there any other than 1123?
A There are lots of them. I mean, you look at the various agents, there are all these top side chemotherapeutic agents, there are things like Bleomycin, there are a number of agents that produced lots of varieties of chromosomal translocations.
Q What do those have to do with Topoisomerase inhibition?
A Well, that's how these chemotherapeutic agents work. They inhibit Topoisomerase and that kills the cells, the rapidly dividing cancer cells by not allowing them to properly package their chromosomes because it inhibits that enzyme, Topoisomerase, which is absolutely necessary to allow a cell to survive.
Q How does that -- if the cells die, how does that matter? I am not following.
A Well, it is the cells that don't not die that matter, but the general effect is to try to kill

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replicating cells.
Q Say it again. Cells that don't not die, I don't get it. I think you misspoke.
A In terms of the way the cancer chemotherapeutic

agent works, killing the cells is the important thing, killing the rapidly dividing cells. In terms of producing AML from benzene, it also kills the cells, but it is the cells that it doesn't kill that are the important ones because they potentially then could go on to cause AML.

Q Are those the cells that develop these translocations you are talking about?

A Yes.

Q I see.

MR. RIFF: He actually did mean don't not die. You and I thought, when he said important, the survival of the patient, but what he was talking about was the induction of the disease.

MR. METZGER: I see. Whatever, I think we got it clarified. I was just thrown by the double negative.

THE WITNESS: You did. I don't think I used a double negative.

MR. METZGER: You did so correctly.

THE WITNESS: I thought I said the cells that

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don't die.

MR. METZGER: You said, "don't not die," but I think you clarified it.

Q Well, I come back to my question. Other than the 1123 translocation, are there any other translocations that are caused by Topoisomerase inhibition?

A Let me just check to make sure I have got that right one. It is either 1123 or 1121. 821, sorry. 821.

In a case study examining chromosomes in 821 workers exposed to benzene, translocations between the two chromosomes were increased up to 15 fold in their peripheral blood.

Q Okay. So when you said "1123," you meant 821?

A 821, sorry.

Q You are referring now -- is this your own article?

A Yes.

Q So I know where to find that, but when you were referring to 1123, I think you were actually referring to something else. I think you were actually referring to 11Q23, which is the MLLG; am I right?

A I think that's right. You are right about this guy, he knows a lot more than --

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Q The 11Q23 abnormality is also caused by a Topoisomerase inhibition?

A I believe so, but I would have to go and look at that further.

Q All right. You mentioned that Eastman has shown that benzene metabolites inhibit Topoisomerase,

and what benzene metabolites are you referring to?
A Well, I think he looked at hydroquinone and he looked at trihydroxybenzene.
Q What?
A Trihydroxybenzene. Hydroquinone and dioxy and trioxy as well. They are the hydroculated benzenes.
Q What does "hydroculated" mean?
A OH group on it. Of course, the interesting thing is with hydroquinone, you have hydroquinone to an animal, it doesn't cause any of the kinds of things that benzene does, so this is a curious problem that we have with benzene and hydroquinone toxicity.
Q Do you attribute that to, perhaps, the fact that animals, in general, for at least the rodent models, do not develop leukemia from benzene?
A No, I am just talking about the -- all of the carcinogenic effects that benzene causes in animals.
Q Would you agree with me that using rats and mice doesn't work as a model for benzene-induced

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leukemia because there have been many attempts to induce leukemias in rats and mice with benzene and they have largely been unsuccessful?
A That is very correct, and that is something that I have been -- it is not just -- rodent models just aren't very good in general for assessing human cancer.
Q But especially -- they are especially not good for assessing benzene-induced leukemia because we all know that benzene causes AML in humans, but it does adopt it in animals; right?
A That is correct. There were a couple of models that people thought were working with these viral -- virus-induced leukemias that in benzene increased, but I don't think anybody believes those are really relevant to anything.
MR. METZGER: All right. Riff is looking at his watch.
MR. RIFF: No, I am fine. Keep going.
MR. METZGER: You are all right to go. Do you want to take a break?
THE WITNESS: Unless if we are going to go on this same road, we might as well continue. If we are going to change topics, maybe good time to take a break.
MR. METZGER: Let's take a break.
(Recess taken.)

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BY MR. METZGER:
Q Dr. Whysner, you mentioned, I guess, the study by Eastman that shows that certain metabolites of benzene inhibit Topoisomerase II; correct?
A Yes.
Q There are some other studies which have been published which report that -- confirm that there are metabolites of benzene in addition to hydroquinone that

inhibit Topoisomerase II?
A I believe that's correct. You know, since I left the American Health Foundation, I haven't really followed the story quite as closely as I used to.
Q Well, are you aware of what other benzene metabolites have been shown to inhibit Topoisomerase II or to poison -- strike that.
Are you aware of other studies that have shown that benzene metabolites inhibit Topoisomerase?
A Different ones than those, we talked about hydroquinone.
MR. RIFF: You said studies.
THE WITNESS: Studies. I think I have read them over and I have seen them, but I can't specifically recollect who did them or which metabolites they were looking at.
BY MR. METZGER:

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Q All right. Have you researched -- well, strike that. Let me ask you something.
You mentioned that certain chemotherapy drugs or agents inhibit Topoisomerase II and I think you identified a few of those, Bleomycin and --
A Well, Bleomycin is actually used for treating psoriasis.
Q Is it a Topoisomerase inhibitor?
A Yes.
Q Are there other drugs that are also Topoisomerase inhibitors?
A Yes.
Q What are those?
A Well, for example, the drug -- one of the drugs that's used for treating breast cancer, Adriamycin, I believe that's primarily through Topoisomerase inhibitions.
Q Any others?
A Not that I recollect specifically right --
Q Doxorubicin?
A Doxorubicin, yes, that's the other word for Adriamycin.
Q And what about mitazantrone?
A I am not familiar with that one.
Q Are you familiar with the body of literature

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that -- strike that.
Are you familiar with the hypothesis or theory that benzene toxicity can be modeled on chemotherapy-induced leukemia, AML? Have you read any articles where people used -- strike that. It is a bad question.
Have you read any articles where researchers have considered benzene-induced AML based upon a model of chemotherapy-induced AML?
A Well, that -- yes, and that has to do with,

again, with some of the Topoisomerase inhibitors, although certain genotoxic, other kinds of genotoxic effects, people have also considered could, perhaps, model.

But the reason I mention Bleomycin is because the types of translocations that are caused by top sides are not the kind that one would, I think, necessarily expect to be prevalent in AML, and so -- but Bleomycin does do that and it is a Topoisomerase inhibitor, which is the reason for bringing the Bleomycin into the picture.

Q What chromosome abnormalities or translocations -- strike that.

Let me just see what he said.

A Correct. I meant Bimolane, not Bleomycin.

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B-i-m-o-l-a-n-e.

Q All right. What other agents were you referring to just a moment ago, I think you were trying to refer to alcylating agents?

A Yes.

Q So you are familiar with that body of literature that addresses the chromosome abnormalities caused by alcylating agents and which attempt to relate that to certain chromosome abnormalities caused by benzene?

A Well, at least as of a few years ago, I was familiar with that literature when I was writing this paper. I haven't really kept up with that literature since then.

Q And do you think that that's an appropriate model to consider?

A Well, only -- I don't, only because none of the genotoxicity tests results really indicate that benzene or its metabolites are mutagenic agents, and one would think that if there was DNL alcylation going on, that one would see classical mutagenicities, Ames test positive. There have been hundreds of Ames tests done and virtually negative.

Q But, nevertheless, there is a correlation in human studies between abnormalities of chromosome 5 and

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7 in alcylating agent-induced AML and benzene-induced AML; right?

A I think that's correct. Now, I think that's what I remember from several years ago, but I am not 100 percent sure, sitting here right now.

Q And that correlation would tend to suggest that there is an alcylation effect of benzene?

A Well, but --

Q In humans, at least?

A Yes. I think it is, again, the attribution issue is heard, I don't know whether you can make a cause and effect relationship there. I mean, it does

happen, and benzene, apparently, can do this under certain circumstances, but I am not really sure that that's involved mechanistically.

And for the reasons as I mentioned, we just can't -- can't -- don't -- I mean, in certain experiments, you can find DNA at benzene, but we don't really see in the kind of mutagenicity, which would lead us to believe that it is, indeed, acting through an alcylation.

Q I understand. Is it for that reason that your view is that the more biologically plausible mechanism of benzene-induced leukemia is through Topoisomerase inhibition?

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A As I said, I am not going to say -- I really think that I couldn't say 100 percent that that is the case. I am just saying that the -- at least the genotoxicity literature points in that direction more than in other directions.

Q That's all I am asking you. It is more probable than an alcylation mechanism?

A From the genotoxicity data. Now, as you mentioned, there are some other things that people bring up that if you looked at it from a different viewpoint, strictly from a -- from what happens under certain circumstances, you could reach a different conclusion on that issue.

Q Now, I want to ask you kind of a basic question. Considering Non-Hodgkins lymphoma -- let me back up.

From what we have been discussing, it is known that AML can be a secondary cancer in the sense that it can be caused by cytotoxic chemical exposure; right?

A Correct.

Q Do you have an opinion whether Non-Hodgkins lymphoma can be caused by chemotherapeutic cytotoxins?

A I think it has been reported in the literature. How good the data, I never really looked into how good the data is or what types of Non-Hodgkins

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lymphoma have been particularly reported that way.

Q Is it true, then, that as a general matter, you do believe that at least some Non-Hodgkins lymphomas can be caused by cytotoxic chemical exposure?

A I don't know the answer to that. Like I said, I have not really -- I have seen that it has been reported, but, you know, lots of things have been reported in the literature. Whether or not the preponderance of evidence would make me think that it is true, I am not sure.

Non-Hodgkins lymphomas are a pretty common form of cancer and so I haven't really specifically looked into that literature, nor have I looked into what kinds of Non-Hodgkins lymphomas might have been involved.

Q If multiple studies following patients who have been treated with chemotherapy alone and not radiation show that 20 to 30-fold excess risks of developing Non-Hodgkins lymphoma, which is in those data are highly significant, P value less than 0.001, would that be persuasive data to you on this point?
MR. RIFF: Incomplete hypothetical.
You may answer.
THE WITNESS: Well, again, are we talking about a chemotherapeutic agent that works through a particular mechanism or just chemotherapeutic agents in general? I

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mean --
BY MR. METZGER:
Q Well, data for both alcylating agents and for Topoisomerase inhibitors.
A Again, I would have to look at the data. I have to look at the studies to make an opinion.
Q Have you considered the studies showing that benzene -- strike that. Let me back up.
Let's talk a little bit about Non-Hodgkins lymphoma. You indicated there are different types; correct?
A Yes.
Q What are they?
A Well, there are probably about 20 different types.
Q What are they?
A Well, there is the kind that Mr. Remboldt had, which is the diffuse large cell type. There is the diffuse small cell type. There is the diffuse mixed cell type. There is the small cleave cell type. There is the Burkitt's lymphoma. There are various T-cell lymphomas, various kinds. And I have got some references I can look up.
Q That's fine. You are familiar with these types, I can see, so we can talk about them?

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A Somewhat.
Q Mr. Remboldt's lymphoma is of a B-cell type, not a T-cell; correct?
A Yes.
Q And he does not have Burkitt's lymphoma; correct?
A Correct.
Q By the way, while we are talking about Burkitt's lymphoma, are you aware of literature reporting Burkitt's lymphoma as an effect of immunosuppression in AIDS patients?
A Not particularly. I usually have thought of it as a disease that's predominantly in Africa, associated with Epstein-Barr virus, but now that you mention it, there may have been a report recently that I saw in one of my medical journals that that's been found, but I am

not positive about that.
Q In reaching your opinion on general causation in this case with respect to benzene and organic solvents developed in Non-Hodgkins lymphoma, have you considered the study -- strike that. Back up.
Are you familiar with any chromosome translocations that are associated with any of these forms of lymphoma that you mentioned?
A Well, I know there are chromosomal -- a bunch

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of different kinds of chromosomal translocations, but I haven't looked specifically into that in this case.
Q Or have you looked at any other chromosome abnormalities, not just translocations, that are part of the diagnosis -- or strike that.
Have you looked at any other chromosome abnormalities other than translocations that are characteristic of lymphomas?
A Well, I didn't really look at -- I mean, for a couple reasons, I didn't see any of those in Mr. Remboldt's records, so I didn't really look at any -- consider -- really consider them.
Q But as part of your research, apart from this case, have you looked at that at all?
A I haven't, really, in detail, no. I know there are various translocations and some of them have been associated with different types of lymphomas, but I haven't really concluded anything from them.
Q And in reaching your opinion on your negative opinion on general causation with respect to benzene and organic solvents and Non-Hodgkins lymphoma, have you considered those studies which report chromosome abnormality characteristic of Non-Hodgkins lymphoma being caused by benzene metabolites?
A Could you repeat that question.

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(Record read.)
THE WITNESS: Well, my negative opinion is based upon mostly on the epidemiology literature on benzene and exposures and Non-Hodgkins lymphoma, and I didn't really see where any of those studies included any kind of a chromosomal analysis that I recollect, but as we go through the studies, maybe it is in there, but I don't think so.
BY MR. METZGER:
Q As you sit here today, are you aware of any studies that have reported the induction of chromosome aberrations characteristic of Non-Hodgkins lymphomas being induced by benzene metabolites?
A Well, let me just say, as a general rule, all sorts of -- I mean, stages, various stages of cancer, people get all sorts of different chromosome aberrations that aren't necessarily causally related, but have to do with the progression of their disease. But I haven't

really -- I guess I am having trouble answering your question because -- let me put it this way.

If benzene had been shown to cause Non-Hodgkins lymphoma and there were studies, then, that correlated the findings of Non-Hodgkins lymphoma with the benzene exposure and there were certain chromosomal translocations involved, I am not aware of any studies like that.

Q You were about to say what?

A That's all I was about to say. I am not aware of any studies like that, so I don't know how I would use them in formulating my opinion about benzene not causing Non-Hodgkins lymphoma, which was the question you asked.

Q Okay. If there were such studies, you would probably be of the opinion that benzene does cause Non-Hodgkins lymphoma; correct?

A Well, if there were studies, if there were lots of studies that associated benzene exposures with Non-Hodgkins lymphoma, that was the preponderance of evidence, yes, but that isn't the case.

Q But if there were studies that showed that benzene metabolites induce the chromosomal abnormalities characteristic of Non-Hodgkins lymphoma, you would consider that important as a mechanism for benzene-induced Non-Hodgkins lymphoma; true?

A Only if the disease were induced, indeed, been shown to be caused by benzene. I mean, you can find trans -- all sorts of chromosomal changes in -- maybe in a test tube you are talking about or in an animal induction study which, again, we agree is not a very good model.

But I think -- I don't think you can use particular chromosomal translocations and say ah hah, some of those occur in Non-Hodgkins lymphoma and benzene can cause that, therefore, benzene can cause NHL. I don't think that works.

Q But if specific studies are done where human lymphocytes are exposed to benzene metabolites and those cells develop the translocations which are characteristic of lymphoma, you would consider that important evidence indicating that there might be a causal relationship between benzene exposure and Non-Hodgkins lymphoma; true?

A Well, depends on what you mean by "might be." I mean, if I did that study in a lab and I found it and I could replicate that study, I don't know what I would do with it, actually, since the studies between benzene and NHL are negative, I think to myself, gee, that must be kind of a red herring.

Q You mean the epidemiologic study?

A Yes, since there is no causal relationship from

the epidemiology between benzene and NHL, but I found that in the laboratory, I would probably say to myself, well, that's another red herring that we find all the time, which is true.

I mean, you can find P53 mutations caused by

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all sorts of chemicals, you can find all sorts of genotoxicity from chemicals that have never been shown to cause cancer. You can find P53 mutations, we know those are probably caused by chemicals that don't have -- never been shown to lead to cancer. Vitamin C is a good example. I mean --

Q I would like you to assume hypothetically that both the case control epidemiologic studies and the cohort epidemiologic studies do show that benzene causes Non-Hodgkins lymphoma.

In that case, would it be important to you, from a mechanistic standpoint, that benzene metabolites significantly induce the chromosome translocations that have -- that are characteristic of Non-Hodgkins lymphomas?

A Under those circumstances, it might not be a red herring and it could be important to understand the mechanism of the disease.

Q As you sit here today, are you able to identify any studies that have been done to investigate whether benzene metabolites induce chromosome abnormalities characteristic of Non-Hodgkins lymphomas?

A Identify them? No.

Q Have you read any such studies?

A Offhand, I can't recollect any studies.

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Q Were you provided a CD-ROM of studies regarding benzene and Non-Hodgkins lymphoma for this case to review?

A Yes.

Q And do you have that here?

A No.

Q Do you recall that -- well, did you read all the studies on this CD-ROM?

A No. I read the ones that Dr. Infante or Dr. Harrison specifically mentioned during their depositions because my recollection was Dr. Infante's characterization of that CD-ROM was your studies and not necessarily his studies, at least that's my recollection. So I went according to the studies that he and Dr. Harrison described in that CD-ROM.

Q Did you read a study by David Dar, D-a-r?

A I believe so. What was it about?

Q An inadvertent -- I shouldn't say that. It was about a specific hydroquinone inducing a lymphoma in humans.

A Well, is that one that Dr. Infante mentioned in his deposition?

Q I don't recall.
A I don't see it, D-a-r, or Dr. Harrison?
Q I think Dr. Harrison did mention it.

MR. RIFF: That's what I think.
THE WITNESS: But it wasn't on that list of his. Yes, I see it in Dr. Harrison's.
BY MR. METZGER:
Q I only want to know if you read that study or not.
A I don't recollect that study. I think, again, I read all of them that Infante --
Q Let me try to help you here. It was a human case report. I think you said you haven't reviewed that, so you haven't read that study?
A No. Correct.
Q Now, there was -- let's change topics.
You told me that you are going to talk about specific causation; correct?
A Yes.
Q And apart from your negative general causation opinion, are there other reasons why you hold the opinion that benzene and organic solvents did not cause Mr. Remboldt's Non-Hodgkins lymphoma?
A Well, a couple of reasons. First of all, I did review the industrial hygiene records that were available and that Mr. Wabeke also put together, and I didn't see any indication from those of documentation of the kind of exposure levels that one would even think

could be associated with any kind of disease produced by benzene.
Q And what exposure levels are you referring to?
A Well, for example, there were some levels that were described for -- by Chevron, some industrial hygiene records.
Q I am not being clear. You said there was no documentation of exposure levels that one would think could even be caused by benzene. My question is: What exposure levels do you think can be caused by benzene? Bad question.
What exposure levels are there that you think could cause -- strike that.
What exposure levels of benzene are there that you think cause AML?
A AML, okay. I think that certainly above 200 parts per million years has been documented in the literature, but I think that there is a kind of a gray area between 40 and 200 parts per million years where some people --
I mean, the Rinsky study shows an increase, but other people re-analyzed that data and said that didn't actually occur until 200, so I think it is a gray area between 40 and 200, but certainly it takes 40.

Q 40 parts per million years?
A Yes.
Q Are you aware of any epidemiologic studies that have reported significantly increased AML at benzene doses less than 40 parts per million years?
A Well, I think that -- I think the Chinese study has reported a somewhat lower level, but I think that EPA still sticks with the Rinsky study as a most reliable based upon the way in which the exposuring strips are put together.
Q What study are you referring to?
A The Hayes study.
Q Are there any other epidemiologic studies that you are aware that have reported significantly increased excesses of AML among workers exposed to benzene at levels less than 40 parts per million years?
A I think the only study that I am aware of above that would corroborate the Rinsky study is the Costantini study.
Q What study is that?
A Costantini.
Q Yes. Was that a case control or cohort study?
A I believe it is a cohort study. This was reported in the Scandinavian Journal of Environmental Health 2003.
MR. RIFF: Cohort or case control, is the question.
THE WITNESS: I know. Well, it is a cohort study. It is a cohort study and this is their graph of that data.
BY MR. METZGER:
Q You are referring to a study entitled Exposure to Benzene and Risk of Leukemia Among Shoe Factory Workers, lead author, Costantini?
A Costantini.
Q 2003. Okay. Are you aware of any other studies that have reported significantly increased excesses of AML among workers exposed to benzene at concentrations less than 40 parts per million years?
A Well, as I mentioned, there is one or two Chinese studies and I think it is -- I think that's the same group that Hayes was involved.
Q Other than the Chinese cohort?
A No.
Q Okay.
A Then you asked for any other reasons for it.
Q I was going to get to that for specific causation.
A For specific causation, the other -- there are some other factors, such as Mr. Remboldt's obesity and possibly his overall stature. That provides some

alternative explanation for risk factor, at least for a Non-Hodgkins lymphoma.

I think there have been now six or seven studies that have associated people with a body mass index of his with an increased risk of -- for NHL. There has been one study, actually, that even talked about height being associated with increased NHL.

There are other studies that also talk about nonsteroidal analgesics use and also antibiotic use associated with Non-Hodgkins lymphoma, and certainly in his medical record, there is ample evidence that he was troubled by certain problems that would lead to his use of antibiotics and nonsteroidal drugs.

And there is also documentation in the medical records regarding the prescribing of those drugs, and those have been -- I would say that in all fairness, the literature is not as firm on those as possible risk factors, but that is certainly a possibility in terms of alternative causation.

I don't think that he has any other major risk factors like -- I mean, there is, you know, Hepatitis-C has been another one that seems to be increasing in stature as a possible etiologic agent. Non-Hodgkins lymphoma, as have other infections, have been well-described as being involved in certain types of

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NHL, but -- and there is some indications in his records that he had some unexplained conditions that it is possible he could have had hepatitis.

But I can't say with any kind of certainty that, for example, I saw in one medical record he had nausea and he was feeling bad for several days and he had fever and it said SGOT with a check next to it, but I couldn't find any part in the medical record where there is actual documentation of whether his liver enzymes had been taken.

So there is a question in my mind about whether or not it is possible that he could have had some form of hepatitis. So those are the kinds of things that I would think of in terms of alternative causation issues.

Again, like I say, obesity is definitely the strongest one, and he has fought obesity, apparently, his whole life. The first record that I found in his medical record, he was 11 years old and he was considered to be obese, and his BMI has maybe briefly dropped below 30 once, but mostly has been in the high 30's.

Q Okay. All right. Let's back up a moment. What you are talking about now are risk factors for Non-Hodgkins lymphoma; correct?

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A Correct.

Q And you have used the word "possible" in

referring to some of these possible risk factors. I want to first get from you, if I could, a breakdown or a list of those factors or agents which you believe are known to cause Non-Hodgkins lymphoma and then those which you considered to be possibles. Could we do that?

A Okay. Although I think that the obesity one, at one time I thought it was a possible, but I think it is more of a probable, but I wouldn't put it in the same category with immunosuppression therapy or H.I.V., which are known.

MR. RIFF: Point of order --

MR. METZGER: Let him finish his answer, then the point of order.

MR. RIFF: So, I mean, I would say that there may be yet another category called probable. That was my point of order.

MR. METZGER: Fine.

Q All right. Good plan. So we are categorizing them as known and accepted, probable and possible. Okay?

A And lots of other things that are not likely, but have been studies like that where I'll put benzene.

Q Okay. All right. So let's start with the

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first category at which you think we have agreed is going to be those agents or factors which are known causes and accepted causes of Non-Hodgkins lymphoma.

A Correct.

Q Okay. What are those?

A Well, certainly certain immunosuppressive drugs have been used for people with organ transplant, post-organ transplant. People have had a high incidence of Non-Hodgkins lymphoma.

There is -- there are familial immunosuppression syndromes. We mentioned Epstein-Barr virus with a particular form, Burkitt's lymphoma. H.I.V. is certainly considered to be a risk factor.

Q That would be the known cause category?

A Yes. Known risk factors, meaning implying there is some causal relationship there.

Q But, right now, I am asking are you, for those agents or for the factors which you, John Whysner, consider to be causes of Non-Hodgkins lymphoma, and so far you listed immunosuppressive drugs, certain familial immunosuppressant syndromes, Epstein-Barr virus for Burkitt's lymphoma, and H.I.V. Are there any others?

A There is a T-cell virus associated with lymphoma. I can't remember the exact name of it now.

Q Human T-cell lymphotropic virus?

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MR. RIFF: Hyphen one, right.

THE WITNESS: I mean, let me get out --

MR. RIFF: HTL is hyphen one, I think it is.

BY MR. METZGER:

Q You can do that. He is hitting the books. I just want to know what it is you are hitting?
A You have my whole file.
Q I don't know what you are looking at.
MR. RIFF: You are looking at Riff on Hodgkin's lymphoma.
THE WITNESS: I am looking at Al Freedman and Nadler on Non-Hodgkins lymphoma. Although their table, I don't necessarily agree with. I am just looking at this table here because I know this Phenytoin, this --
Q Phenytoin?
A Phenytoin, I was coauthor on that paper. I am not real sure that's been established. Let's call it P-h-e-n-y-t-o-i-n, right. Or dimethylhydantoin is another name for it. So those are the ones that I can recollect that are clearly causally related with Non-Hodgkins lymphoma.
I would probably also, at this point in terms of what we have seen, those are the ones I think everybody in the world would agree with in all the textbooks. The reason I put obesity is as a probable

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category.
Q Let's get to -- well, go ahead, finish your thought.
A The next category is probable.
Q Well, were you going to -- about to say you -- the reason you put obesity in the probable category is why?
A Because it is relatively new. I mean, the studies are just emerging right now. I think there are -- have been a preponderance of studies that have found an association with, but there have been one or two negatives studies, as well.
I think that, for example, IARC has evaluated all the information on some of these things like H.I.V. and immunosuppressive drugs and found them to be associated with Non-Hodgkins lymphoma.
They have not done that with obesity and on Hodgkin's lymphoma, so there is one where me, John Whysner, would say, I think it is also a causal, there is a certain -- I think it is an established risk factor. How it causes it is kind of hard to figure out and I don't think anybody has done any of the kind of adequate mechanistic studies to try to really figure this out.
So I think from that epidemiological

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standpoint, the preponderance of evidence is a risk factor. How that translates in to be a causal agent, that's where I have a difficult time with obesity in terms of trying to figure out the mechanism by which it happens.
Q Got it.

A Now, Hepatitis-C is -- I would put in the -- also in the probable category, not because I wouldn't see how it could cause Non-Hodgkins lymphoma, because we know how Hepatitis-B is related to liver cancer and so forth, but I don't think the evidence is quite as good. There are some people who have found it to be associated and some people, not so much. So I would put that in the -- also in the probable category.

And then there are some other things that are, I would say, possible. The studies I think are -- there are some studies that are positive and some studies that are negative, and here, I am thinking about things like H pylori, p-y-l-o-r-i, autoimmune diseases.

And I am sort of blanking on -- if I went through my file, I might be able to come up with a couple of other things where there is evidence on both sides and it is -- I think the jury is still out on it.

Q I am not so concerned about the possibles. Have you told me now all of the factors or agents which

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you considered to be known causes and those which you put in the probable category?

A I think so.

Q Let's talk about some of them. The first thing you mentioned was immunosuppressive drugs. What drugs are you talking about?

A Well, azathioprine is one. Let me just look, find the right reference. The reason I know that one offhand, I think IARC has actually classified it as a human carcinogen.

Another one in the possible category would be the herbicides. We don't really know exactly 24D245T, whether there is dioxin contaminants in those. That's a possible -- I know that the National Academy has reviewed all that data, but I am not real sure that it is -- that one is a proven one.

Q Are you putting that in possible or probable?

A I would say possible.

Q Okay.

A This reference talks about drugs, but doesn't actually give specific ones.

Q Well, all right. I don't want to belabor the point. Basically, the class of immunosuppressive drugs, those drugs which are used to suppress the immune system of patients who have undergone organ transplant patients

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so that they don't reject the new organ?

A Correct.

Q Fair enough?

A Correct.

Q Whatever those drugs are. All right. You refer to certain familial immunosuppression syndromes. Is that something like Alleve for (inaudible) syndrome, is that the kind of things we are talking about?

MR. RIFF: Is that an immunosuppressant?
MR. METZGER: Familial immunosuppression syndromes.
THE WITNESS: Kleinfelter, which is Wiskott Aldrich syndrome. There are a couple others here, I don't want to spell them. I don't see the one you mentioned here. I know Lufermony (ph.) is associated with some other things, but I don't really remember it being on a Hodgkin's lymphoma.
BY MR. METZGER:
Q Let me see what you are referring to. You are referring to a chapter by Freedman and Nadler, Non-Hodgkins Lymphomas, which is --
A Cancer medicine.
Q You mentioned Epstein-Barr for Burkitt's lymphoma and H.I.V. and HTLV-1. Okay. Have you ruled out immunosuppressive drugs as a cause of Mr. Remboldt's

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Non-Hodgkins lymphoma to a reasonable degree of medical probability?
A Yes.
Q And to a reasonable degree of medical probability, have you ruled out familial immunosuppression syndromes as a cause of his Non-Hodgkins lymphoma?
A Well, I haven't seen any indication of that in the record.
Q So is the answer yes?
A Yes.
Q And to a reasonable degree of medical probability, have you ruled out Epstein-Barr virus as a cause of his Non-Hodgkins lymphoma?
A Yes.
Q And to a reasonable degree of medical probability, have you ruled out H.I.V. as a cause of his Non-Hodgkins lymphoma?
A I haven't seen any indication of an H.I.V. testing in him.
Q To a reasonable degree of medical probability, have you ruled that out?
A No. I just don't know.
Q Okay. To a reasonable degree of medical probability, do you -- is it your opinion that H.I.V.

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caused his Non-Hodgkins lymphoma?
A No.
Q Okay. To a reasonable degree of medical probability, have you ruled out HTLV-1 virus as a cause of his Non-Hodgkins lymphoma?
A Yes.
Q Okay. Now, let's talk about -- well, no, before we talk about the probables, I want to ask you about these known causes that we just mentioned. Is there anything in common about them?

A In common?
Q Yes. Do you see any commonality between these five categories of known causes of Non-Hodgkins lymphoma that you have identified?
A Well, I mean, I think that there is a possibility that they are all related to an effect on the immune system, although I have to admit I am not -- well, I think they would be all, yes, I am sorry. They are all involved in effects on the immune system.
Q So now let's move on to the probable category. And first one that you mentioned was obesity. To a reasonable degree of medical probability, have you ruled out obesity as a cause of Mr. Remboldt's Non-Hodgkins lymphoma?
A No.

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Q To a reasonable degree of medical probability, do you hold the opinion that Mr. Remboldt's obesity caused his Non-Hodgkins lymphoma?
A Certainly I think that it was -- it depends on how you use the word "cause." If you say it is a significant risk because of his obesity, yes, it is a significant risk. It elevated his chances of getting Non-Hodgkins lymphoma substantially. If that's what you mean by "cause," I would say yes.
Do I know how it could cause it mechanistically? No, I don't understand how that works, but I think there is enough epidemiological data to say that it is, whatever you want to call it, a substantial contributing factor or whatever.
Q Is it -- as a matter of science, do you believe -- strike that.
As a matter of science, is it your opinion that a causal relationship can be established in the absence of any mechanistic basis?
MR. RIFF: Are you stuck on that question?
MR. METZGER: Yes.
MR. RIFF: Object to the form, vague.
THE WITNESS: I am not exactly sure what you mean by any "mechanistic basis."
MR. RIFF: That's my problem.

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BY MR. METZGER:
Q As a matter of science, are you of the opinion that causal relationships can be established and accepted in the absence of any proposed mechanism?
A Yes.
Q Is there any literature that you can cite to me that supports that opinion?
A Well, I think that, for example, when Ernst Wonder first found that cigarette smoking was associated with lung cancer in 1950 and other people then followed up with several studies the next couple of years, I think that there was enough information to know that it

was causally related without knowing how it did it.
So I think that the epidemiological proof sometimes precedes understanding how it actually occurs.
Q And an example of that would be the recognition of benzene as a leukemogen; true?
A As a cause of acute myelogenous leukemia?
Q Yes.
A Yes.
Q Okay. Now, you mentioned a preponderance of studies. I do -- since you have raised the obesity issue, I do need to ask you what those studies are that you referred to. Can you identify them for me?
A Yes. First, is a study by Calle, C-a-l-l-e.

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Q If you could, perhaps, give us the first named author and the title or an abbreviated title and the journal and year, that would help.
A Okay. New England Journal of Medicine, it is called Overweight Obesity and Mortality From Cancer in a Perspectively Studied Cohort of U.S. Adults, and Calle, he is from the American Cancer Society.
Q What year?
A I am sorry, 2003.
This study by Cerhan, C-e-r-h-a-n, and cancer causes and control, anthropometrics, physical activity, related medical conditions and a risk of Non-Hodgkins lymphoma, and that's 2005.
This is Pan, P-a-n, and this is in the American Journal of Epidemiology, physical activity, obesity, energy intake, and risk of Non-Hodgkins lymphoma, a population based case control study, and that's from 2005.
And there is one study that is negative in men, but positive in women, and that is Rapp, R-a-p-p, British Journal of Cancer, 2005, obesity and incidence of cancer, a large cohort study of over 145,000 adults in Austria.
Q Is that 2005, did you say?
A Yes. Yes, that's the ones.

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Q We have been going through a series of studies which were in a Pendaflex folder; is that true?
A Yes.
Q Could I see the entire folder and the studies, please. You have a label on this folder and could you tell me what -- is that in your handwriting?
A Yes.
Q What does it say?
A S & J, 09, NHO alternative etiology.
Q What does that mean, what is SJ NHO?
A Steptoe is Steptoe & Johnson, ninth case that my company has done for them. Non-Hodgkins lymphoma alternative etiologies, meaning what we are talking about.

Q So I am gathering, first of all, this is your ninth case that you are consulting on for the Steptoe & Johnson firm?
A For my company. It is not necessarily my ninth case.
Q What is your company?
A Washington Occupational Health Associates.
Q And are you the president of that company?
A No.
Q What's your position with it?
A Vice president.

Q Are you a shareholder in it?
A No.
Q What is your affiliation with that company other than being vice president?
A I am an employee.
Q How many employees are there?
A We have about 20.
Q Who runs this organization?
A Ken Chase.
Q Who is he?
A He is a physician.
Q We'll get into this later. I don't want to do it now. All right.
Now, regarding your company, this is its ninth case with Steptoe & Johnson; correct?
A Correct.
Q Regarding you, was this your ninth case with Steptoe & Johnson?
A No.
Q What's the number for you?
A It is probably about seven, but I am not 100 percent sure about that. I know the first one wasn't with me.
Q So it would either be seven or eight?
A Right.

Q And I am gathering that the seven or eight cases include cases which you consulted on and cases which you actually testified in; true?
A Yes.
Q Okay. Is it true that for not all of these seven or eight cases did you actually give a deposition or trial testimony?
A That's true.
Q And with respect to the seven or eight cases that you have done with the Steptoe & Johnson firm, have those been with Mr. Riff?
A No, not all of them.
Q How many of them?
A Gee, I would -- I don't precisely know. I can't really tell you.
Q Can you estimate, half, more than half?

A Maybe half.
Q So is this a collection of articles that you gathered yourself regarding alternative etiologies for Non-Hodgkins lymphoma?
A Yes.
Q Now, you were going through identifying certain studies in here. Did you identify every study in this folder that related to obesity?
A As far as I could, yes.

Q Okay.
A I mean, I might have missed one, but I went through twice to try to find it.
Q All right. Leave it there, we'll probably refer to it as we go on.
Now, I think you said earlier that at one time you held the opinion that obesity was not a probable cause of Non-Hodgkins lymphoma, but that recent studies changed your mind. Is that a fair characterization?
A Well, the Calle study was the first that was in 2003, so then all of these other studies came out that confirmed the American Cancer Society study, so that's -- we only have one study when you -- I wouldn't draw too much from it.
Q You identified four studies, one of which was negative and In Med; correct?
A Correct.
Q The Calle, the Cerhan, and the Pan studies, you considered to be positive studies?
A Yes.
Q Have you researched the literature to see whether there are any other studies which address obesity or anthropometric factors in Non-Hodgkins lymphoma?
A Well, I have searched the literature and these

are the ones that I was able to find.
Q Did you do a database search?
A You mean like PubMed?
Q PubMed or --
A Probably in order to find some of them.
Q Did you save the result, did you print out the results of that search?
A No.
Q When did you do that search?
A I don't remember.
Q Was it within the last year?
A Well, since I don't specifically remember doing it, I can't really comment on it.
Q You are not sure that you actually did a database search?
A I probably did.
Q But you don't have a recollection?
A I don't have a recollection.

Q Fair enough. Are you aware of any other studies which address the obesity or anthropometric issue for Non-Hodgkins lymphoma other than these four?
A Not that I am aware of.
Q Are you aware of any authoritative body that has recognized obesity as a cause of Non-Hodgkins lymphoma?

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A Well, again, I don't know what you mean by -- authoritative body that has concluded that. The first study, Calle, American Cancer Society, said in their abstract that it was associated -- Non-Hodgkins lymphoma was associated with body mass index. So is the American Cancer Society an authoritative body?
Q Let's explore this. First of all, what you just read is -- let me just see it, where you were reading from. You were reading from the abstract of the Calle study. Where were you reading from, I am sorry?
A Both men and women body mass index is also significantly associated with higher rates of death due to --
Q I see, okay. The word they use is "associated"; correct?
A Correct.
Q This article does not say that body mass index, high body mass index causes Non-Hodgkins lymphoma; true?
A You are absolutely correct, and I also would not say that studies in general that find associations necessarily mean there is a causal relationship.
Q Right.
A Exactly.
Q Okay. And this study was done by a number of individuals; correct?

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A Correct.
Q All right. And is it true that the American Cancer Society has not published any statement stating that the American Cancer Society concludes that excess body mass index causes Non-Hodgkins lymphoma?
A Well, they may have, but I am not aware of it, but I might look it up --
Q Okay.
A -- to see if that is, indeed, the case. Just to short-circuit all of this, I think I already said that we had our list of things that were -- everybody agreed upon that have been known for quite a while. This is in the category of ones -- something that I believe is caused because of all these recent studies that have come out.
Q I understand.
A I don't think that there has been the time for a body to even get together enough people to probably come up with the kind of conclusionary statement that you are talking about. I just believe that the

literature shows a causal association.
Q I understand. As you sit here today, you are not aware of any authoritative body, scientific body that has concluded that excess body mass index is a cause of Non-Hodgkins lymphoma; true?

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A I don't know of anybody that has actually evaluated it, to be quite honest.
Q Are you aware of any textbook that states that excess body mass index is a cause of Non-Hodgkins lymphoma?
A Well, nor would I expect them to because it takes so long to put together a publication, so I wouldn't even expect to see something like that for a couple of years.
Q Okay. As you sit here today, do you have any opinion, belief, or hypothesis as to a mechanism for excess body mass or high body mass index to cause Non-Hodgkins lymphoma?
A No.
Q Are you aware of any literature indicating that high body mass index causes immunosuppression?
A No.
Can we take a little break?
(Lunch recess.)
THE WITNESS: I just want to clarify one of my answers from before.
BY MR. METZGER:
Q Go ahead.
A I am trying to remember if, when we were talking about -- you were asking about whether or not

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there were any studies below 40 PPM years, were we just talking about cohort studies or were we including -- I think it was my -- I thought we were talking about in the context of cohort studies, because we talked about Rinsky and we talked about Hayes and so forth.
But to be a complete answer, there is also the case control study, the Australian study, the Debra Glass study where one of those data points was somewhat lower than 40 parts per million, it was sort of marginally statistically significantly elevated, so I just want to --
Q Do you have that study here?
A Yes.
Q That's okay. I am familiar with it. Well, as long as you brought that up, do you find that study to be well done?
A The Health watch -- Australian Health Watch? There are -- you know, I have reviewed these huge documents that Health Watch has put out and the case control study, I have some problems with because there are -- when they do the case control work, you are pegging it to the supposedly unexposed group in order to

come up with differences, and in some of those instances, that unexposed group has a very, very low incidence of that particular disease.

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And so there have been some instances where I have found that when they do the case control analysis of that same group, even though they didn't find any increase in the cohort part of the study, they found sort of a dose response relationship but, yet, they have not taken into account the fact that the data point they are referring to seems to be awfully low.

And you wonder whether or not it is inordinately low and that's actually the case for CLL in that study, and so I have some reservations about the way they have gone about doing that study.

Q Are you suggesting that they used an improper control group?

A No, not an improper control group, but the control group was, at least in some -- one instance that I am aware of, seemed to be an out layer in the sense of the fact that the control group itself had a very low incidence of that particular disease compared to the general population.

Q And could that be due to the healthy worker effect?

A It was really low, but let me just say that the only reason, when you ask that question, they didn't -- they should have pointed something out like that in their analysis, you know, saying you shouldn't have to

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hunt through the 200 findings to try to figure out that that may have been what happened. Do you understand?

So when you say was it well done, I mean, when you do how many hundreds of statistical analyses that were done in that study and then you come up with certain findings, I think it is sort of necessary to go back and see whether or not you are really on firm ground with all of these findings. That's all I am saying.

MS. KAHN: Mr. Whysner, if you need to refer to the study to answer any of these questions, you have a right to do that. Feel free. If you don't need to, that's fine. I just wanted to make you aware.

THE WITNESS: Yes. I don't have that 2003 -- the big case control study because they actually didn't specifically look at Non-Hodgkins lymphoma.

BY MR. METZGER:

Q It is true, is it not, that most of the cohort studies of refinery workers find that the exposed group has a lower incidence of cancer or cancer mortality than the general population; true?

A That's true.

Q And there is a good reason for that, isn't there?

A Well, you are talking about the so-called healthy worker effect.

Q Yes.

A It is less true for cancer than it probably is true for a lot of other diseases, like cardiovascular disease and so forth. But there usually is some small decrease in the number of cancers over what would be expected in some studies, but that's not true for some other studies either, so --

Q The overwhelming majority of refinery cohort studies, it is true; is it not?

A You know, I have never really looked at that particular question in those refinery studies. I would have to look at the studies to give you a good answer.

Q Have you ever seen a refinery cohort study where the overall cancer incidence or cancer mortality of the cohort was greater than that of the general population?

A I don't remember.

Q I would like to see one, if you could find one. Anyway, assuming that to be the case, that would be a healthy worker effect; true?

A A healthy worker effect, there people talk about healthy worker effects in a lot of different contexts, but I really don't know why it would be.

Q Let me offer some possibilities and tell me what you think of them. No. 1, in order to get into a refinery -- working refinery, you have to pass a physical that you are healthy, and people in the general population don't have to do that, so there is a pre-selection for healthy people going into the cohort. Would that likely account for some of it?

A I guess it is possible, but, you know, it is awfully hard to pick up. I mean, as a physician, if you had asked me how do you predict who is going to be sick from cancer of the people that are coming in, it would be pretty difficult if you had a -- especially a young population.

Q But isn't that the point, that in the cohort studies, people who have cancer don't get into the cohort where they are in the control group?

A Yes, but the instance of cancer in the age of people who are usually entering the work forces is reasonably low, but I guess you would have some people who would have cancer when they applied for a job and then it would be they wouldn't get the job because they had cancer.

Q And people who are immunosuppressed don't get into the front door of a refinery to work there, whereas they are in the control group in the general population; true?

MS. KAHN: Objection, calls for speculation, vague and ambiguous.
THE WITNESS: I have no idea.
BY MR. METZGER:
Q Okay. Earlier you mentioned nonsteroidal analgesics use and antibiotic use. You mentioned Mr. Remboldt had some medical conditions. What medical conditions are you referring to?
A In his early history, he played lots of sports and he was a big guy and I found in the record a number of times when he would come in complaining of pains, secondary to his athletic endeavors. And so that's one place. I know the records, especially in 1997, showed numerous prescriptions for pain, inflammation, and infection.
I have a list of medications taken in 2000 that include 3200 milligrams of Ibuprofen per day, along with Vicodin, Neurontin, and Percocet. Of course, Percocet is an opiate. Those would be the main indications. I mean, I would have to go through the entire medical record to point out every last one of them, but there is, I think, an indication in the medical record that he had these pain prescriptions.
Q To a reasonable degree -- well, back up.
Regarding these pain medications, within the

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categories that you have identified for risk factors for lymphoma, do you put those in the category of known causes, probable causes, or possible causes?
A Possible.
Q Is it, therefore, true to a reasonable degree of medical probability that you have ruled out these pain medications as a cause of his Non-Hodgkins lymphoma?
A No.
Q To a reasonable degree of medical probability, did these pain medications cause his Non-Hodgkins lymphoma?
A No.
Q You also mentioned certain medical conditions that he had. I was not sure what you were referring to. Would you tell me?
A I think I mentioned infections with the use of antibiotics.
Q Okay. So what infections, any particular infections?
A Bronchitis.
Q Any others?
A His infection after his vasectomy.
Q Do you know what that was?
A What it was?

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Q Yes.
A I don't recall right now what the antibiotics

were. Bronchitis, sinus infections, those are the ones that I recall, but I found, I think, at least somewhere between 10 and 20 times in his medical records where he had received prescription for some antibiotics.

Q Let's talk about these. First of all, to a reasonable degree of medical probability, have you ruled out his bronchitis as a cause of his Non-Hodgkins lymphoma?

A Yes.

Q To a reasonable degree of medical probability, have you ruled out whatever infection he had after his vasectomy as a cause of his Non-Hodgkins lymphoma?

A Yes.

Q To a reasonable degree of medical probability, have you ruled out his sinus infections as a cause of his Non-Hodgkins lymphoma?

A Yes.

Q Are you able to identify any of the antibiotics which he had, which he was prescribed for his bronchitis -- you know what, let me short-circuit that. Let me try it this way.

To a reasonable degree of medical probability, have you ruled out any antibiotics that he was

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prescribed for his bronchitis as being a cause of his Non-Hodgkins lymphoma?

A Could I just say it was his overall antibiotic use, not for each particular use, it is the number of times that he used antibiotics that is the issue.

Q Dose. Are you talking about dose or chemical mixtures or chemical interactions or what are you talking about here?

A Well, all I am trying to do is refer back to a paper here that where they did find the frequency of antibiotics use associated with Non-Hodgkins lymphoma.

Q Okay. We are talking about one paper?

A I don't remember. I could look.

Q Okay. It is in this folder?

A Yes.

Q Have a look and see.

A Yes, that's all I found is one paper.

Q Why don't you identify it so we can talk about it.

A Chang, Medication Use and Risk of Non-Hodgkins Lymphoma.

Q Let me ask you a general question. Well, first of all, does this paper that we just mentioned address prescription medication use, nonprescription medication use, or both?

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A Well, I don't know specifically, but I would imagine that it is --

MS. WILLIAMS: You don't need to speculate.

MR. METZGER: He is looking at the paper

itself, so he is not speculating. He is looking at the paper to see what it is about.

THE WITNESS: That one, it was done by Enervue, so to the extent that somebody could self-prescribe antibiotics. E-n-e-r-v-u-e. Most antibiotics are by prescription.

BY MR. METZGER:

Q All right. I don't know that it is all that important, but regarding antibiotics -- we are talking about antibiotics here; correct?

A Yes.

Q Regarding antibiotics, do you put those in the known cause category, the probable cause category, or the possible cause category of agents in Non-Hodgkins lymphoma?

A I would probably put them on a fourth category.

Q Which is what?

A Which is I would probably put them in a category that would be either unlikely or unsubstantiated because it's just based upon one study.

Q Is it, therefore, true, to a reasonable degree

00096

of medical probability, that you have ruled out any antibiotics that Mr. Remboldt was prescribed or used as a cause of his Non-Hodgkins lymphoma?

A Yes.

Q Are there any other medical conditions that Mr. Remboldt had which you hold the view or opinion are in any way associated with lymphoma?

A No.

Q Have you, to a reasonable degree of medical probability, ruled out Helicobacter pylori, autoimmune diseases, and herbicides as causes of his Non-Hodgkins lymphoma?

A Well, I can't really rule out Helicobacter pylori because that is commonly found in so many people, but the others, I would rule out.

Q Was Helicobacter pylori found in Mr. Remboldt?

A Not to my knowledge.

Q And, therefore, to a reasonable degree of medical probability, do you rule out Helicobacter pylori as a cause of his Non-Hodgkins lymphoma?

A No.

Q To a reasonable degree of medical probability, did Helicobacter pylori cause his Non-Hodgkins lymphoma?

A No.

Q All right. Now, I think I saw -- I was

00097

provided some documents just today before the deposition and one of them was a list of publications I am marking as Exhibit 3, and I would like you to tell me just what this is.

(Plaintiff's Exhibit 3 was marked for identification by the court reporter.)

THE WITNESS: Okay. This is a list of all of this -- sorry, of my files, which doesn't include the other things you received today, the other parts of that package that you said you received today.
BY MR. METZGER:
Q Let me try to clarify. Exhibit 3 is a list of literature?
A Correct.
Q Which you have collected regarding this case?
A Correct.
Q Not included on Exhibit 3 are some other articles which are also provided to me today?
A Correct.
Q By which you have also -- well, strike that.
Have you read all of the articles on Exhibit 3?
A Yes.
Q And the other articles that were provided to me today are these articles here that I think were accompanied with a letter, and let me just show you this

00098

letter and ask you if the articles that you were talking about were sent to you under this transmittal letter?
A Yes.
MR. METZGER: We'll mark the transmittal letter as Exhibit 4.
(Plaintiff's Exhibit 4 was marked for identification by the court reporter.)
BY MR. METZGER:
Q And these articles were sent to you by Federal Express on May 16; true?
A Yes.
Q When did you receive this letter and the articles?
A I would assume next day, because I brought them with me.
Q And when did you come out here to California?
A I came out here on the 17th.
Q When did you leave -- where did you come from?
A New York.
Q When did you leave New York?
A The 17th.
Q What time?
A Early in the morning. I am sorry, yesterday.
Q Today is the 19th.
A I left on the 18th, morning of the 18th.

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Q So you received these on the 17th?
A I received them on the 17th.
Q That all makes good sense. Now I get it.
A Let me just tell you these articles were ones when I got -- I received a list and looked at -- over the ones that Dr. Infante and Dr. Harrison had used in their depositions that weren't in my file, and that's what these represent.

Q I understand. And -- okay. Let's first identify the articles that you did receive with the transmittal letter, which is Exhibit 4.
A Okay.
Q Did that include the unpublished Delzell case control study?
A Yes.
Q Which is marked Plaintiff's Exhibit 8421; correct?
A Yes.
Q Did that include the Dryver study, which is marked Plaintiff's Exhibit 20163?
A Yes.
Q Did that include the Franceschi study, which is marked Plaintiff's 2761?
A Yes.
Q Did that include the abstract of the Fritschi

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study, which is marked Plaintiff's Exhibit 25886?
A Yes.
Q Did that include the Hardell study, which is marked Plaintiff's Exhibit 2231?
A Yes.
Q Did that include the Tatham study, which is marked Plaintiff's Exhibit 6733?
A Yes.
Q Did that include the Zhang, Z-h-a-n-g, study, which is marked Plaintiff's Exhibit 14499?
A Yes.
Q Did that include the Fritschi study entitled Risk of Non-Hodgkins Lymphoma Associated with Occupational Exposure to Solvents, Metals, Organic Dust and PCB's, paren, Australia, closed paren?
A Yes.
Q And did that include the study by Fu, F-u, entitled Cancer Mortality Among Shoe Manufacturing Workers and Analysis of Two Cohorts?
A That study, I had actually provided previously, and you have a copy of that study, except it had only been copied every other page, so this was -- actually, we generated this yesterday. That wasn't part of that transmittal letter.
Q I see.

00101

A So in this study, this second to the last one, it is in your package, but I am not -- it is a little bit of a fog right now, I don't know where this exactly came from. This may have been something in my file which just didn't get transmitted to you.
Q Have we now identified all of the studies that you received with the transmittal letter, Exhibit 4?
A Yes.
Q Now, you mentioned that you had, in reviewing the list of studies that Dr. Harrison and Dr. Infante

had relied on, that you had requested copies of certain of them; is that true?
A Yes, that's the ones that are in this.
MR. METZGER: Let me show you a document which we'll mark as Exhibit 5, and I will ask you if this is a fax transmittal where you requested that seven articles from those produced by plaintiff's experts be sent to you.
(Plaintiff's Exhibit 5 was marked for identification by the court reporter.)
THE WITNESS: Yes.
BY MR. METZGER:
Q Now, are those the studies that we just identified?
A Yes.

00102

Q All makes sense. Let me ask you something. I would like you to take a look at Exhibit 5 and tell me if there are any studies on that list that you have not read?
A On this list?
Q Yes.
A There are probably some studies on here that I have not read.
Q Would you start at the top of the list and identify for me those that you have not read. You know how we can do it very easily, I think they all have an exhibit number, so if you could just give us that, maybe the author and the exhibit number, you don't have to give us the title.
A I don't know how I would do that. These are the list of references that are on your CD.
Q I understand. That's what I am asking you to do, is to tell me which of those articles you have not read.
A Ever?
Q Ever.
A Or that I don't have in my file for this case?
Q I am asking which ones you have not read. You know what, I will do it both ways. Which ones you have not read and which ones are not in your file. We could

00103

do it that way, too.
MS. KAHN: The question is vague and ambiguous. When you say "in your file," it is not clear to me if you mean in your file for this case or in his file or library back in his office.
I also want to point out, Dr. Whysner, we have all of those articles, and if it would be easier to do this by looking at the actual articles rather than relying on someone's description of the article, which may not have a full citation, I can go down the hall and get you copies of the actual articles.
MR. METZGER: You can do that when I am done,

Ms. Kahn. I am doing my deposition now.
MS. KAHN: Regardless, Dr. Whysner does have a right to see the articles, if that facilitates his ability to answer a question.
MR. METZGER: If he doesn't recognize it, if he tells me he needs to see the article to answer the question, then we'll get the article.
THE WITNESS: The first one is in my file.
BY MR. METZGER:
Q Have you read it?
A Yes.
Q The next one?
A I think I have read the next one, but it is not in my file for this case.
Q And you are referring to?
A Delzell.
Q Exhibit number?
A 2975, and -- but, see, the problem is it is mortality among workers, rubber workers, and there is a "V," which means five processing workers, so I have read something about Delzell that were telling on rubber workers, but I'm not sure if it is the fifth of this series.
Q Fair enough.
A The next one is one that I checked and should be on that stack there, Delzell.
Q That's the one you just received?
A Yes.
Q Have you read that or not?
A Yes.
Q You had not been familiar with that before it was sent to you a few days ago; correct?
A I think that that one may -- I'm not sure. Some of these -- the problem, some of these are unpublished reports that then there was a publication of.
Q I will represent to you that this one is -- this one that we are looking at, Exhibit 8421, has not been published except for the leukemia data, Non-Hodgkins lymphoma, and the multiple myeloma data has never been published, so at least with respect to the Non-Hodgkins lymphoma data and myeloma information, you were not familiar with that until up two days ago?
A That report, yes.
Q Go ahead.
A Next one is a repeat of the one before it. I don't know why it is, I think.
Q Sure enough.
A Department of Labor, OSHA, proposed rule of notice of hearing, yes, I have got a whole note box of those.
Q You skimmed another Delzell article. Well, let

me withdraw the question. I think there is maybe a quicker way of going about this. I think you have told us that Exhibit 3 is the literature that you collected for this case that's in your files; correct?
A Yes.
Q So we can just compare Exhibit 5 to Exhibit 3 to know whether it is in your file?
A Okay.
Q Correct, does that work?
A That would work.
Q So let me give you Exhibit 3 and that might

00106

expedite this.
A Well, it is not in my file, but it looks familiar and it is possible that I have reviewed it.
Q You don't recall as you sit here?
A I don't recall.
Q Fair enough.
A You said about the OSHA one, I know that. Divine Texas Mortality Study, I probably have reviewed that and that is probably one of the reasons it is not in my file is because that was covered in Wong and Raabe's overall analysis and a lot of the older studies, I didn't put in my file if it was already mentioned in that analysis.
Q Okay.
A I think that this has -- it is a little bit hard from this list to tell because I can't tell what's been published and what's not published.
Q Maybe I can help you further if I see that list. Have you read the Eastman item there, which is Exhibit No. 22119?
A No, it doesn't look familiar.
MS. KAHN: Dr. Whysner, I want to remind you while there is no question pending, if you want to see hard copies of any of the items on this list, they are just down the hall. I will be happy to get them.

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I know you told me when we talked about this list that without the names of the publications, it was difficult for you to know if you had the articles or not, so I don't want you to feel handicapped by not having them in the room with us.
THE WITNESS: Okay.
BY MR. METZGER:
Q There is a study listed here, X-u, is the author. Have you read that study?
A Yes.
Q Do you read Chinese?
A I think there was an English abstract.
Q Otherwise -- there was. Have you actually read a translation of that study?
A I saw a translation of it. That one, I would have to probably look at the notebook.

Q There is a study here by Zhang, Exhibit No. 16819. Have you read that study?
A Again, I would have to be honest with you to look at the book to tell you.
MR. METZGER: Could you pull that one, Ruth. I would like to see if he recognizes it.
MS. KAHN: Xu and Zhang.
THE WITNESS: Z-h-a-n-g.
MS. KAHN: The first one was Xu, X-u.

00108

THE WITNESS: Yes.
BY MR. METZGER:
Q While she is getting that, let me ask you: Have we now discussed all of the risk factors which you considered as part of your specific causation analysis?
A Well, we haven't talked about the chemicals that are the alleged exposures in this case.
Q Well, let's talk about that, then. Where, within your categorization of risk factors for Non-Hodgkins lymphoma, would you place benzene?
A In the one that's -- the bottom one not likely or, you know, basically there are -- it is unsubstantiated, substantiated.
Q Where, within your categorization, would you place mixed organic solvents?
MS. KAHN: Objection, it is vague and ambiguous as to which solvent you are including in mixed.
THE WITNESS: Well, I don't think that any of the literature related to -- we are talking about petroleum solvents here, my understanding.
BY MR. METZGER:
Q Yes.
A That there is, again, any of the petroleum-based solvents or even mixtures that have been studied, such as gasoline or others, have ever been

00109

shown to cause Non-Hodgkins lymphoma.
Q What category do you place mixture organic solvent, which petroleum solvents?
A In the unlikely unsubstantiated based upon that and benzene based upon all these references that I have here in my file.
Q In which category do you place crude oil?
A The same.
Q Which category do you place xylene?
A The same.
Q Toluene?
A The same.
Q Ethyl benzene?
A The same.
Q Naphthol?
A The same.
Q Refined petroleum distillates?
A The same.

Q Now, have you ever sat down with all of the refinery cohort studies and evaluated how many of them reported an increased risk of Non-Hodgkins lymphoma and how many did not?
A You mean statistically significantly increased?
Q I didn't mean that, but we can do that, too. I

00110

was going first any increase and how many did not show an increase?
A I have the studies, we could go through them.
Q I know. I am asking if you have ever done that?
A Well, all I can say is my general overall impression is that there are probably about as many above as below one in terms of a relative risk.
Q Have you ever actually gone to the exercise of listing the studies as to whether they showed an increased risk or whether they didn't?
MS. KAHN: Regardless if the risk increase was significant or not?
MR. METZGER: Exactly.
Q Have you ever done that, have you ever tallied them up?
A Added them up?
Q I don't mean added them, like I add one plus two equals three. I mean, have you ever tallied them before where you determined there were so many that showed increased risk and so many that did not?
A No.
Q And have you ever tallied how much of those refinery cohort studies showed significantly increased risk of Non-Hodgkins lymphoma and how many did not?

00111

A Well, mentally, I have done that.
Q Okay. How many of the refinery cohort studies report a significantly increased risk of Non-Hodgkins lymphoma?
A I don't think any of them do.
Q Okay.
A There may be one, but I don't think either one or none, let's put it that way.
Q Fair enough. And have you ever sat down and tallied up how many of the case control studies reported an increased risk of Non-Hodgkins lymphoma for solvent exposure and how many did not?
MS. KAHN: Object to the question, it is vague and ambiguous. Nobody has defined the universe of studies that you are talking about, and your question assumes he has in mind the same universe of studies you have in mind.
MR. METZGER: You have a good point.
Q Let me ask you this: Have you ever attempted to gather all of the case control epidemiologic studies

which evaluate solvent exposure and Non-Hodgkins lymphoma?
A Well --
Q It is a simple question. Have you ever attempted to gather that?

A It is not that simple because, for example, I have done it for trichloroethylene, which is a solvent, I have done it for perchloroethylene, I have done it for toluene, I have done it for xylene, I have done it for benzene, I have -- when we get to what you call a solvent, I don't know how you are defining a solvent.
Q Let's try to put in more definition on it. Have you ever attempted to gather all of the case control epidemiologic studies which investigated associations between nonchlorinated hydrocarbon solvents and Non-Hodgkins lymphoma?
A Well, would you add -- would you include oils in that?
Q Sure.
A Vegetable oils.
Q Is that a petroleum solvent?
A Did you say petroleum?
Q Yes.
A Petroleum.
Q Nonchlorinated petroleum hydrocarbon solvents.
A Where they have existed, I have tried to find as many of them as I can.
Q Okay. Have you ever tallied up how many of those studies report increased risk of Non-Hodgkins lymphoma and how many do not for nonchlorinated

petroleum hydrocarbon solvents?
MS. KAHN: Regardless of the increased risk statistically or not?
THE WITNESS: Well, some of the studies report pentane, butane, aromatic, aliphatic, I mean, the problem with the studies is on the report, various types of solvents, various statistical analyses of all of them or the -- they report them by duration or report them by exposure level. I don't think that kind of a tally is actually possible, unless you define a little bit more specifically the characteristics.
And I haven't done it because it depends on exactly how you want to define what the parameters are within that literature that one is going to do that on. Is it on the overall, all the cases? Is it in all the occupational exposed cases? I mean, it is.
BY MR. METZGER:
Q Have you ever attempted to tally up all of the case control studies which evaluate nonchlorinated hydrocarbon solvent exposure and Non-Hodgkins lymphoma which report significantly increased risks versus those that do not?

A In a sense, I have, and my impression is that almost all of them do not or most do not and that's my -- in terms of tallying up, I have done each

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individual paper, which I would be glad to go through and show you which ones are negative and which ones show some association, whether it is statistically significant or one is not.

But in terms of my own -- my needs in terms of coming up with an overall analysis, it is the preponderance of evidence that there is not an association of Non-Hodgkins lymphoma in these solvent studies that look at solvent exposures.

Q Have you read any review articles which address the literature, specifically the case control studies regarding nonchlorinated solvent -- strike that.

Have you reviewed -- have you read any review articles which review the case control studies for solvent exposure and Non-Hodgkins lymphoma?

MS. KAHN: The question is lacking in foundation and it is vague and ambiguous. I think it is impossible to answer without having an identification of the case control studies that were encompassed in the review that you are asking about.

MR. METZGER: You can answer.

MS. KAHN: You can go ahead and answer. If you can't, tell Mr. Metzger that.

THE WITNESS: So in terms of benzene, there is a study by -- review article, Bill -- Steve Lamb, that

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includes both cohort and case control studies. I am familiar with that review.

BY MR. METZGER:

Q Are there any other reviews that you are familiar with?

A Well, for example, the ATSDR has done a fairly comprehensive review of looking at benzene and looking at the case control studies and cohort studies and they specifically commented on whether or not the evidence related to Non-Hodgkins lymphoma met any kind of a standard regarding causation.

Q Are you referring to the 2005 draft update toxicological profile by the ATSDR?

A Yes.

Q Are there any other reviews that you have read on the topic?

A Well, there are reviews that review the whole subject of various solvents, like the IARC review of xylene, which I have read, the IARC review of toluene, which I have read. There is, of course, the IARC review of benzene, which I have read. There are --

Q My question was -- let me just refresh you with the question. Have you read any reviews regarding the case control studies which investigate petroleum

hydrocarbon exposure and Non-Hodgkins lymphoma?

A Well, that's what I am answering, just the fact that they have done other things, as well, like the Steve Lamb article reviewed both cohort and case control.

Q Any other reviews that you have read?

A There was a review that I think Harrison relied pretty heavily on this review by Rigo.

Q Have you read that?

A Yes, I have.

Q All right.

MS. KAHN: He is not done. He's got more.

BY MR. METZGER:

Q All right. Are there more that you have read?

MR. RIFF: Can I coach?

MR. METZGER: No.

MR. RIFF: I got to.

MR. METZGER: If you want to testify, you can designate yourself as an expert and I will take your deposition.

MR. RIFF: I will leave and go get some gasoline for my car.

THE WITNESS: I was going to say gasoline because the ATSDR review on gasoline, I am sorry, I have to go through my files.

MR. METZGER: I will move -- I will withdraw the question and move on to another question.

(Recess taken.)

THE WITNESS: Let me just clarify something because you asked before about the issue of, quote, "solvents" and Non-Hodgkins lymphoma. This is the problem with the word solvent because solvent is really defined as a use, it is not really -- doesn't have any sense in a toxicology standpoint, although I know people use that word.

So gasoline, I have reviewed, I have also reviewed jet fuel, which I don't know whether anybody would consider that a solvent, it is a fuel, in terms of that particular issue.

BY MR. METZGER:

Q All right. Let's go on to another topic. You are a diplomate of the American Board of Toxicology; true?

A Correct.

Q Does the word "immunotoxic" have a meaning to you?

A Yes.

Q What does that mean to you?

A Well, immunotoxicity can either be an overactive immune system and (inaudible) hypersensitivity or it can be an immune depression.

There are two parts to that scale, and so the immune system can either be overactive or underactive, and if a particular agent can cause either one of those things, then we consider that immunotoxicity.

Q Okay. Would you also consider an agent that can disrupt immune function to be immunotoxic?

A That would be -- yes, that would be immunotoxicity.

MS. KAHN: Somebody who is typing needs to find their mute button, please.

MS. CHIN: I am sorry.

MS. KAHN: Thank you.

BY MR. METZGER:

Q Okay. Is benzene immunotoxic?

A Well, I think we covered this before, but when -- I remember that I had looked into this in the past and I have not looked at it specifically recently, that that's not one of its major toxicological properties, except as we discussed about its bone marrow ability to suppress the bone marrow and prevent the formation of myelocytes from the bone marrow. That is one of the most -- one of the things it causes at one of its lowest, lower doses.

Q Are you going to -- do you recognize the distinction between hematotoxic and immunotoxic?

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A Well, to me, when you are talking about disruption of immune system, I am not thinking about the fact that it is wiping -- I mean, yes, bone marrow toxicities will disrupt the immune system, but usually when we think of immunotoxicity, we are talking about effects that don't necessarily just wipe out the whole population of white cells.

For example, because then there isn't any immune function of a certain type if you have destroyed the cells that are trying to provide that function.

So in that sense, there is an immune effect, but that's very specific. We know about that. We talked about that for benzene and it may also be related to its ability to produce acute myelogenous leukemia and there is a whole literature on, as you are probably well-aware of, whether or not that immune -- that form of toxicity is necessary in order to begin the development of acute myelogenous leukemia.

Q Does benzene -- strike that.

Does exposure to benzene impair immune function?

A Didn't we just go over this?

Q You have described, as I understood it, three types of immunotoxicity, an overactive immune system, an underactive immune system, and disruption of immune

00120

function; correct?

A Well, the latter two are pretty much the same.

Disruption of immune function and immunosuppression would be pretty much the same thing.
Q Does benzene disrupt immune function?
A Well, as I said, again, the part of the immune function that benzene disrupts is that it wipes out -- it can wipe out the bone marrow and leukocytes, granulocytes which are part of the immune system, in a sense, because they are responsible for fighting infection and disease.
And that can then disrupt what we usually think of as the immune system and macrophages, you know, are the presenting cells for certain types of immunity, and so in that sense, it would disrupt immune function.
Q Does benzene disrupt immune function without decreasing blood counts?
A Do you have a specific thing in mind? I mean, immune function is a big topic.
Q Let's talk about immune function. Is it true that there are different assays for assessing immunotoxicity?
A Yes.
Q And can you identify them?
A Well, there is no lymphocyte proliferation

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test. There is the classic ones and the plaque forming colony test.
Q Plaque forming colony test?
A Yes.
Q Any others?
A Those are the two that I am most familiar with.
Q You do know that other tests exist?
A There is a whole battery of immune testing that can be done. You can look for immunoglobulin levels, you can do immune electrophoresis, you can do -- there is first tier, second tier, third, you know, white counts are another one, you know. That's it.
Q Has benzene been studied in these assays?
A I don't have any specific recollection of any studies.
Q So you don't know that benzene has been found immunotoxic in these different assays that we just discussed?
A I don't have any specific recollection of the studies.
Q Do you have any knowledge whether these assays have been -- strike that.
Do you have any knowledge whether toluene is immunotoxic in these assays?
A I don't specifically remember the studies.

00122

Q Do you have -- do you know whether xylene is immunotoxic in these studies?
A I don't -- again, I don't specifically remember the studies.

Q Do you know whether naphthols are immunotoxic in these assays?
A Naphthas.
Q Yes, petroleum naphthas?
A Okay. Well, I'm more familiar with naphtha, but I don't specifically remember the study.
Q Is crude oil immunotoxic in these studies?
A I don't know.
Q Let's talk about some of your work on your C.V. First of all, the article that you published regarding the genotoxicities of benzene, was that funded?
A Yes.
Q By whom?
A The American Petroleum Institute.
Q And how much were you paid for that?
MR. RIFF: Hold on. How much was he paid, how much was the funding, or both or neither? Objection, vague.
MR. METZGER: Go ahead.
THE WITNESS: Well, it was a contract between the American Health Foundation and the American

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Petroleum Institute and it went on for a few years. We analyzed 1,400 genotoxicity tests.
BY MR. METZGER:
Q What's the funding?
A I don't specifically remember. I would say it was probably about $150,000.
Q Okay. Was that probably done in phases?
A Yes.
Q What were the phases?
A First phase was to look at the issue of whether or not benzene -- under what conditions and when benzene had been found to cause DNA addicts or DNA binding studies.
Q And what was the next phase?
A The next phase was to analyze all of the 1,400 genotoxicity tests.
Q What was the -- was there a further phase?
A The next phase was to look at the literature related to -- I can't remember whether or not the literature related to trying to categorize the genotoxicity test results into -- a mechanistic category was in phase two or phase three.
But I think phase three was more of a -- had to do with a discussion of the relationship with the genotoxicity tests to, for example, the -- what we are

00124

talking about before, the fact that the clastogenicity of benzene and the relationship of that to the way in which acute myelogenous leukemia could develop.
Q Was there a further phase?
A Not that I remember.
Q And was the $150,000 funding that you just

described for all of these phases?
A I believe so.
Q At the time, what was your affiliation with the American Health Foundation?
A I was a research scientist and I was -- I eventually became division -- director of the division of pathology and toxicology.
Q Now, did you prepare reports in the course of this study?
A Yes.
Q How many reports did you prepare?
A I think there were three reports for the three phases.
Q And did you send those to the American Petroleum Institute?
A Yes.
Q And did you receive back comments from the API?
A I don't recall. Not that I remember other than the fact that they received it and, fine, thank you.

00125

Q Who was your contact at API?
A Well, there were a couple of different ones and that was part of the problem. One of the reasons I did not receive any comment, because there wasn't really anybody to see -- any way to comment on it.
I don't -- I know David Mongello was there, he was the project officer. Linda Twerdock, T-w-e-r-d-o-c-k. There were a couple of other people, but I don't really recall who they were.
Q Did you ever go to a meeting of the American Petroleum Institute or a community and report your findings to them?
A It is possible. The reason I am a little confused, I did another study for them and I know we had meetings on that one and that was -- I was doing some laboratory work to actually look at the question of whether or not there was, indeed, DNA binding and I know that we had -- there was a group named API who oversaw, but I think they just oversaw the laboratory studies. I don't really remember them commenting on the genotoxicity study.
Q Was the DNA binding study also done by you when you were with the American Health Foundation?
A Yes.
Q What was the funding for that study?

00126

A That was the American Petroleum, also.
Q What was the funding for it?
A How much?
Q Yes.
A I think that was about $75,000.
Q Now, regarding the genotoxicity study, did you submit your article to the API before publication?
A That, I don't remember. You know, I actually

published it after I left the American Health Foundation and had sort of -- we had, yet, another change of person at the API and I never even heard from them. I think I finally sent them a courtesy copy of the publication after it was published, but I don't remember. I just don't recall. There wasn't a lot of feedback, wasn't any feedback, as a matter of fact, specifically regarding that publication from them.

Q Did anyone from the API or any of its members, petroleum company members, edit any drafts of your article?

A No. We, at the foundation, we were very clear about stuff like that that we might -- like I say, again, we might furnish them a copy before publication, but that was usually part of our contractual relationship with industry groups. Now, not with grant -- you know, federal grants. Most of them -- the

00127

money came from the National Cancer Institute.

Q Now, the lab work that you did regarding DNA binding, was that ever published?

A No.

Q Why not?

A Because I left the foundation while I was still in the middle of it and I left the foundation, I think it was, in 2002. The work was still ongoing. It was the only project I hadn't sort of wrapped up before I left, and the results were kind of -- we did, indeed, find that the DNA binding probably was artifactual.

That there was one or two other groups that had found some binding radiolabeled DNA binding to -- I mean, binding radiolabeled benzene to DNA, and through various purification techniques, we showed that it was probably artifactual, it was probably protein that was associated with the DNA, but before I left, I could never completely nail that down, so I didn't publish it.

Q Did you ever submit it for publication?

A No.

Q During the course of either of these projects that you did for the American Petroleum Institute, did you speak with any members of any -- well, did you speak with any employees of any of the oil companies?

A Oh, probably, because I published -- I didn't

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publish -- well, we did publish the proceedings of that, there was a meeting that was held at the University of Ottawa of a number of people on the whole issue of benzene and leukemogenesis.

And there were people from the petroleum industry there because they were also presenting papers, but -- so I probably talked to them. Well, they probably came up to me after I presented my findings --

Q Okay.

A -- which were in that abstract.

There are two publications on my list and that abstract -- I mean, not abstract, that short publication is from that meeting that was held in Ottawa.

Q The meeting in Ottawa was the Benzene State of the Science Workshop which took place on December 16 and 17 in 1998; correct?

A Correct.

Q You presented at that conference; correct?

A Excuse me, let me see it. I am not exactly sure about --

Q This is Exhibit 6041. This is a copy of what you presented at that conference or symposium; correct?

A Yes, but it was also published. Okay.

Q I will get to that. That was what I am showing as Exhibit 8738 is what was published from that;

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correct?

A Correct.

Q Now, prior to the conference, did you speak with any employees of any oil companies about your paper or your research?

A Well, again, as I mentioned before, I can't remember if that group, which were a couple of -- which was a group, some of which contained employees of oil companies that I met with, I also met with regarding this genotoxicity study and can't remember that. I said I remember -- I remembered meeting with them regarding the DNA binding studies.

Q Did the DNA binding study precede or come after the genotoxicity study?

A After.

Q Okay. So I am talking before the symposium on December 16 and 17, 1998 at the University of Ottawa at which you first presented on your genotoxicity study. Did you speak with any employees of oil companies about that?

A That's what I am trying to say, I don't remember if that group had reviewed where we talked about the studies that I had done on genotoxicity.

Q Have you done any other work for the American Petroleum Institute?

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A No.

Q Have you done any work for the American Chemistry Council?

A No.

Q The Chemical Manufacturers Association?

A One of those groups, I did some consulting work on quite a while ago, I think, regarding the Korean Chemistry Council. I think it was one of those groups and I think I did some consulting for them.

Q What was that consulting about?

A I remember one aspect of it, anyway, that that was -- that there was a group who believed in banning

all chlorine-containing chemicals because they were -- I don't know, for whatever reason, and they asked me to, I think, put together something that analyzed -- one thing I remember was analyzing pharmaceuticals as to whether or not pharmaceuticals that contained chlorine in their chemistry were any -- I guess it was broader than that.

I guess all I was doing at that point with the pharmaceuticals was saying, look, there's a lot of pharmaceuticals that contain chlorine, and if we ban all chlorine-containing chemicals, we won't have all of these pharmaceuticals. And that's the one thing I remember. I think there may have been some other aspects of it that had to do with chlorine-containing

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chemicals in general.

Q Did you prepare any reports regarding this work that you did?

A I don't recall.

Q Did you provide any presentations setting forth your work?

A I don't think so.

Q And what was your funding for this?

A It was so long ago. It was a consulting arrangement with Washington Occupational Health, I think.

Q Would you estimate the funding?

A No.

Q I was asking you whether you did any consulting or any other work for the Chemical Manufacturers Association. Do you recall doing any work for them?

A I don't think I did any work for them. I think they held a conference on chemical mixtures and I presented a paper or a -- I just gave a talk, that's what I did, at that meeting on chemical mixtures.

Q When was that?

A Probably about five years ago.

Q Were the proceedings of that conference published?

A I don't think so.

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Q Do you still have your paper?

A No.

Q Do you destroy your -- do you prepare an abstract or anything?

A No, I don't. This -- it was a paper, I think it was a talk, I believe.

Q Had you written anything out for that talk?

A I don't recall.

Q Was that recorded?

A I don't know.

Q In that talk, did you discuss petroleum hydrocarbon mixtures?

A This is calling for speculation on my part because mostly what I was involved with mixtures was the

issue of dioxins, PCB's, and how that mix is analyzed, so I think -- but I couldn't be certain that I was probably talking about those chemicals.
Q That was presented, you believe, to the Chemical Manufacturers Association?
A It was at a meeting.
Q Do you recall where?
A It was in, I think, Arlington, Virginia.
Q Do you recall who sponsored it?
A No.
Q Do you receive funding for that?

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A No.
Q Any compensation?
A I don't remember.
Q Any other work that you did for the Chemical Manufacturers Association?
A No, not that I recall.
Q What about the Manufacturing Chemist Association?
A Never heard of them.
Q That's the precursor. Okay.
What about have you done any work for the Halogenated Solvents Industry or Council, whatever they call themselves?
A No.
Q Have you done any work for any other chemistry trade organizations?
A The Acryllo Nitro Group.
Q What did you do for them?
A I did research on the mechanism by which Acryllo Nitro causes brain tumors in rats.
Q Did you present on that?
A I have a couple papers written on it.
Q So those were published?
A That was published.
Q I am sorry, which organization was this?

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A This is called the AN Group, stands for Acryllo Nitro Group.
Q Did they review your publications before publication -- did they review your papers before publication?
A Well, like I said, this was part of the American Health Foundation. We were pretty strict on publishing what we find.
Q I understand, but --
A Whether or not they were -- we discussed it, we probably discussed it during meetings, what the findings were, you know, I had a really good assistant, a good sponsor at those meetings from that group, and he always said, you just call it the way you see it. That was his motto.
Q What was your funding for that?

A Total?
Q Yes.
A It would be --
MS. KAHN: Don't speculate.
THE WITNESS: I can't remember.
BY MR. METZGER:
Q Can you give me an estimate?
A Long time ago.
MS. KAHN: Don't speculate.

THE WITNESS: I can't, really.
BY MR. METZGER:
Q Was it more than $100,000 or less?
A It is more than $100,000.
Q More than 500,000?
A That, I don't know.
Q All right. Have you done any consulting work for any other chemistry trade associations or groups?
A Not that I remember.
Q Let's talk a little about what you do do. Do you currently practice medicine?
A Well, I am licensed. I will only practice in the sense that I provide advice regarding medical surveillance. The Washington Occupational Health main business is doing medical surveillance programs.
Q What does that mean exactly?
A Well, a lot of it is fitness, you know, for duty. It is like we had to clear all the people who went to Katrina from the Army Corps of Engineers and the U.S. Coast Guard and we do the same kind of thing for the FBI.

We have five regional offices that we serve. We have done it for the Secret Service, we have done it for a number of government -- mostly government, but some industry groups, like Chem Waste Management, their

hazardous waste workers, I was very involved in reviewing their -- some of their medical records and so forth.

So that's the kind of medicine that I have done. I don't really treat patients. We do have a clinic in our office in Washington, but I am not in any way actively involved in treating patients.
Q When is the last time when you actually treated a patient?
A Last time I actually treated a patient was probably in 19 -- whenever my Pennsylvania license expired, because I worked in a pediatrics clinic in Pennsylvania for a while, I think it was either '76 or '78. '76.
Q When is the last time you examined a patient?
A I was involved in doing some actual hands-on medical surveillance screening of people with PCB exposure that ran through the part of the '90s. We

would do periodic examinations on people who were -- had been exposed.
Q And what did those examinations consist of?
A Well, regular history and physical, feeling for their liver, we were looking for specific end points. The main thing that was the uncertain thing in those days was whether PCB's cause liver toxicity.

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Now we know that we have done enough studies to know it really doesn't in humans and so we were concerned about it, especially in the '80s when this first started.
Q At the present time -- well, you are currently an employee of Washington -- what is it called?
A Occupational Health Associates.
Q Is that correct?
A Yes.
Q Is that essentially a full-time job for you?
A Well, I am a full-time employee, yes, I am a full-time employee.
Q And --
A I also teach at Columbia, which is not part of that, but --
Q Regarding this company, it provides this surveillance, medical surveillance service that you have described; correct?
A Yes.
Q Does it do anything else?
A Well, we do -- we serve as, for example, giving companies corporate medical advice regarding overall employee health and safety programs. We have provided employee information regarding hazards in the workplace. And we have done a fair amount of work for

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some pipeline companies. I have done a lot of risk assessment work, which I think I discussed, regarding the preventing of -- permitting of power plants, but I also do work on superfund sites.

I am involved in one right now at the Wilmington rail yard, Amtrak facility. And that has to do with coming up with cleanup of the various contaminants around the site, and we do, like here, we do litigation consulting and litigation support work and expert testimony.
Q Anything else?
A Well, there is a pretty wide range of occupational health stuff that the company does, but --
Q All right. The occupational health screening, apart from the governmental work which you described, do you do that also for companies?
A Yes.
Q And approximately how many companies do you do that for?
A You know, I am involved in that to a certain

extent from the toxicology standpoint and from providing certain guidance regarding design of stuff, but I am really not in touch with the clients and hands-on that much with that part of the organization.

Q Are the clients major corporations?

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A Most of ours are -- actually, most of it is government.

Q Are there corporate clients for whom that service is provided?

A There are, but I wouldn't be able to tell you which ones are active right now.

Q Does --

A I am sorry, like Buckeye Pipeline, I know is one, and like I said, we don't do any work for Chemical Waste Management. In fact, it doesn't even exist under that name anymore, I don't think. I know we are doing some work, I think, for P & G.

Q What is P & G?

A Procter & Gamble.

Q Regarding what?

A I think it has to do with a bladder cancer screening program that they have going on.

Q Is there a suspect agent for that?

A Not that I am aware.

Q Have you done any occupational health screening for any oil companies or has WOLA? I call it that.

A WOLA, that's good. I don't think so, not that I recall.

Q For any chemical companies?

A Well, I was involved with putting together a

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medical surveillance program for, I think, Occidental Chemical related to vinyl chloride exposures and having to deal with when people should go in and out of the work force based upon certain findings of liver enzymes and so on and so forth.

Q Any other chemical companies that you have done surveillance programs for or WOLA has?

A Well, in the past, of course, we have done it, like not chemical companies, but for the railroad -- some railroad workers, Amtrak, SPTA workers, that's all that I remember.

Q Has WOLA ever done any medical surveillance for beryllium workers or have you?

A Not that I recall. I was asked a question by one of the employees at WOLA recently that made me think maybe there was some kind of an RFP out there, but as far as I know, we are not doing anything right now.

Q What's an "RFP"?

A Request for proposal.

Q Okay. What types of companies does WOLA or you provide medical advice for that --

A I am, like I say, I am there -- we have to

defer to the president.
Q Who is that?
A Ken Chase, Washington office labor division.

Q What company -- you said also that you provide employees hazard information. Do you do that for chemical companies?
A Well, I can just tell you what I have been involved in. For example, I did a video regarding hazards of diesel exhaust that had to do with Penn Station and that was one. I reviewed -- and MSDS's for the Drug Enforcement Administration when they were putting together their program to dismantle clandestine labs.
Now, they go into these places and there are all these things sitting around, and I have reviewed MSDS's, I remember, for the Los Angeles Department of Water and Power back in -- when the first hazard communication standard came out to see whether or not they were adequate. And we actually designed some MSDS's for them.
This is -- this was -- I think it was even before the communication standard actually came out, in the early to mid-'80s. Those are the ones that I remember. I talked to some people at a slag grinding facility about hazards related to particulates in the air in Camden, New Jersey, in this facility whether or not there were any health effects from that.
Q Okay. First of all, is all this work that you

just described, work that you have done on behalf of companies, corporations?
MS. KAHN: As opposed to the government or the Department of Water and Power, the other entities that he identified?
BY MR. METZGER:
Q I think you had mentioned the Department of Water and Power. Other than that, was it done for corporations?
A Or the government.
Q Okay.
A Right.
Q You mentioned that you reviewed MSDS's for Drug Enforcement Agency, when they would send people into any kind of lab, not meth labs?
A They are more meth labs.
Q They are mostly meth labs?
A Well, I don't know, this is a fair time ago, but probably they were meth labs.
Q And were any of those Material Safety Data Sheets that you reviewed and worked on Material Safety Data Sheets for solvents used in meth labs?
A Now, this is going back 15 years probably so I really don't remember even what any of the MSDS's were.

Q Has WOLA or you ever done any work for the EPA?
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A I have consulted for the EPA, particularly about Tom's River, Tom's River problem, possibly a cancer cluster there.
Q Was the EPA a defendant in that case?
A No, I served on an expert panel for them.
Q What was their involvement with that case?
A There was a -- the EPA and the NTP together were designing an annual testing program to look into one of the chemicals that was found in the drinking water, and I was asked to serve on this panel because I know something about annual testing, and we provided input in terms of the design of those animal tests.
Q What was the chemical you were talking about?
A It is a combination of acryllo SAN, acryllo styrene, acryllo something or other, and this is, again, a while ago, but it was a by-product of some kind of chemical manufacturing facility that was there and they had been able to analyze, for most of the chemicals that were in the drinking water, and most of them had already had like NTP studies done about them or there was animal toxicity.
But this one point seemed to be unique to this situation, so there was a lot of political pressure to put together a testing program rapidly.
Q Have you done any other work for the EPA?
00144
A Not that I recall.
Q Have you done any work for OSHA?
A No.
Q Or NIOSH?
A No.
Q All right. Do you have any employment income other than your work for WOLA?
MS. KAHN: Or Columbia where he teaches?
THE WITNESS: Yes, it is just WOLA. I volunteer my time at Columbia.
BY MR. METZGER:
Q And regarding that, how often do you teach at Columbia?
A Once a week.
Q And what is the -- is that a course that you teach or what?
A Yes.
Q What is the course?
A Fundamentals of toxicology.
Q How long have you been doing that?
A Three years.
Q Do you receive any compensation at all from Columbia?
A No.
MS. KAHN: You need to verbally --
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THE WITNESS: I am sorry, no.
BY MR. METZGER:
Q Do you have a syllabus for your course that you teach or written materials that you prepare for the course?
A I have a presentation, yes, that I give.
Q Handouts that the students are given?
A Yes.
Q How long have you been doing that, how long?
A Three years.
Q Is it the same handout each year or is it different?
A It changes, and I have guest lecturers, some -- or some of the lecturers, so some are not my handouts, there are other people's handouts.
Q All right. Regarding your employment income from WOLA -- or let me strike that.
Regarding WOLA, what percentage of WOLA's income is from litigation support and consulting?
MS. KAHN: WOLA as opposed to Dr. Whysner's income?
MR. METZGER: That's what I asked.
MS. KAHN: Calls for speculation.
MR. METZGER: Go ahead.
THE WITNESS: I don't know for sure, but I

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would say it is --
MS. KAHN: Don't speculate, if you don't know.
BY MR. METZGER:
Q Can you estimate?
A I would guess it would be -- well --
MS. KAHN: Don't guess.
THE WITNESS: I would say probably be somewhere between 15 and 25 percent.
BY MR. METZGER:
Q And what percentage of your income is from litigation support and consulting?
A Well, that's hard to exactly put together, because like I say, I am paid as an employee and I have a lot of activities for WOLA, so it would be hard to say exactly, but I would say probably about 50 percent, may be a little bit more.
Q Just I want to make sure I heard you correct. Was that 5-0 as opposed to 15?
A Yes.
Q Regarding your income from litigation support and consulting, does any of that income derive from consulting for individuals as opposed to companies or government?
A I don't know.
Q Can you think of any?

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A Well, I don't know what they do at the office in terms of where the income actually comes from. I am

involved in certain activities, general activities for the office and that, I don't have a good handle on.
Q Can you recall ever consulting or doing any litigation work on behalf of a worker or person claiming to have been injured?
A Well, I haven't, but I know the company has done that.
Q Have you prepared any billing for your work in this case?
A Well --
MS. KAHN: Washington Occupational Health is the one that bills us. They have sent bills and they were included in the file that was produced. I don't know if Dr. Whysner has actually seen those or not, since they come from his employer, things like that, rather than him personally.
THE WITNESS: I haven't seen them.
BY MR. METZGER:
Q Before bills are sent out, do you review the bills for your work?
A Yes.
Q So did you review these bills?
A I probably did at the time they came out.

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MS. KAHN: Happy to pull them out of the box, if that would help.
MR. METZGER: If you could, thank you.
MS. KAHN: One of my concerns about going through this list was proven out when we tried to find the articles.
MR. METZGER: While you are doing that, can we go through the list?
MS. KAHN: The Zhang 2003 article marked as Plaintiff's Exhibit No. 16819 on Whysner 5616 turns out not to be an article at all, it is an abstract of a paper presentation that was given, and we don't find any record in our file of a corresponding publication. This abstract --
MR. METZGER: Ms. Kahn, is this an objection?
MS. KAHN: -- was on Dr. Infante's C.V. I am explaining to you that the articles we --
MR. METZGER: Please, I just want to ask him some questions.
MS. KAHN: -- may or may not correspond to the articles you have in mind, so this is Zhang 16819.
MR. METZGER: Fine. Let me just ask you --
MS. KAHN: It is not a study at all.
MR. METZGER: Whatever it is, I think we could agree that's an abstract.

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Q Is that what you would call this, Dr. Whysner?
A But -- okay.
Q Yes?
A Yes.

Q And can you tell me, before that was just handed to you, have you ever read that?
A This particular abstract?
Q Yes.
A I don't remember. I went to some of the ACR meetings and I had the book and may have even -- I assume this is probably a poster presentation, but I don't know whether that's the case or not. I may or may not have seen it, I don't know.
Q As you sit here today, you don't have a recollection of having read that before today; is that fair?
A Well, the problem, Martin Smith has published a lot of stuff and some of it is very similar to some of the other things that he's published, and so I don't know if I have. I can't recall if I have seen this or another paper where he studied the same kinds of things. I don't know.
MS. KAHN: Now, the other thing you wanted me to look for was Xu 2000, which wasn't included on Dr. Infante's CD. There is a handwritten note on

00150

Whysner 5616. The closest thing we could find from 2002 is by Qu, Q-u, not Zu, Z-u.
MR. METZGER: That's not a study -- there is a study by an X-u, which was translated from Chinese and was produced by doctor -- actually, by Dr. Harrison at his deposition, I think.
MS. KAHN: Let me go back, then, at Harrison because we did send the Harrison transcripts and exhibits to Dr. Whysner, so that's where it is, if he had definitely seen it.
MR. METZGER: Okay. We'll find out.
THE WITNESS: Was that -- was just the abstract included or was the whole Chinese article included?
BY MR. METZGER:
Q There was a complete translation of the article.
A But the original Chinese article, because what -- I want to see the original Chinese article because I will tell you why this is important, because this article came up once before in another case and it had to do with CLL, I believe, or CML, one of the two, and it turned out that the -- I looked for the tables, the corresponding tables, and they were not what I remembered from that original paper.
Q We'll see if we have the original Chinese. I

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think we do. Okay. Now I lost my train of thought. This was a side venture from what we were talking about.
MS. KAHN: Dr. Whysner, do you need a break while Mr. Metzger is looking for his paper?
THE WITNESS: Why not.

(Recess taken.)
BY MR. METZGER:
Q I would like you to take a look at your curriculum vitae. Page 3. You give some summaries of your work in toxicology and risk assessment; correct?
A Yes.
Q Regarding the laboratory research regarding PCB's. For whom did you do that?
A One of the studies was done for Hoffmann-La Roche, the pharmaceutical company. They were -- we did a study that studied not only PCB's, but phenobarbital and coridane (ph.) because these were all chemicals that produced mouse liver tumors.
That was the P32 post labeling study. And I also did some work for General Electric that had to do with trying to find out the mechanism by which PCB's caused liver tumors in rats.
Q How much were you paid for your work for Hoffmann-La Roche?

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A Well, I think American Health Foundation, and that's -- I can't even speculate on that. I know it was less than $100,000, but that was one of the very first projects I had when I was there.
Q How much was your funding from General Electric?
A I don't recall at all for that one. As a matter of fact, I think my boss, Gary Williams, was the one that actually negotiated that work.
Q Do you have any estimate you could give me?
A No.
Q You also mentioned here oxidated DNA damage and benzene-induced leukemia. I assume that was for the API, which we already discussed; is that true?
A Where is that?
Q Third line. I shouldn't make that assumption.
A Well, oxidated DNA damage is one of the things that we considered in terms of the -- one of the mechanisms for the genotoxicity.
Q Is what you have written here, oxidated DNA damage and benzene-induced leukemia, part of that project that you did for the API?
A You know, there must be -- I mean, I -- actually, it is interesting you point this out because on reviewing it, some lines must have changed because

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actually the oxidated DNA damage that I worked on had to do with the chlorine nitro-induced brain tumors in rodents, and those are published studies, but I didn't do any laboratory research.
This is a mistake. I didn't do any laboratory research on oxidative DNA damage and benzene-induced leukemia. Oh, okay. Well, if you interpret -- let's put it this way. It is correct if you don't include

oxidative DNA damage with benzene-induced leukemia because that was the DNA binding studies that I mentioned. That's what confused me.

So I have done work on oxidative DNA damage and I have done work on benzene-induced leukemia in the sense of those DNA bindings studies that I mentioned to you.

Q This is what you did for the EPA?

A Correct.

Q We already talked about it?

A Yes.

Q Now, when you were a consultant to IARC for these monographs, is it true that IARC has some independent consultants and some industry affiliated consultants on these panels?

A The industry representatives are limited to one.

00154

Q Were you ever the industry representative on any of these panels?

A No.

Q For whom did you do the site specific risk assessments involving oil and sediment remediation?

A Well, the main one was the Paoli rail yard.

Q We discussed that. The others, who were the companies?

A All -- I am doing one right now for Amtrak. We have done a lot of -- well, that's not remediation, but we did -- we designed some of the original cleanup standards for power companies for their PCB's.

Q Now, under Health Effects of Air Pollutants, for whom did you do work regarding sulfur dioxide?

A Well, as I mentioned, during these hearings for permitting power plants, that would have been that one.

Q What about particulates?

A Same.

Q Nitrogen oxides?

A Yes.

Q Sulfuric acid mist?

A Same.

Q Carbon monoxide?

A Well, that would have been the same, but I have also done -- do you remember I talked to you about that

00155

video I did for Penn Station, carbon monoxide was a big problem in Penn Station.

Q Incidentally, have you done any other videotapes of hazards?

A I think that was the only one.

Q What about lead?

A Lead, this was -- most of my work in lead was done when I was -- this is in the '70s when I had my own company and I -- we did all government contract work, so the lead work was done for Health and Human Services,

HUD, National Bureau of Standards.
Q What was that company you are referring to?
A Medical Research Applications.
Q What about beryllium?
A Beryllium, I analyzed all the Brush Wellman cases, CBD cases.
Q You did that for Brush Wellman?
A Yes.
Q Fluorine?
A Fluorine was also part of the power plants.
Q Mercury?
A Same.
Q Antimony?
A Yes.
Q Arsenic?

00156

A Yes. This whole list is all things we analyzed. This whole list going down is only regarding power plants.
Q All the rest of it?
A Yes.
Q For petroleum products, you have risk assessment, medical evaluation, worker protection evaluation for petroleum-derived solvents and oils. For whom did you do that work?
A Well, I did some work for General Electric related to especially oils because they were -- when PCB's got banned, they had to retrofit all their capacitors with oils, mineral oils. And so I did an analysis of the question of whether or not mineral oils could cause cancer for them.
Q Was that published?
A No.
Q What was your conclusion?
A Well, some of the older mineral oils had been shown to cause skin tumors in animals. There was nothing in humans indicated that there were human carcinogens. The mineral oils that were refined didn't cause skin tumors.
So in terms of, again, if you rely upon the animal studies and you want to please regulatory

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agencies when you are retrofitting transformers, you want to make sure you are using an oil that is negative in the animal studies.
MR. METZGER: Could we have those exhibits, Ruth.
Next is what -- so we'll mark, as Exhibit 6, the bills for this case.
(Plaintiff's Exhibit 6 was marked for identification by the court reporter.)
BY MR. METZGER:
Q And are these the bills which WOLA generated for your work in this case?

A Yes, they appear to be.
Q And how much work have you done that's not reflected in those bills?
A Let's see, these go through March and we are in the middle of May.
Q If you could estimate for me the number of hours that you put, since that's not included in these bills.
MS. KAHN: Including time today in the deposition?
BY MR. METZGER:
Q Well, let's say up until the deposition, beginning today.

00158

A Including coming here and --
Q Sure.
A Because I don't think I worked much in -- was March included in here? Yes. Oh, boy, you know --
MS. KAHN: If you can estimate, fine. Don't speculate.
THE WITNESS: I can't tell you. I can tell you it is probably more than 20 hours, but beyond that, I can't tell you.
MR. METZGER: I am going to attach the other three -- well, I am going to attach the Zhang abstract, which we discussed, previously identified as Plaintiff's Exhibit 16819. I guess we should mark these as exhibits to be consistent, so that will be Exhibit 7, and your abstract or summary presented in Ottawa will be Exhibit 8.
(Plaintiff's Exhibits 7-8 were marked for identification by the court reporter.)
MR. METZGER: And then your publication of what you did present in Ottawa, previously identified as Plaintiff's Exhibit 8738, will be Exhibit 9.
(Plaintiff's Exhibit 9 was marked for identification by the court reporter.)
THE WITNESS: Just out of curiosity, where -- were these here? Where was -- where did that become an

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exhibit?
BY MR. METZGER:
Q Those are just my office's reference numbers.
A I see, okay.
Q It was not for trial or anything, I don't think.
Dr. Whysner, have you now told me all of your opinions for this case?
A Well, I have -- well, not really. I have got a lot of subopinions to those major opinions that we discussed, and those are included in this box of these that I was prepared to talk about them in relationship to these references that I have here.
Q I don't want to go through every article with

you, but let me ask you, what subopinions are you referring to?

A Okay. Well, first of all, we talked about the issue of all these different kind of solvents and I don't know if you know, but the fact that gasoline has not been classified as a human carcinogen, and I was -- For example, the ATSDR says, therefore, there is no conclusive evidence to support or refute the carcinogenic effect of gasoline in humans or animals based on the carcinogenicity of one of its components, benzene. Now, this brings up an interesting --

Q Let me see what you are reading from. Toxicological profile for gasoline of ATSDR from 1995; correct?

A Correct. So one of my opinions has to do with the fact that when benzene is part of a mixture of exposures, especially in the form of a mixed solvent, that it doesn't necessarily follow that the benzene makes that mixture carcinogenic. And there are a number of papers that I have in this file that really have -- that have to do with explaining how other chemicals actually inhibit the genotoxicity of benzene. So -- and its metabolisms to the metabolites that are believed to be those that are produced that are capable of producing AML. So in this folder, for example, I have a number of studies which, if you want me to identify them, I will.

Q Well, let me just see what we are looking at here.

A This includes more than this stuff, but there are studies in here by Gad-El-Karim, Tunek, Tice, a number of authors to make the point that this actually has to do with sort of a chemical mixture point. I think it would be better if I went through the file and pointed out which ones they were.

Q Let me ask -- just ask you, have you studied all the literature on this topic?

A Yes, I think so.

Q Isn't it true that the competitive inhibition of benzene toxicity from other organic solvents is a phenomenon which does not occur at doses to which workers are exposed, it only occurs at much higher levels?

A I think there is a workers exposed study there and I could find it for you.

Q Do you know the answer to my question? Do you want to look at that study to answer it?

A This is the study by Forni, that is chromosomal studies of workers exposed to benzene or toluene or both.

Q Does that study address toluene inhibiting of benzene toxicity?

A What it says is that -- it says 10 of the workers were exposed to benzene before 1953 and then to toluene and 24 have been exposed to toluene after 1953. There were portions of unstable and stable chromosomal aberrations that were statistically higher in the benzene group compared with the controls in -- the benzene group in comparison with the toluene group.

Q Okay. Isn't it true that you would expect that because benzene causes hematotoxicity and leukemia,

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whereas toluene doesn't; true?

A But -- well, I think this is comparing people that were exposed to both benzene and then to toluene.

Q I understand, but does this study, in your opinion, in any way, provide scientific support for the notion that toluene inhibits benzene toxicity?

A I believe it does.

Q There is nothing in that article that says that at all, does it, they don't even speak with inhibition to benzene toxicity by toluene. Does Dr. Forni?

A Well, I have to read it back through again to be sure, but I thought that it did, and there are other articles in here that certainly talk about other types of studies where these benzene and xylene and toluene do inhibit the genotoxicity and metabolism.

Q That's well-established; is it not?

A Yes.

Q But does -- do you have any studies which show that that is a phenomenon which occurs at doses relevant to occupational exposures as opposed to high doses given to experimental animals?

A Well, I don't have any other studies here.

Q So what other subopinions do you have?

MS. KAHN: I think the witness was going to say something and you cut him off.

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MR. METZGER: I thought you finished.

THE WITNESS: That's okay.

MS. KAHN: Are you sure?

THE WITNESS: Yes.

BY MR. METZGER:

Q What other subopinions do you have?

A Well, this goes, again, to the issue of solvents and solvent exposures or so-called solvent exposures, and that has to do with, for example -- and this is an example of the types of things that happened and solvent studies.

I could go through all of these and show you these kinds of problems with the study but, for example, Hardell, 1981, everybody quotes about solvent exposures and relationship to Non-Hodgkins lymphoma, and what they actually say is that organic solvents analysis of high grade and low grade exposure towards organic solvents produce a relative risk of 2.8 and 1.2 respectively,

table 5.
Of the subjects with high grade exposure, seven cases and three controls were exposed to trichloroethylene, one case and five controls to styrene, one case to perchloroethylene, and one to benzene.
Again, I think this is one of the papers that
00164
your plaintiff's experts quoted as supporting their opinion regarding that. And I think that that type of error is pervasive through their whole analysis.
Q What type of error are you referring to?
A The fact that they are not taking into account that the solvents that they are talking about and the studies that they are referring to are necessarily in any way possibly related to even the alleged exposures that Mr. Remboldt had.
Q Isn't it true that in many of the studies, multiple regression analysis and other analyses are used to separately evaluate different solvents?
A But they haven't done that, they have not gone through systematically and shown that the types of solvents that are alleged to be -- that his exposures are alleged to be are the ones that they are actually talking about in their evaluation.
Q You say they haven't done that. Do you mean they weren't asked to do that at the deposition?
A No, I am saying that their analysis, when they form an opinion, that these are the studies that support my belief or my opinion that solvent exposures involved in this case could have resulted in the Non-Hodgkins lymphoma that we are talking about.
I think that if you look at those studies, a
00165
lot of them have absolutely no bearing, no possible bearing, and I don't think that they have done the job of trying to sort out which of those studies could they use or which of them they couldn't use.
I mean, there is a whole literature that I have here on chlorinated solvents and Non-Hodgkins lymphoma and, you know, and trichloroethylene, especially the people have been looking at and in a lot of these studies, it makes no distinction in terms of which types of solvents that they are actually looking at, so that's one of my criticisms.
Q Before we get to criticisms of the plaintiff's experts, I want to be sure that I have all of your subopinions for your opinions. Okay. For example, you just raised the issue of competitive inhibition of benzene toxicity from other organic solvents. Are there any other subopinions that you have that you have not yet told me about, apart from criticisms of the plaintiff's experts?
A Well, another -- I don't know if this is a -- I

am trying to explain why I would use certain studies and why I would not use other studies in terms of my analysis. Even though on the face of it some people would say, well, these are studies about solvents or even about petroleum solvents, one of these has to do

00166

with the rubber workers studies, and I have an article here by Arp, A-R-P, and --

Q Let me just cut to the chase. Is your concern confounding here or something else?

A My concern is the fact that the studies, the rubber workers, were based upon solvents including benzene. They were cold tar derived rather than petroleum-based, and what this article is talking about, although it is not talking about -- specifically about Non-Hodgkins lymphoma, it is pointing out the fact that a lot of these studies, when you look at the risk estimates in this case, they are primarily looking at CLL.

But in any event, they found a big difference between whether or not one was looking at petroleum-based solvents or cold tar-based solvents, and I am just trying to point out that that is the reason that I didn't think that the rubber worker studies were relevant to this particular situation.

Q All right. What other subopinions do you have?

A I want to make the point that there is a whole group of studies in my file that the minority of which show any kind of an association between certain -- a particular kind of solvent exposure and Non-Hodgkins lymphoma, but the vast majority of the studies in this

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file don't show that association.

Q Are all the studies you are referring to listed on your literature list?

A Yes.

Q What other subopinions do you have?

A There are a number of cohort studies of benzene that include Non-Hodgkins lymphoma, and one of my opinions about the only positive study, which is the Hayes study, has to do with their own comment that was published in year 2000 which states that -- it says, this strongly suggests that the observed increased risk for these -- talking about ANLL and MDS -- this strongly suggests that the observed increase in risk for these conditions are due to the common exposure to benzene.

We noted, however, that an excess of NHL was found in our study could especially be attributed to exposures, as the excesses were (inaudible) in the subset of benzene exposed chemical workers; in other words, the study that has been talked about a lot as being positive for Non-Hodgkins lymphoma.

Their own authors are saying that if you look at the different industries that were analyzed, there is

a big difference between them, and benzene is common to all of them and -- whereas, acute myelogenous leukemia is consistent across those various occupations,

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Non-Hodgkins lymphoma is not, which makes them think that it is a possibility that there is some other chemical involved or other exposure.

Q Namely solvents, that's what they are suggesting; right?

A They don't say solvents.

Q All right.

A And then, again, you have all the studies. The Rinsky study, of course, doesn't show any relationship to Non-Hodgkins lymphoma with benzene exposure.

Q Let me ask you about that. Were there any Non-Hodgkins lymphoma in the Pliofilm cohort?

A There were five and there were 5.19 expected.

Q Isn't it true that the five that you mentioned did not found out of the Non-Hodgkins lymphoma in the Pliofilm cohort?

A What do you mean?

Q That there were other cases that were not included in that number; isn't that true?

MS. KAHN: Objection, lacking foundation.

THE WITNESS: If you can show me some document.

BY MR. METZGER:

Q Would you consider a publication in the Federal Register to be indicating that there was at least one

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more case that was not included there to be such a document?

MS. KAHN: Objection, lacks foundation.

THE WITNESS: If you could show me the document, I could comment on it.

MR. METZGER: I will show it to you at trial. Go ahead.

Q What else?

A Well, you want me to list the individual studies of the cohort studies or --

Q I gather you are giving me criticism. Let's go ahead, since we are on this track.

A Okay. One is by Bloemen, B-l-o-e-m-e-n. These are just the cohort studies, and they did not find an increase in Non-Hodgkins lymphoma, SMR 1.06 for benzene exposed chemical workers.

Collins, and that's from 2003, and they did not find an increased risk compared to their no exposure group. We talked about Costantini.

Decoufoe --

MS. KAHN: Can you spell that for the court reporter, please.

THE WITNESS: D-e-c-o-u-f-o-e. It is a small study, but they didn't report any Non-Hodgkins

lymphomas. We talked about the Hayes study. And the
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Hayes study that commented on the first Hayes study. The Rinsky study was, of course, started by Dr. Infante and this is the first update.

Lynge, Risk of Cancer and Exposure to Gasoline Vapors, is male service station workers. The Non-Hodgkins lymphoma was not increased, there was 1.1. There is the Rinsky 87 which shows the dose response relationship. This is the 2002 Rinsky study.

Sorahan is from 2004, and for them, the Non-Hodgkins lymphoma was an SMR of .93, they call it 94. S-o-r-a-h-a-n. Wong, this is from 1986, and they found an SMR for lymphosarcoma and articular sarcoma of .9. Lymphosarcoma. And then Wong from 1995 -- I am sorry, this is a re-analysis of the dose response issue.

Q Have you now gone through all the cohort studies in your file here?

A For benzene.

Q Are those all of the cohort studies that you have reviewed regarding benzene and Non-Hodgkins lymphoma?

A Yes.

Q Isn't it true that if you look at the studies of the United States refinery workers with the different oil companies, that most of those studies do show
00171
increased risk for Non-Hodgkins lymphoma?

A Well, I can go through them. I don't think they do.

Q If you have a file specifically for refinery studies?

A Yes.

Q Does that include the unpublished refinery studies which the industry suppressed because they had positive results?

MS. KAHN: Objection, argumentative, lacking in foundation, vague and ambiguous.

THE WITNESS: If you could show me those studies, I would be able to comment.

BY MR. METZGER:

Q Let me just ask you, within this folder, do you have any unpublished studies or are they all publications that you reviewed here, that you have read here?

A Well, there is a study by Delzell in 1992 which is unpublished. There is the Australian Health Watch, 2005. Pastergol (ph.), a refinery mortality study. Tsai 1991.

MS. KAHN: That's a study by Shell Oil refinery workers.

THE WITNESS: Yes. Second copy of the same
00172

study. A study that was done -- I think this was the Ottawa study that became a publication on the Richmond and El Segundo refineries. A study by Chevron Corporation, Dagg, D-a-g-g, Richmond and El Segundo refineries. And another Dagg study -- I am sorry, that's a published study.

So in answer to your question about whether or not there are increases, I mean, certainly Otto Wong came up with a .99 for their overall analysis of Non-Hodgkins lymphoma and --

BY MR. METZGER:

Q You are referring to his meta-analysis?

A That's right, .99.

Q By the way, have you read the criticisms of that study?

A I don't recall.

Q I am not going to ask you to go through these studies because they all have the tables which give the data.

A Yes.

Q You don't need to read that to me. I can read that. I have read it. So what other subopinions do you have?

MS. KAHN: It is certainly your prerogative to not have him go into these individual studies. I will

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tell you the studies for the basis for his opinions.

MR. METZGER: Absolutely, he can talk about them at trial. I have no doubt about that.

THE WITNESS: Okay. We are -- we already talked about my opinions about the Rigo review. There are a lot of studies in here when you actually look at the individual studies, and I don't think that Dr. Harrison actually went and looked at the individual studies this review was based upon.

BY MR. METZGER:

Q Do you think he lied when he said he did?

A Did he say he looked at the individual studies?

Q He said he read them all.

A Read them all. Then he should have known a lot of them don't even support their own conclusions, I mean --

Q Well, the studies speak for themselves. I am asking you for your subopinions.

MS. KAHN: I think that's what he is trying to give you. One of the subopinions, as I understand it, is many of the studies on which plaintiff's experts rely don't support their opinions. That's his opinion.

MR. METZGER: Okay. I could consider that criticisms of plaintiff's experts. First, I want to

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find his opinions and then I will get to the criticisms. That was my game plan here.

Q For example, your opinion that you told me about competitive inhibition is something which came up and we discussed that which was not a criticism of plaintiff's experts because they didn't talk about that. Are there any other subopinions that you have other than criticisms of plaintiff's experts?
A Well, I think it is -- well, my general opinion is that I think it is generally accepted that any chemical exposure has not been related to Non-Hodgkins lymphoma. And that's true if you look at web sites, for example, from Johns Hopkins Medical School, which I have.
Q Do you consider --
A Mayo Clinic.
Q Do you consider these one-page things on the Internet from these different schools to be authoritative?
A Well, the only reason I did it was because Wabeke included this one in his exhibits and so -- and, actually, this one says that reasons are not known except for radiation could possibly, in conjunction with chemotherapy, so I figured if he was going to put that in the record, that I might, as well.

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Q Any other subopinions that you have?
A Some. We talk about butoxyethanol, since Dr. Infante was mistaken about the bone marrow toxicity issue.
Q Well, I understood that that's a criticism you have of him, but I don't need to talk about that. Let's go on.
MS. KAHN: I think it may be a matter of opinion whether or not it is a criticism or not. Is the glass half full or the glass half empty. If it is Dr. Whysner's opinions that butoxyethanol does not cause a particular adverse health effect, some might say that's an affirmative opinion. Others might say that's a criticism of another witness's testimony, so --
MR. METZGER: In any event, I don't need to hear anything about butoxyethanol.
MS. KAHN: Fair enough. Butadiene, do you want to hear anything about that?
MR. METZGER: I want to hear his subopinions, that's what I am asking for.
Q Have you told me now all your subopinions?
A I think so. Well, we mentioned the fact that a lot of these solvents, the xylene, toluene, have been evaluated by governmental agencies and not classified as carcinogens. Benzene has been based upon its finding of

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acute myelogenous in leukemia, but it has not been found to be a carcinogen, and gasoline is not considered to be a carcinogen by IARC.
It has not been listed. None of these other

solvents have been listed by the National -- NPT as being carcinogens. And so I don't think that they can be considered human carcinogens.

Q Any other subopinions?

MS. KAHN: Is one of your subopinions that crude oil is not a human carcinogen?

THE WITNESS: Yes, that's part of the petroleum products, IARC.

MS. KAHN: Is it your opinion that the exposure to crude oil does not cause Non-Hodgkins lymphoma?

THE WITNESS: Yes.

MR. METZGER: Okay.

Q Any other subopinions?

A Besides the criticisms of --

Q We'll get to those. Any other subopinions for your opinions?

A No, I think that's it.

MS. KAHN: You may have covered this while I was out of the room, but since I don't know that's the case, is it your opinion that none of Mr. Remboldt's alleged exposures caused or contributed to his

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Non-Hodgkins lymphoma?

THE WITNESS: Yes.

MR. METZGER: That's covered. That's your specific causation opinion?

THE WITNESS: I don't know if I actually gave the opinion. I said that I was asked to give that opinion.

BY MR. METZGER:

Q All right. Any other opinions or subopinions that you have?

MS. KAHN: Is it your opinion that any of Mr. --

MR. METZGER: I am asking him, not you.

MS. KAHN: -- Remboldt's potential exposures in this case increased the risk of his developing Non-Hodgkins lymphoma?

THE WITNESS: I don't believe that they did.

BY MR. METZGER:

Q Any other subopinions that you have? You are looking to Ms. Kahn. Let's ask her for her subopinions. I would ask her --

MS. KAHN: Take a moment to contemplate what's been said and make sure nothing is being left out. The hour is late for the witness. It is even later being on East Coast time.

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THE WITNESS: I think that's it. We covered it.

BY MR. METZGER:

Q Okay. Have you at least generally told me the factual basis for all your opinions and subopinions?

A Yes, that's included in these files.

MS. KAHN: Regardless of whether you discussed --
THE WITNESS: Regardless of whether or not I have actually gone through each paper and pointed out where I am basing my opinions on.
BY MR. METZGER:
Q Isn't it true that the lymphocytes is the most sensitive cell to benzene toxicity?
A I don't know the answer to that.
MR. METZGER: Then we are done.
MS. KAHN: Do you want to ask him his criticisms of plaintiff's expert's methodology or opinions?
MR. METZGER: Oh, God, how long would that take?
THE WITNESS: Well, I think we covered a lot of it.
MR. METZGER: Well, how long would the rest of it take?

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MS. KAHN: It is hard to predict. I don't know.
MR. METZGER: I am not asking you, I am asking him.
Give me some estimate.
THE WITNESS: Ten minutes, five minutes.
MS. KAHN: I don't want you to rush it. It takes however long it takes.
MR. METZGER: Let's stop talking. Let him do it.
THE WITNESS: I think we covered the main one, which is the solvent literature business. The other one of them is that I was kind of amazed that Dr. Harrison didn't go into all of Mr. Remboldt's history, certainly about his obesity issue, and consider that to be a factor in his Non-Hodgkins lymphoma.
But also to his employment at this ski shop, because as far as I know, the only thing in his medical record that indicates exposure to a chemical causing him any medical complaints is from some solvent or some chemical that was being used at the ski shop.
Not that I think that, as I mentioned, that solvents are related to Non-Hodgkins lymphoma, but I find it very curious that Dr. Harrison either didn't see that, didn't elicit that from his examination of him,

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because Mr. Remboldt complained at Kaiser Permanente about the fact that chemicals were hurting his warts on his hands and he worked at the ski shop for about 10 years.
So, I mean, it is just another -- to me, it is another indication that either Dr. Harrison didn't do a very complete job or he was being very selective about what he was presenting and talking about.

BY MR. METZGER:
Q Let me inquire, then. Do you know what chemical or chemicals Mr. Remboldt was exposed to at the ski shop?
A Well, I know, for example, there have been -- toluene is a possibility. And it's been reported in the literature.
Q That what?
A That these wax removers contained toluene.
Q My question was: Do you know what chemicals Mr. Remboldt was exposed to at the ski shop?
A Nobody asked him.
Q Do you know what chemicals he was exposed to at the ski shop?
A No, not specifically.
Q Do you know that you had the right, if you so wished, to have a medical examination of Mr. Remboldt

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and to ask him questions about his history yourself? Did you know that you could do that?
MS. KAHN: As a toxicologist, I guess I understand your question.
THE WITNESS: Well, I hadn't considered it. That might be a good idea.
BY MR. METZGER:
Q You never asked Ms. Kahn or Mr. Riff if you could examine Mr. Remboldt or if you could take a history of him; true?
MS. KAHN: Would you have granted permission for that to occur, Mr. Metzger?
MR. METZGER: Don't interrupt my questioning.
Q Did you ask Mr. Riff or Ms. Kahn if you could conduct a physical examination of Mr. Remboldt?
A Well, I don't know. I mean, the physical examination was done by Kaiser Permanente back in the '80s.
Q Did you ask them if you could do a physical examination of him?
A I don't see what a physical examination would show.
Q So you didn't ask them if you could; correct?
A No.
Q That's correct?

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A That's correct.
Q Did you ask them if you could take an occupational or other history of Mr. Remboldt?
A No.
Q As you sit here today, do you have an opinion that the -- whatever chemicals Mr. Remboldt was exposed to at the ski shop caused his Non-Hodgkins lymphoma?
A Well, as I mentioned, I don't think that there are -- any chemical has been associated with Non-Hodgkins lymphoma. The only reason I am bringing

this up is that I didn't think Dr. Harrison did do a very complete job in terms of -- because he actually had the ski shop occupation mentioned on his form, and I presume that he reviewed the medical records.

Q To a reasonable degree of medical probability, have you ruled out Mr. Remboldt's exposures at the ski shop as a cause of his Non-Hodgkins lymphoma?

A Yes.

Q Do you have any other criticisms of plaintiff's experts?

A Other than the ones we have discussed, no.

MR. METZGER: All right, then we are done. I will propose that the court reporter may forward the original transcript to Ms. Kahn, that Ms. Kahn will then forward it to Dr. Whysner.

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Dr. Whysner, you may have 60 days from Ms. Kahn's receipt of it to read it and to sign it and make any corrections that you wish. I would ask that you make the corrections on the pages where the testimony occurs and on a correction sheet at the end so everyone will know where they are. Is that all right with you?

THE WITNESS: Yes.

MR. METZGER: You may also sign the transcript under penalty of perjury under the laws of the United States and of the laws of California. I will ask you to put that on there, so that you don't have to round up a notary to have your signature notarized. All right?

THE WITNESS: All right.

MR. METZGER: When you have done that, I will ask you then to forward the transcript to Ms. Kahn and she can notify counsel of the changes and the -- within a reasonable period.

And then if Ms. Kahn will forward the original transcript to me, I will preserve it, make it available for trial appearing on reasonable request. If for any reason the transcript, the original transcript, is lost or is not signed, a certified copy may be used with all full force and effect.

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So stipulated.

MS. KAHN: I assume when you say he should sign under the laws of the United States and California, that you mean under -- you are referring to the laws about perjury?

MR. METZGER: Yes, of course.

MS. KAHN: So stipulated.

I, JOHN WHYSNER, M.D., do hereby declare under penalty of perjury that I have read the foregoing transcript; that I have made such corrections as noted herein, in ink, initialed by me, or attached hereto; that my testimony as contained herein, as corrected, is true and correct.

EXECUTED this _____ day of _____,

2006, at _____, _____.
(City) (State)

_____
JOHN WHYSNER, M.D.

I, the undersigned, a Certified Shorthand Reporter, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that any witnesses in the foregoing proceedings, prior to testifying, were placed under oath; that a verbatim record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; further, that the foregoing is an accurate transcription thereof.

I further certify that I am neither

financially interested in the action nor a relative or employee of any attorney of any of the parties.

IN WITNESS WHEREOF, I have this date subscribed by name.

Dated: _____

_____
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