UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF KENTUCKY
AT FRANKFORT
3:07-CV-67-KKC

DONALD QUILLEN,

Plaintiff,

-vs-

SAFETY-KLEEN SYSTEMS, INC.,

Defendant.

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The videotaped deposition of DAVID HAY GARABRANT, M.D., taken pursuant to Notice, taken at 623 W. Huron, Ann Arbor, Michigan, on Thursday, January 21, 2010, commencing at 9:57 a.m., before Barbara J. Turner, RPR, CSR-2343, Notary Public in and for the County of Oakland, acting in the County of Oakland.

APPEARANCES:

SALES, TILLMAN, WALLBAU, CATLETT & SATTERLEY
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Appearing on behalf of Plaintiff.

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BY: Mr. Christopher W. Carr
Appearing on behalf of Defendant.

ALSO PRESENT: Mr. Steve Alfonsi, Videographer

I N D E X

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(Exhibits furnished to both attorneys.)

Ann Arbor, Michigan

Thursday, January 21, 2010

9:57 a.m.

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VIDEOGRAPHER: On the record. This is the videotaped deposition of Dr. David Garabrant taken in Ann Arbor, Michigan. Today is January 21st, 2010. The time is 9:57 and 53 seconds a.m.

Will the attorneys please introduce themselves and the court reporter please swear in the witness?

COURT REPORTER: Doctor, if you raise your right hand, I'll swear you in. Do you swear or affirm to tell the truth, the whole truth and nothing but the truth, so help you God?

THE WITNESS: I do.

DAVID HEY GARABRANT, M.D.,

Called as a witness by the Plaintiff, was examined and testified as follows:

EXAMINATION

BY MR. SALES:

Q. Would you state your name and professional address for the record, please?

A. David Hay Garabrant, 1420 Washington Heights, Ann Arbor, Michigan 48109.

Q. Doctor, before we get started, I just want to do a little discussion about the ground rules for the deposition if you don't mind. I know that you have been deposed a number of times so you understand what a discovery deposition is all about, correct?
A. I think so.
Q. Okay. Well, if you don't, if there is something you don't understand, you let me know, okay? But this is what I'll -- what I want to tell you. I'm here to discover information and that's purely my role here. My role is not to play games, embarrass you. I'm, I'm just gathering information. You have opinions. I've already prepared and I know something of your background and all that, but I'm really just here to try to understand what your opinions are and the basis for them.

If at any time I ask a question that you're not sure of, would you stop me and tell me you're not sure of it? Don't understand?
A. Yes.
Q. Okay. If I use a word or a phrase that you are not sure of or that you have a question about, would you let me know?

A. Yes.
Q. The whole opinion of this is that I want your answers to be based upon your full understanding of the questions I ask and that your answers are responsive to a question that you fully understand. Is that fair enough?
A. Yes.
Q. Okay. Anytime you need a break please take one. Okay?
A. Yes.
Q. And if you need to, you've got counsel here who has retained you, and if you need to take a break to talk to him, you can do so. I don't care. I really don't.

If I have a question hanging out and it bothers me, I will let you and him know about it, and we'll discuss it at that point. But as far as I am concerned you're a professional and you're a witness and you know this pretty well. If you need to take a break, just take it. You don't need to do a euphemism, so to speak, to take a break. Okay?

A. Okay.
Q. Did you bring anything with you here today?
A. Yes.

Q. What did you bring?
A. I got a box of stuff.
Q. Good.
A. How do you want me to go through it?
Q. Well, let me start with, you have objections to -- counsel I think had objections to our third notice and I'm looking at it now or do you not?

MR. CARR: I got the third notice yesterday. My understanding is if there are objections, they will be small, if any.

I know that Jeff Wood from our office has reached agreements with Rob Shelton from your office.

MR. SALES: Right.

MR. CARR: I spoke with Rob either yesterday or the day before about what he wanted us to bring, and I think we complied with that. The only thing is Dr. Garabrant printed out either his testimonial history or his deposition history, something you had asked for. We identified that he did not have that with him this morning.

MR. SALES: Okay.

MR. CARR: Because it's probably sitting on a printer.

MR. SALES: Okay.

MR. CARR: So that was produced originally with his report in this case. If you want us to, we can check whatever he has now, which may have been updated three or four, five months after his report and see if there are any differences, but we don't have that and that is just something that got stuck on the printer.

MR. SALES: That's all right. So it was attached to his report though, as I recall?

MR. CARR: Yeah, it was.

MR. SALES: Well, let me, let me do this. What I'm going to do, and we will provide you this at, you know, in the next day or so, or he can e-mail you, we are going to provide as Exhibit Number 1 the most recent list of your testimonial history, of the Doctor's testimonial history. Okay?

COURT REPORTER: Yes.

MR. CARR: Agreed.

MR. SALES: So anyway you want to get it to the court reporter, Doctor, is fine with me.

Let me see here. Were there any other issues on the notice that you recall? 'Cause I frankly got the third amended notice myself. Let's see. I saw it like last night.

MR. CARR: Yeah. And I saw it yesterday. I'm really relying on my conversation with Rob and Jeff telling me that Rob and Jeff have had conversations and that there are no disputes but sitting right here right now that's -- that is really between Jeff and Rob. I know we did not withhold anything that you asked for based on my quick review of it.

MR. SALES: Yeah.

MR. CARR: Per any objection.

So the only things that stuck out to me, I think you guys asked for copies of any study he ever participated in. And he -- he gave you all the CV that's got all of his studies on it.

MR. SALES: Okay.

MR. CARR: Many of them are not relevant to this case. And I did ask Rob, I said I've got this index with eight hundred different points that could arguably be relevant in a benzene case, and Rob said I don't want eight hundreds studies. I what you to bring the ones that he's relying on in this case and that's what we did.

BY MR. SALES:

Q. Okay. Fair enough. Well, let's first talk about the box. What you got.

A. First set is the Notice of Deposition and there's three versions of it. Okay. So we got that. And I brought my curriculum vitae.
Q. Okay.
A. My report dated January 20, 2009. Actually two copies of that.
Q. Okay.
A. An affidavit I wrote dated April 3rd, 2009. Two copies of that. A Declaration I wrote dated February 16, 2009. Then I brought my invoices for work done on this case. And I have correspondence from Jones Carr McGoldrick. Then the rest of it is all the documents from the case. So I have Daniel Wolen's deposition.
Q. That's the one from the Workers' Comp case?
A. I believe so. May 11, 2009 in the Workers' Compensation, right.
Q. Okay.
A. I have Dr. Ellenbecker and Dr. Tsei, T S E I, report dated December 18, 2009; Dr. Ellenbecker's report dated November 25, 2008; affidavit of John Spencer dated February 9, 2009; affidavit of John Spencer dated April 2, 2009; Dr. Spencer's curriculum vitae; a report from Dr. Spencer dated January 26, 2009; report of Dr. Clapp dated

November 26, 2008; report of Dr. George Rogers dated November 25, 2008; affidavit of Dr. Ellenbecker dated March 13, 2009; affidavit of George Rogers dated March 13, 2009; affidavit of Richard Clapp dated March 12, 2009; Plaintiff's Response To Defendant Safety-Kleen System's Motion for Summary Judgment; deposition Billy Ray Ross, Jr. dated September 11, 2008; and then part two dated September 12, 2008; deposition of Donald Quillan, volume two, and I have volume one I believe electronically, I don't have it printed out; I have the affidavit of David Pyatt dated -- I don't see the date on that actually, I don't know what the date is; it was filed on February 11, 2009; ah, here's the date February 6th, 2009; affidavit of David Pyatt dated March 31, 2009; Dr. Pyatt's curriculum vitae; Dr. Pyatt's report dated January 23, 2009; a number of CDs; one of them titled Sergeant and Greenleaf Inspection and the date on the disc is 6-6-08; the disc titled Quillan materials dated 12-19-08; the disc titled Quillan records 1-6-09; a disc titled Quillan expert designation with no date on it.

Q. Do you know what's on those discs? I mean I assume you know what's on those discs?

A. Not from memory anymore. I think I got them about a year ago, so I don't recall from memory.
Q. How did you -- you were sent those discs by counsel?
A. Yes.
Q. Okay. Do those discs -- to your memory do they contain the materials that you have already talked to us about or --
A. I believe that these contain materials that are listed in my report from January of 2009 or at least the discs that I had that are dated prior to January of '09 I believe I listed the materials in my reports. So it would be these two. This one was received -- this is 1-6-09. That one is on my report. This one came in March of '09 so that's not in my original report. And this one isn't dated. I would have to boot it up and see what's on it.
Q. Why don't we do this; can you just make a copy of it or have a copy made and provide them to us?
MR. CARR: Sure.
MR. SALES: We don't ever need to make them exhibits to your deposition. If you will just --
MR. CARR: No problem.

MR. SALES: Just do a transmittal letter of some type identifying what they are, that they are copies of what I requested, and I will just make those a -- this is just a formal request for production of those.

MR. CARR: Sure.

MR. SALES: Of copies at our cost.

MR. CARR: You got it.

THE WITNESS: All right. I have the transcript of the hearing held at the Department of Workers' Compensation dated October 21, 2009; the deposition of Dr. Monty Metcalfe, January 14, 2009; the deposition of Dr. Richard Clapp dated January 12, 2010; the deposition of Dr. George Rogers dated January 13, 2010.

Then I have published scientific materials, a set that I've labeled MDS. These are the studies relevant to the issue of the causes of myelodysplastic syndrome. Another set that I labeled benzene AML. These are the studies relevant to benzene and the causation of AML in which there are measurements of benzene exposure. I've brought a copy of the benzene IRIS, I-R-I-S document, the toxicological profile for benzene from the ATSDR and a copy of the Institute of

Occupational Medicine report from 2005 titled A Review of the Data Quality and Comparability of Case Control Studies of Low Level Exposure to Benzene in the Petroleum Industry; and then I have an additional set of studies that I printed out which were exhibits attached to Dr. Rogers' deposition that were not in my own list of materials that also interested me.

BY MR. SALES:

Q. Okay. Are these yours are or these copies?

A. These are mine.

Q. These are yours. Okay. I've looked at your list of materials. Are these on that list or are these in addition to what you've listed?

A. Which list are you --

Q. Well attached to your report.

A. Okay. The list attached to my report contains the set of documents that I've labeled MDS.

Q. Okay.

A. This is the bibliography to my report.

Q. Okay.

A. The others are in addition to that.

Q. Okay. Do you have these in an electronic format?

A. Yes.

Q. Can you copy those to a disc and provide me a copy

of that?
A. I can, yes.
Q. Okay.
A. I just, I just located and printed from all of those electronic copies last night and so that's probably --
Q. That's why I asked, are these for you to keep or are these something I can take?
A. You can take them.
Q. Oh, okay. I can take the hard copy?
A. Yeah. Here's the issue. For me to actually find the files and print them, this was probably an hour-and-a-half's work.
Q. Okay.
A. Just to put them together. For me to find the files, put them on a disc, it's probably another -- to go back it's probably another hour.
Q. No. No. I'm more than glad to take this with me.
A. Okay.
Q. Maybe I misunderstood.
A. No. You can take them.
Q. I thought this was yours to keep.
A. Well, can I get them back?
Q. Yeah. Sure. How do you want to work it?
MR. CARR: That or I think it would be

easier to just send them on to a copy service and have it done.

MR. SALES: Yeah. Frankly I would prefer -- I'm sorry. Can you'll just put them on a disc, scan them?

COURT REPORTER: Yes.

MR. SALES: Why don't you do that. I hate paper.

COURT REPORTER: Okay. No problem.

MR. CARR: So Ken, do you want to make them an exhibit or do you just want an agreement at the end; we're going to deliver this stuff to her and she is going to discify it and give it to you and give the studies back to him?

MR. SALES: Why don't we do that.

MR. CARR: That's fine.

MR. SALES: I mean for the purposes of the record, you're going to agree that what she puts on a disc, you're going to agree is what he just told me?

MR. CARR: I think so.

MR. SALES: I do too.

MR. CARR: Can you be trusted?

MR. SALES: I think we can agree that's going to happen. Okay.

THE WITNESS: All right.

MR. SALES: Okay. Super. And so we'll have all these just scanned, put on a disc, and we won't make them an exhibit to the deposition, but we have an agreement that they are there and that's what the Doctor has testified to. Okay?

MR. CARR: You are talking about the little group, not the big group, just the studies?

MR. SALES: Okay. You mean this?

MR. CARR: Yeah.

MR. SALES: Okay. I'm just talking about just the studies.

MR. CARR: Me too.

MR. SALES: I don't want what I definitely already got.

MR. CARR: Me, too.

MR. SALES: Okay. I really don't want what I definitely already got. Now, I am going to go through the big group. If you will turn back up properly.

THE WITNESS: Yeah. There is one, one more thing.

BY MR. SALES:

Q. Okay.

A. Okay. And then I received a Fed Ex yesterday that

I have not had time to look at, so I don't know what's on it. It just has a cover letter with it and a CD.

Q. Okay. You don't mind?

A. I have not looked at it.

Q. So this is Quillan versus SK, it's 1-19-10, Garabrant. Can I look at it?

MR. CARR: Sure.

MR. SALES: Okay. You haven't seen it?

MR. CARR: I have not.

MR. SALES: Well, I know.

THE WITNESS: We will discover it together.

MR. SALES: No. I was sure you would say yes but I want to give you the opportunity to do the right thing or not.

MR. CARR: Ken, while you look at that, may I run to the restroom?

MR. SALES: You absolutely can.

MR. CARR: Thanks.

MR. SALES: Want to go off the record?

MR. CARR: Yeah.

VIDEOGRAPHER: Off the record. The time is 10:19 and 27 seconds.

(Garabrant Exhibits 1, 2, 3, 4, 5, 6A

and 6B are marked.)

VIDEOGRAPHER: We're back on the record. The time is 10:27 and 43 seconds a.m.

BY MR. SALES:

Q. Doctor, we're attaching as Exhibit 1 to your deposition the case list, and which is going to be updated and you will provide to the court reporter. I reviewed the list that you attached to your report, and I believe the earliest date that I see on that list is testimony in November of 2004. Did you -- have you testified in litigation prior to that time?

A. Yes.

Q. How long ago did you first start testifying in litigation?

A. I think the first time was in the maybe 1983 or '84.

Q. And how many times would you say that you have provided testimony at trial in litigation?

A. I'm not sure I can give you an accurate estimate. Probably fifteen or twenty times over the past twenty years.

Q. So at trial only fifteen or twenty times in court in trial?

A. I think that's a, yeah, that's a reasonable

estimate.
Q. And by deposition?
A. Probably sixty, seventy, maybe eighty. I don't know.
Q. Okay.
A. Again, that's going back over twenty years.
Q. Where did you put all the exhibits -- oh, these are. All right.
Have you testified previously in a case involving exposure to benzene?
A. Yes.
Q. And which case was that or cases?
A. I'm not sure I can recall all the names. I know I've testified in, let's see, a case Anthony Agudo verse Chevron. That's one I recall.
Q. And you testified on behalf of Chevron?
A. Yes.
Q. And did the person claiming injury in that case, what disease did that person have?
A. I believe Mr. Agudo had myelodysplastic syndrome. I think that was about five years ago. I'm not sure my memory is accurate but I think that's right.
Q. Okay. And did you testify that Mr. Agudo's MDS was unrelated to exposure to products manufactured

by Chevron or other oil companies?
A. My recollection is Mr. Agudo claimed his myelodysplastic syndrome came from gasoline, from handling gasoline. He worked for Chevron at an engine test facility and he was responsible for hooking up the fuel lines to the engines; and I testified that his myelodysplastic was not caused by the work he did which involved hooking up fuel lines.
Q. Okay. What other cases have you testified -- do you recall where that case was?
A. I believe it was in San Jose -- the court was in San Jose, California.
Q. Is that on your updated list?
A. I couldn't tell you from memory. I think so.
Q. Okay. Because I didn't remember it right off the bat. Seeing it on the original list that you provided to us. No. I didn't see it.
So that would have been just in the last couple of years?
A. No. I think that was four, five years ago.
Q. Okay. So the list that you're, you're going to provide, how far back does that go?
A. Four years.
Q. Okay. Would that case be on the list?

A. If it was within the last four years it would be.
Q. Are you capable of determining what cases you testified in prior to four years ago?
A. I -- only to the extent that I can remember them. Like Agudo if it was more than four years ago.
Q. Okay. Have you prepared previous to four years ago any list of testimony that you have given?
A. Yes.
Q. And where would that list be?
A. If I have it, it would be in a box from those old cases if those haven't been discarded.
Q. Would you, would you search and see if you have lists that predate four years ago?
A. Yeah.
Q. And if so would you provide those to us through counsel?

MR. CARR: Well, I'm more than happy to agree that this is a formal request.

MR. SALES: Yes.

MR. CARR: But we need to consider it.

MR. SALES: Right. Okay. That's a formal request.

MR. CARR: Fair enough.

BY MR. SALES:
Q. So if, if you have -- because I presume that you

prepared these lists because you're in federal court and you're required to do so?

A. That's correct.

Q. All right. And since you testified, you know, since the eighties, I would think on several occasions you had to prepare a list for a federal court?

A. I have.

Q. Okay. And so what I would like for you to do is to determine if any list predating four years still exists; if you have any case files predating four years where you have produced such a list, please see if you can produce to us through counsel?

MR. CARR: Yes.

MR. SALES: Our request is for any list that might be outstanding, no matter how far back it goes.

MR. CARR: And Dr. Garabrant, what's he just done is made a formal request. Typically what happens is I get to see that first. We look at the law, we visit with you, so I don't think he's seeking your agreement right now, but if he is what I'm advising you is let me consider the request and we will visit about that.

MR. SALES: No. I always want an agreement, Doctor. I'm wasting my time at this point otherwise. Okay. I'm making a request and hopefully you can find that and let me know. And the purpose of this is I'm just trying to determine what cases where you may have testified regarding exposure to benzene, what cases you testified in.

For instance, the, the Agudo, unless I'm missing it, is not on the list that you provided me. So I appreciate that you did remember it but it's just not on that list.

BY MR. SALES:

Q. Let me kind of go backwards with the list I have. The last date I have is '08. So apparently the list that you're going to provide as Exhibit 1 is brought current to, to today's date?

A. I printed it out last night.

Q. I understand.

A. And forgot to take it off the printer.

Q. That's okay.

A. I believe it was current through September of '09.

Q. Okay. That's pretty close. Since 11-18-08, and this shows Kelley Bohr versus American Honda Motor, Inc., have you testified in any cases

involving benzene exposure?
A. Yes.
Q. And can you tell us what those are?
A. Well, I'm not sure of the dates. Is, is Henricksen verses Chevron on there? I don't know if that was before or after November of '08.
Q. Actually I don't see that.
A. Okay. Well, then I testified in Henricksen.
Q. Okay. What else?
A. I testified in Baker.
Q. Okay.
A. And --
Q. Would that be Baker versus Chevron?
A. Yes.
Q. Okay.
A. And I testified in Milward.
Q. What's that?
A. Milward.
Q. M I L W A R D?
A. Yes.
Q. Also Chevron?
A. No. I don't believe so.
Q. Who would, who would you have been testifying on behalf of in that case?
A. Boy, it's hard to recall. Mr. Milward was a

lithographic printer and I testified on behalf of some of the companies that supplied printing chemicals to the best of my recollection.

Q. Do you recall where that was?

A. Boston.

Q. Okay. I mean that will be on your list?

A. Yes.

Q. And did these printing chemicals contain benzene?

A. That was one of the issues in the case. Some of them I think did not and some may have contained very small amounts.

Q. Okay. And what disease did Mr. Milward have?

A. Acute promyelocytic leukemia.

Q. And was your testimony in that, in the Milward case that his exposure to these chemicals, printing chemicals did not contribute to the cause of his leukemia?

A. My testimony in that case was that the -- there was no evidence that benzene caused APL and that the plaintiff's experts had not provided reliable scientific testimony.

Q. Okay. In what way did you believe that they had not provided reliable scientific testimony in that case?

A. The way the epidemiologic studies were handled was

inappropriate and a number of calculations made by plaintiff's expert were wrong and created results that were based on faulty assumptions.

Q. Okay. Did you testify at trial or deposition?

A. I testified in a Daubert hearing.

Q. Okay. I see the -- actually did locate the Baker case. It looks like on your list it says August 13, 2008. Baker versus Chevron in looks like Cincinnati, Southern District of Ohio?

A. Yes.

Q. Okay. You testified in a deposition and a Daubert hearing in that case?

A. Yes.

Q. Do you know what the Daubert hearing concerned?

A. It concerned the testimony of plaintiff's expert, Dr. James Dahlgren.

Q. Do you know what the result of the Daubert hearing was?

A. I believe Dr. Dahlgren was excluded and the case was dismissed.

Q. Okay. What disease did Mr. Baker have or Ms. Baker?

A. There were four plaintiffs in Baker.

Q. Okay.

A. One of them had breast cancer, one of them had

Hodgkin's disease and two of them had monoclonal gammopathies of unknown significance or MGUS.

Q. Okay. No leukemias?

A. One of them --

Q. Or pre-leukemia?

A. -- developed AML.

Q. Okay.

A. I'm trying to remember which. I think was a consequence of chemotherapy for a prior cancer.

Q. Okay.

A. I'm not -- I can't say as I'm sure again from memory. I would have to look it up.

Q. Obviously if I look at your deposition or the Daubert hearing transcript, it will tell me all that, won't it?

A. Yes.

Q. Any other benzene cases?

A. Yes. There are others. I can't recall them by name.

Q. Okay.

A. But I believe there have been a couple of others.

Q. Since November of '08?

A. I'm not sure. I'd have to look.

Q. Let me kind of go through, let me ask you some general questions, and then I will kind of go

through the list I do have and we can see what we can figure out.

As I understand it, you testified on behalf of companies involved in asbestos litigation?

A. I have testified on behalf of companies that either make or distribute or purchase or buy brakes for cars and trucks.

Q. Like Pneumo Abex?

A. Pneumo Abex, Nissan.

Q. Honda?

A. Honda, Toyota, Mitsubishi, Cateran Pillar. So I have testified on behalf of defendants in cases that alleged that motor vehicle brakes cause mesothelioma.

Q. Okay. And you uniformly and completely testified on behalf of automobile manufacturers or brake suppliers, distributors or manufacturers in those cases?

A. That's correct.

Q. Okay. And you've always testified on those cases that a person who had mesothelioma, which is a form of cancer related to asbestos exposure, was not related to brake exposure?

A. I have testified to that because that's what the

scientific evidence says.
Q. Okay. You've testified in -- well, rather than me trying to give you specifics, what type of cases would you say you testified in in general? Can you group them?
A. I'm not sure, I'm not sure I understand your question.
Q. Well, for instance, you testified in cases involving asbestos exposure. Okay?
A. Brakes.
Q. Yeah. And brakes had asbestos in them?
A. Some brakes have had chrysotile asbestos in them.
Q. And you testified in cases involving benzene, products that contain benzene?
A. I have.
Q. What other kinds of cases have you testified in?
A. Those have been the two areas where I have testified. I have on occasion testified in cases involving vinyl chloride, for example.
Q. And these are -- are these cancer cases involving vinyl chloride?
A. Yes.
Q. And who have you testified for in vinyl chloride cases?
A. Companies that have either handled or manufactured

vinyl chloride or in one instance a company that owned a dump site where there was vinyl chloride in the plume of groundwater under that dump site at parts were billion levels.

Q. And what type of cancers were claimed as a result of exposure to vinyl chloride in those cases?

A. Angiosarcoma of the liver and in some cases hepatocellular carcinoma and I believe in one case a cholangiocarcinoma of the liver.

COURT REPORTER: What was the last one?

THE WITNESS: Cholangiocarcinoma.

BY MR. SALES:

Q. And are these cancers cancers that have been identified in the literature as being related to exposure to vinyl chloride?

A. Angiosarcoma of the liver is clearly related to exposure to vinyl chloride. Cholangiocarcinoma is not and hepatocellular carcinoma is not.

Q. And in those cases in each instance did you testify that the individual involved exposure to vinyl chloride by the company that you were testifying on behalf of was not a contributing cause of their cancer?

A. I'd actually have to look back at my testimony. The, the focus of my testimony actually had to do

with the development of scientific evidence over the past thirty years, and that the studies done by the chemical industry in fact matched the studies done by various government agencies and academic institutions in terms of when they were published. Right, right from the start the industry and the academic and government agencies were publishing contemporaneously, and the findings actually showed exactly the same thing.

So they -- the association between vinyl chloride and angiosarcoma was reported by industry, by university researchers and by government researchers. The relative risks were roughly the same and they were reported over the same period of time.

Q. So would you describe your work in those cases as being more or less on the state of the art?

A. No.

Q. But were you concluding in those cases that the individual involved had a cancer particularly with regard to angiosarcoma related to vinyl chloride exposure or not?

A. In the instance where it was an angiosarcoma of the liver and where the person had plausible substantial exposure to vinyl chloride, I believe

my opinion is it may well have been a cause. But that wasn't what I was testifying about. My -- I was asked to respond largely to the claim that plaintiffs had made that industry was hiding risks from vinyl chloride, and it was clear in the published literature that they were doing as much work to uncover those risks as everyone else was.

Q. Did you represent BF Goodrich or were you working on behalf of BF Goodrich in those cases?

A. I believe I have in some of those cases.

Q. I'm curious how far back you believe that BF Goodrich, for instance, the vinyl chloride cases was researching or developing material regarding the risk of angiosarcoma and exposure to vinyl chloride?

A. I don't recall specifically how far back BF Goodrich was. Just from my memory as I sit here my recollection was the first cluster of angiosarcoma that lead to the realization that this was a human carcinogen occurred in a BF Goodrich plant and was reported by a BF Goodrich physician. That's the Creech & Johnson paper as I recall.

Q. Do you recall when that would have been?

A. 1973 or 74.

Q. Do you remember what case that was or group of cases?
A. Not, not from memory.
Q. It would be on your list?
A. If it's been in the past four years, yes.
Q. Is the Genevieve Selby verses BF Goodrich Corporation, is that one of those cases?
A. I don't believe so. I believe Mr. Selby had glomerular nephritis which he claimed was due to solvent exposure.

MR. CARR: That's the common spelling.

BY MR. SALES:

Q. So then the Goodrich angiosarcoma case may well have predated this four year list?
A. Some of them may have. I believe some of them are on that list however.
Q. Fortunately the only one I'm seeing is the Selby case and you say that's a solvent case.

Do you recall where those cases were located or how many you were involved in?

A. I believe those cases were largely located in Ohio and I've been involved in perhaps five over the past eight years.
Q. Do you know where in Ohio?
A. I do not. The law firm that I worked with is

based in Columbus. I don't, I don't -- I'm not sure I know which court was handling this.

Q. What was the law firm?

A. The Borris Sader.

Q. Borris Sader. I know.

A. Borris Sader and somebody and somebody and somebody.

Q. That's right. I got an e-mail from them yesterday. So I know exactly who they are.

Okay. Another category that you kind of mentioned of cases that you testified in are solvent-induced disease cases, correct?

MR. CARR: Objection. Mischaracterization.

THE WITNESS: I think you asked me earlier about benzene and my response was regarding benzene and leukemias and other hematologic malignancies.

BY MR. SALES:

Q. I think you may have misunderstood me. What I have been doing is trying to go through the type of cases categorically that you testified in, and we talked about the angiosarcoma cases, we talked about asbestos disease cases that you have done for brake-related entities, and of course benzene

cases that you've done on behalf of manufacturers of products that may contain benzene products.

And so what I was saying is that there's another category of case I believe you testified in and those are cases involving exposures to solvents. Is that -- have you testified in those types of case?

A. We talked about Selby which was a glomeular nephritis and solvent case. So I guess the answer would be yes.

Q. Any other companies that have had claims against them based upon solvent exposure that you have testified on behalf of?

A. Setting aside the ones that deal with traces of benzene?

Q. Yeah.

A. I mean --

Q. Yeah. As I'm talking I understand the petroleum products are solvents.

A. Right.

Q. Okay.

A. Well, petroleum products typically include solvents.

Q. Yes.

A. Gasoline, diesel fuel, jet fuel.

Q. Right. So that, that could create confusion in the question I asked you.
A. Yeah.
Q. Okay. I gotcha. Let me, let me try to be a little more clear. How about those, those companies who deal in cleaning solvents, for instance, trichlorethylene, trichlorethylene, perchloroethylene, mineral spirits, things of that nature.

Have you worked on behalf of companies that maybe manufacture or use those products and have had claims made against them based upon their use of those products?
A. Okay. Well, let me clarify. Mineral spirits I would put in the category of a petroleum product.
Q. It's a crossover?
A. Well, it's a petroleum product.
Q. It is. No. You're right. I guess what really -- maybe I can be more detailed. Those solvents that may -- for which people may claim brain injuries, for instance, like organic brain injuries of some type.
A. Okay. I've testified -- I remember a case that involved dry cleaning solvents which are typically perchloroethylene.

Q. Right.
A. But may involve some other materials in addition. I testified in a case called Magistrini.
Q. And who did you testify for in that case?
A. On behalf of the defendants but I'm not sure at this point who that was.
Q. If I look at, at the list that you're providing -- that you have provided us and that you will provide us, in any of the cases that you have testified in did you testify on behalf of an individual claiming that they had been injured as a result of exposure to a product?
A. Not on that list but I have done that in the past.
Q. How long ago?
A. Well, I'm an occupational medicine specialist and so I've done workers' compensation care throughout my career, and I've testified on behalf of plaintiffs and workers in workers' compensation many times.
Q. Well, would that be in the setting of -- your day-to-day work is as an occupational physician?
A. My day-to-day work is as a professor at the University of Michigan. I'm a Professor of Occupational Medicine and Epidemiology and Emergency Medicine.

Q. Okay. And do you work day-to-day as an occupational physician as well in actual practice or do you not anymore?
A. Very little now. I used to.
Q. How long ago did you cease essentially the active practice of medicine as opposed to the academic practice of medicine?
A. I'm not sure I know the difference between the active practice of medicine and the academic practice of medicine.
Q. How about clinical? How about if I use terms of art like clinical practice?
A. Yeah. I still see patients.
Q. Okay.
A. If that's the question I still see patients.
Q. Well, how much of your practice is clinical as opposed to academic?
A. It's -- now again you know --
Q. Okay. Okay.
A. At a university seeing patients is part of one's academic duties.
Q. It sure is because you have to take people around and show them the patients and discuss them with them, and it's also part of your day. I realize that. I apologize.

A. Yeah. But patient care is a small part of my activities now. I would say five percent or less.
Q. Okay. And how long have you been in a situation where your -- where patient care is five percent or less?
A. I've been reducing it in the past few years so it's hard to say. I would say five years ago patient care was probably twenty percent of my time, maybe twenty-five percent, and it's been reducing slowly since then.
Q. Would you, would you say that those cases where you have testified, and you said workers' comp, where you testified in a workers' comp setting for an injured worker were cases where these people had been your patient?
A. Well, I'm not sure what you or how you want to differentiate. I saw them in clinic. I provided care but it was under workers' compensation.
Q. Right. But I mean they weren't, these weren't individuals who were sent to you for evaluation, for instance, as in this case?
A. I'm not sure I understand the question.
Q. Well, where you testified for, for an individual who claimed injury in a workers' comp setting, these were people who you had contact with in your

medical practice either through your clinic at the university or in whatever way as a doctor actually coming in contact with a patient?

A. I saw them in clinic, yes.

Q. Right. So they were, they were your patient, one way or the other? Maybe you weren't their primary physician but you were one of the physicians who saw them and attended to them and therefore was able to develop an opinion based upon your contact with them in, in your medical practice?

A. Well, I saw them in clinic and provided care and to the extent that I developed opinions it was based on materials I reviewed as well as the encounter I had in clinic.

Q. Right. So what, what would typically happen in that situation is an attorney such as myself might contact you and say I see that you're one of the physicians who saw my client. Do you have opinions regarding the causation of their condition? Would that be a typical situation?

A. That would be one of a number of situations.

Q. Right. But your initial contact with that person who you testified for in a workers' comp setting would not have been as a litigation situation; it would have been as a medical situation?

A. It could have been either.
Q. Do you recall ever having a -- testifying in a case for an individual where they had been sent to you for evaluation in litigation?
A. Yes.
Q. And when was that?
A. Well, that's happened throughout my career or since the mid eighties; twenty, twenty-five years.
Q. Are any of those cases on your case list that you provided do us?
A. I believe some of them are, yes.
Q. Can you -- would you know which one is?
A. Without having the list in front of me and not being able to see them I can't but if I, if I could see the list, or if you want to read me the names of the cases?
Q. Why don't I just run down.
A. Sure.
Q. I'm going to run down quickly and you stop me when one of the names on this list --
A. Okay.
Q. -- was a person claiming injury and you testified on their behalf. Yates v. Anchor Packing?
A. No.
Q. Essenmacher verses Orkin?

A. Angela Essenmacher was -- I think I saw her in clinic. She claimed that she had multiple chemical sensitivity from Orkin applying pyrethroid insecticide around her apartment.
Q. Okay. So that was --
A. I did not testify on her behalf. I testified on behalf of --
Q. Orkin?
A. -- the pesticide applicator, I believe.
Q. Petruzzi versus Allison Transmission?
A. No.
Q. Ward versus Albion Personnel Services, State of Michigan Worker's Comp Agency?
A. I believe I saw her. I don't recall her first name.
Q. Jerry Ward is.
A. I believe, I think that was a woman, and I believe I saw her in clinic, and I don't recall what the case was to be honest.
Q. Okay. MDL Docket, welding rods product liability litigation that was --
A. No.
Q. -- for welding rod manufacturers in asbestos cases I would think?
A. No.

Q. No. That would have been another lung disease cases?
A. Nope.
Q. Oh, okay. Well, I'm guessed out. You tell me.
A. Parkinson's disease.
Q. Okay. But you testified on behalf of the welding rod manufacturers?
A. I testified that the epidemiology does not support that welding rods cause Parkinson's disease.
Q. Presler versus Lincoln Electric?
A. That's a welding case. Parkinson disease.
Q. Okay. That wasn't for the plaintiff in that case or the claimant?
A. No.
Q. Karen Brown versus Christus Spohn Health System?
A. I did not see her in clinic.
Q. Okay. But you testified for the company in that case?
A. That's a complicated issue. I testified on behalf of the hospital.
Q. Right.
A. Ms. Brown had a barium enema and they perforated her colon and which resulted in the barium contrast material getting into her peritoneum, and she got a peritoneal reaction, and they had to do

surgery to clean the barium out of her peritoneum. It was a mess but she claimed that she had barium poisoning which she did not.

Q. Okay. Leach verse Allied Glove. That was for the company?

A. That's a brakes case, I believe.

Q. Flax versus Abex company?

A. That's a brakes case.

Q. Boren versus Lincoln Electric Company?

A. I believe that was a Parkinson's disease case.

Q. Bouhanna versus 128 Imports --

A. Brakes.

Q. -- Company. Harrick versus A. W. Chesterton?

A. That's a brakes case.

Q. All right. Sauers versus 20th Century Glove?

A. Brakes.

Q. Mohammad and Raja Jamal versus Honda?

A. I believe that's a brakes case.

Q. Mallia versus Mack Trucks?

A. Brakes.

Q. Spirydowicz versus Owes-Illinois?

A. That's a brakes case.

Q. Dyer versus Waste Management of Wisconsin?

A. That's the vinyl chloride in groundwater from a dump.

Q. Okay. You testified on behalf of Waste Management of Wisconsin?
A. Yes.
Q. Okay. Martinez verse GMPT, Saginaw Grey Iron?
A. GMPT stands for General Motors Power Train.
Q. That's a workers' comp, Michigan workers' comp?
A. Yeah and I don't recall to be honest.
Q. So you may have -- you don't know whether you testified on behalf of Martinez or on behalf of GM?
A. What was the year?
Q. August 2005.
A. I don't recall to be honest.
Q. Okay. We've already talked about Selby versus Goodrich. That was the company.
Mallia versus Genuine Auto Parts?
A. I think you just asked me about that one. That's a brakes case.
Q. Right. Sandy versus asbestos defendants. I assume you testified on behalf of the asbestos defendants?
A. Mr. Sandy had colon cancer, claimed it was from asbestos exposure which there's no support for that.
Q. Okay. I mean there is literature that colon

cancer can be caused by asbestos exposure?
A. In fact, if you look at the literature and put it altogether, there is no association at all. We published a Meta-analysis on that point in 2000 -- no, in 1994, and have followed that issue closely and in fact there is no association at all.
Q. Meta-analysis is where you go back and look at the studies that other people have done and interpret them, separate and apart from the way they interpret them essentially?
A. No. Absolutely not.
Q. Okay. Well, we don't need to debate that.
Tizcareno versus BorgWarner, that was a company, was it not?
A. It's a brakes case.
Q. Yeah. Atwell versus City Corp or Conti Corp -- Contigroup. I'm sorry.
A. I did not see any patient in that case.
Q. Okay. So that would have been for the company?
A. I believe that was for the farm.
Q. Okay. But it wasn't for the person injured claiming injury?
A. There was no claim of injury in that case as I recall.
Q. Okay. White versus Alloy Rods?

A. That was a Parkinson's disease.
Q. Okay. Again, that would have been on behalf of the defendant in the case?
A. The companies that made welding rods.
Q. Parsons versus American Honda?
A. Brakes.
Q. Pitts versus A. W. Chesterton.
A. Brakes.
Q. Haskell versus Airo?
A. I don't recall Haskell. I think that's a brakes case.
Q. Barker verses Honeywell?
A. Brakes.
Q. Atwell versus PSF?
A. That's the same Atwell that we just discussed.
Q. Diaz versus American Standard?
A. That's brakes.
Q. Galloway versus UPRR?
A. That's a welding Parkinson's disease.
Q. But you would have testified on behalf of the company?
A. I think that was actually on behalf of the railroad that Mr. Galloway worked for.
Q. Okay.
A. He claimed that welding caused him to have

Parkinson's disease.
Q. Okay. Montalbano versus Lincoln Electric?
A. Welding.
Q. Okay. Drummond verse DuPont?
A. That was an environmental case alleging that a zinc smelter had resulted in exposure in the neighboring community to lead and cadmium and arsenic in which --
Q. But you testified on behalf of DuPont?
A. -- in which there was no evidence that anyone was exposed and I testified on behalf of DuPont.
Q. Okay. Thompson verses Abex?
A. About, probably sixty percent of all these cases are brakes cases in which it was alleged that automobile brakes caused mesothelioma. So it's the same issue.
Q. Yeah. I understand. I'm just trying to find that, that --
A. Yeah.
Q. -- person who claimed injury that you testified on behalf of.
Monroe, Lidster, Campbell and Meyer v PneumoAbex?
A. Brakes.
Q. Hichman, Neil versus Honeywell?

A. Brakes.
Q. Hauck, BorgWarner?
A. Brakes.
Q. Willhusen versus PneumoAbex?
A. Brakes.
Q. Franklin, General Motors?
A. Brakes.
Q. Barrett versus Pneumo Abex?
A. Brakes.
Q. Garcia versus Allied Diagnostic, California?
A. Mr. Garcia had non-Hodgkin's lymphoma and he claimed that that was caused by his work as a printer in a commercial printing plant. They made -- well, they did commercial printing.
Q. Okay. But you testified on behalf of Allied Diagnostic in that case?
A. No.
Q. Or you testified that his claim was not related to the material?
A. It was not related to the inks and --
Q. Right.
A. -- materials he used in printing.
Q. Schwarber versus General Motors?
A. Brakes.
Q. Luman versus Allied Manufacturing? Hintz verses

Pneumo Abex?
A. I don't recall Luman.
Q. I'm sorry. Allied -- it's in Delaware. September 7, '07. It looks like two cases. Luman versus Allied and Hintz versus Pneumo Abex. Maynard verses Pneumo Abex?
A. I believe that would be brakes.
Q. Okay. Amick versus ABB Luman, Luman -- Lummus?
A. That would be brakes.
Q. Perrine versus DuPont?
A. That's the same issue as the -- when we talked about the claim that the zinc smelter caused exposure to lead, arsenic and cadmium.
Q. But you testified on behalf of the defendant in that case?
A. I did. Yes.
Q. Buttiffa versus Honeywell?
A. Buttiffa? How do you spell that?
Q. Maybe it's Buttitta. B U T --
A. Buttitta, yes. That's a brakes case.
Q. Turner versus Chevron?
A. Turner that's a, that's a man who claimed that he got pulmonary fibrosis from using a pesticide when he worked for Cal Trans. Cal Trans is the State of California agency that does all the highway

construction and maintenance.
Q. Right.
A. And he was a -- essentially he took care of the plants and vegetation along the interstate and state highways in California, and he claimed that he got pulmonary fibrosis from handling pesticides, and I testified on behalf of Chevron.
Q. Andre versus Union Electric?
A. That was welding and Parkinson's disease.
Q. You testified on behalf of the Union Electric?
A. That's correct.
Q. Hoskins versus Honeywell?
A. Brakes.
Q. Mitchell versus Honda?
A. Brakes.
Q. Haun versus Pneumo Abex?
A. Brakes.
Q. Bier versus Chesterton?
A. Brakes.
Q. Free versus Ametek?
A. That was a Frye hearing regarding plaintiff's expert claiming that any exposure to asbestos above background caused mesothelioma.
Q. Okay. You testified that exposure to asbestos above background did not cause mesothelioma?

A. No. I testified that the plaintiff's expert actually had no method for reaching that conclusion.
Q. Okay. Guilder verses American Honda?
A. Brakes.
Q. Henricksen versus Chevron?
A. That was an AML where it was alleged that Mr. Hendricksen got AML from handling gasoline and diesel fuel.
Q. Okay.
A. And that was a Daulber hearing I believe, or Frye, I'm not sure. I think it was a Daulber.
Q. But you testified on behalf of Chevron in that case?
A. Yes.
Q. Schylaske verses Genuine Parts?
A. Brakes.
Q. Riley versus Genuine Parts?
A. I don't recall Riley. Yeah. That was brakes.
Q. Simons versus Pneumo Abex?
A. Okay.
Q. Mairose versus Dow Chemical?
A. That was vinyl chloride.
Q. And you testified on behalf of Dow?
A. No.

Q. Who?
A. Not Dow.
Q. Another company though?
A. Some other company, yeah.
Q. Okay. Baker versus Chevron?
A. That's the one we talked about.
Q. Okay. Daly versus Arvinmeritor?
A. Brakes.
Q. English verses Zone, Auto Zone West?
A. Brakes.
Q. Whited versus Long-Lewis?
A. What's the name again?
Q. Whited, W H I T E D, versus Long dash Lewis?
A. Brakes. That was brakes.
Q. Adams versus Allied?
A. Brakes.
Q. Morin versus Toyota?
A. Brakes.
Q. Bohr versus American Honda?
A. Brakes.
Q. So I guess we can agree at least on the list that you provided us for the four years preceding November of '08 you could not identify any case in which you testified on behalf of a person claiming injury as a result of exposure to something made

by another, another entity?
A. Well, I think that all of those cases have been on behalf of defendants.
Q. Okay.
A. I'm not sure I understood exactly your question.
Q. Would you, would you say that at least say ninety-eight, ninety-nine percent of the testimony you have given over the years has been on behalf of people who are defending claims that they -- from people who are claiming injury as a result of exposure to products?
A. No. No. In fact, over much of my career I think that it was evenly split. About half for plaintiffs and half for defendants.
Q. Well, let's take out workers' compensation cases. In litigation such as this how would that number split?
A. Well, I'm not sure how you can take out workers' compensation. I testified on behalf of injured workers throughout my career. So setting aside when I have testified on behalf of injured workers, I've testified on behalf of defendants.
Q. Well, you would agree with me -- I mean I can't see in the last four years and I'm -- based on what you told me up until today when you testified

on behalf of any injured worker. So at least in the last say five years a hundred percent of your work has been on behalf of defendants in law suits, is it not?

A. I believe that's correct.

Q. Would that be also true for pretty much for the five years preceding that?

A. No.

Q. And in the workers' comp cases where you testified for injured workers, those were people who were actually your patients or you saw in clinic, correct?

A. Some of them.

Q. Yeah.

A. Some not.

Q. Okay. Can you tell me -- well, let's go through. We got some --

MR. CARR: Ken, if you are on a subject you want to stick with, I don't want to stop you, but I would like to take a brake in the next five or so minutes.

MR. SALES: We're good. Take a break now. I'm pretty cool about that.

VIDEOGRAPHER: We're going off the record. This is the end of tape one. The time is

11:19 and 27 seconds a.m.

VIDEOGRAPHER: We're back on the record. This is tape two. Time is 11:24 and 53 seconds a.m.

BY MR. SALES:

Q. We've marked as Exhibit 2 to your deposition your most up-to-date CV. Is that it?

A. Yes.

Q. Have you written any papers regarding benzene exposure?

A. Yes.

Q. How many?

A. I don't know. I would have to go through and count on my CV.

Q. Why don't you do this; can you just take a second and go through with a pen and mark the ones? If you want to thumb through.

A. It will take a little more than a second but.

Q. Well, why don't we not waste the film. That's dead space, go off, and just let you -- if you will just circle the number of which ones you believe are related to benzene exposure.

MR. CARR: Let's go off both records.

MR. SALES: Yeah. Yeah. Yeah.

VIDEOGRAPHER: Going off the record.

The time is 11:25 and 55 seconds a.m.

VIDEOGRAPHER: We're back on the record.

The time is ll:32 and 17 seconds a.m.

BY MR. SALES:

Q. Doctor, we have gone off the record so that you could mark on the exhibit those articles that you had written involving benzene exposure, benzene-related diseases. Could you go through those with us?

A. Yes. Number twenty-seven on page fifteen, Occupational exposures of parents of children with acute non-lymphocytic leukemia; number thirty-eight, Exposure to magnetic fields among electrical workers in relation to leukemia risk in Los Angeles County; number thirty-nine, Occupational cancer; number fifty-two, Risk of solvent exposure among women with undifferentiated connective tissue disease; number fifty-three, Epidemiology of organic solvents and connective tissue disease; number sixty-seven, Scleroderma and solvent exposure among women; number one eighty-one, Case control study of pancreas cancer at the Philadelphia plant of the Rohm & Haas Corporation; number two 0 six, Carcinogens and cancer risks in the microelectronics industry.

I think that would be it.

Q. Okay. Any, any of these cases -- any of the articles that you have written or research you have done leading to these articles deal with the issue of benzene exposure and the development of myelodysplastic diseases or syndromes?

A. I don't believe so. One of them I mentioned looked at acute non-lymphocytic leukemia but I don't believe it looked at myelodysplastic syndrome.

Q. And none of the work you have done academically is related to the relationship or research of exposure to petroleum distillates and development of myelodysplastic syndromes?

A. I'm not sure what you mean by the work I have done academically.

Q. Well, as contained in your curriculum vitae which is a list of all your, I would assume all your publications, research papers, abstracts, etc., that would be your, what I would call your academic work, correct, your curriculum vitae or Exhibit 2?

A. Well, that would be part of my academic work. I've also spent my career teaching.

Q. I understand. I don't mean to cut that short, but

I mean your written, your written work -- and of course you have your teaching qualifications on this curriculum vitae as well?

A. I do.

Q. All right. Not part of this curriculum vitae would be work that you have done in a separate arena and that's what I call the litigation area which we have discussed previously.

A. What's the question?

Q. Well, you don't include your, your litigation work as part of your curriculum vitae, correct?

A. That's correct.

Q. All right. So I mean I wouldn't see a list of all the cases you may have testified in or the companies you may have evaluated cases for, done work for?

A. No. But that's the list we just discussed a few minutes ago.

Q. That's a separate item, correct?

A. That's correct.

Q. All right. So when I, when I say that this is more -- this is your -- as an occupational physician or a physician who is specialized in emergency medicine or internal medicine are these fields and your academic background, that's what

your curriculum vitae or Exhibit 2 would demonstrate, correct?

A. Well, my curriculum vitae speaks for itself. It gives my education, my training, my academic appointments, my licensure, my board certification, all the conferences I've been invited to speak at, the papers I have published, the book chapters I've written, the abstracts I've given. Among other things, yes.

Q. Right. And none of the book chapters, none of the papers you've written and none of the academic presentations that you've made deal with the relationship of exposure to benzene and petroleum distillates and the development of, of myelodysplastic syndromes?

A. I believe that's correct.

Q. Okay. In fact, the work that you've done regarding whether the exposure to petroleum distillates and their relationship to myelodysplastic syndromes, that work is almost entirely associated with the litigation side of your work, correct?

A. Well, I think the correct answer is I have spent my career studying the health effects of chemicals. I was educated as a chemical engineer,

then I got a medical degree, then I got two degrees in public health and physiology; and I spent my career focusing on long-term health effects of chemicals. Chemicals such as petroleum distillates and benzene have been central to many of the research investigations I've done and solvents more broadly.

So my career has focused on issues of health effects of those chemicals, but not particularly on myelodysplastic syndrome.

Q. Well, let me put it this way, no academic institution has invited you to discuss and present your views on the relationship of petroleum distillate exposure in the workplace and myelodysplastic syndromes, correct?

A. That is correct. I'm not sure that there's even any controversy about that. There is no relationship.

Q. Well, suffice it to say, others may have different views but you have not been invited to write any papers by any peer-reviewed or other academic journals regarding the relationship to -- of the occupational exposure to petroleum benzene and petroleum distillates in myelodysplastic, myelodysplastic syndromes, correct?

A. Journals don't typically ask you to write papers. You write papers and submit them and try to get them published. So no, I have not been asked to write a paper where there's very little controversy.

Q. And, and you haven't done that research independently and submitted it to a journal regarding the relationship or non-relationship between petroleum distillates, the benzene contained therein, and myelodysplastic syndrome?

A. Well, I certainly surveyed the world's literature on that topic and some people would call that research. It's certainly literature research but I've not written a manuscript on that or submitted a manuscript on that --

Q. All right.

A. -- for publication.

Q. All right. And in fact, the groups that have invited you and asked you and paid you to give opinions regarding the relationship of petroleum distillates to myelodysplastic syndromes is almost exclusively those companies that are defendants in lawsuits where people have claimed that they have injury from exposure to those petroleum distillates as a result of benzene?

A. Well, in this case I have been asked by defendants to give an opinion as to whether Safety-Kleen causes myelodysplastic syndrome, and there is no evidence to support such a claim.
Q. I understand that but my question was that the only group that has asked for your opinion on this subject, almost exclusively, are those companies who have been named as defendants in lawsuits by people claiming injury as a result of exposure to benzene and their petroleum distillates?
A. That's correct. Because I don't think that it's an issue of real concern outside of that context.
Q. Okay. Now, let me -- Exhibit 3 to your deposition is your report in this case, correct?
A. Yes.
Q. Okay. Have you in any way supplemented that report beyond what, what is contained in Exhibit 3?
A. Well, I wrote an affidavit and a declaration which are also marked as exhibits.
Q. Okay. And that would be Exhibit 4, correct?
A. That is the affidavit, yes.
Q. Okay. And then we also have Exhibit 5 and what is that?
A. That's a declaration that I wrote in this case.

Q. Okay. Do you know what the purpose of the declaration was?
A. I do not know from memory what the purpose of it was other than to state my opinions in the case.
Q. Okay. There are two separate claims in this case, and I'm trying to determine to what extent you have or don't have opinions on the two separate claims. And one is a claim that the configuration of the equipment that Mr. Quillan worked on created -- or the design of the equipment created fumes which contained benzene and may have contributed to the cause of disease.

You know just listening -- looking at your reports and what you have done in this case, I had doubts whether you had any opinions or whether that was really your field to evaluate the equipment used.

Do you have opinions concerning the equipment, the design of the equipment, or whether that design could have, could have contributed to the development of fumes that may have been dangerous to Mr. Quillan's health?
A. I was not asked to provide any opinions regarding the design of the equipment.
Q. All right.

A. So no, I do not.

MR. CARR: Ken, so the record is clear are we talking about hardware or solvent here?

MR. SALES: The SK parts washer.

MR. CARR: Is that the hardware?

MR. SALES: The hardware.

MR. CARR: Okay. So not the solvent?

BY MR. SALES:

Q. Well, yeah. I'm trying, I'm trying to take the SK machine separately and whether it was designed properly, whether it had proper ventilation. You don't have an opinion regarding the equipment one way or the other, correct?

A. I don't have opinions about the design of the parts washing machine. I do have opinions regarding the solvents used in the parts washing machine.

Q. Okay. So whether it had adequate exhaust ventilation to, to remove solvent or benzene fumes is not an area you're going to get into?

A. I have not been asked to talk about exhaust ventilation, that's correct.

Q. Okay. And just looking at your, I mean honestly, Doctor, I don't, I don't mean this to be pejorative, but it appears to me that evaluating

whether a piece of equipment or its exhaust capabilities is defective or not is just not your area of expertise. Can we agree on that one?

A. I would agree that the design and evaluation of ventilation equipment is not within my area of expertise.

Q. Okay. We will take that and throw it out the window and we'll just deal with that with somebody else.

Your opinions in this case are that Mr. Quillan's exposure to solvents containing benzene did not contribute to the cause of his myelodysplastic syndrome?

A. My opinions are given in writing in my report and declaration and affidavit; and essentially it is that Mr. Quillan's alleged exposure to the solvents in the Safety-Kleen parts washer did not play any role in the causation of his myelodysplastic syndrome.

Q. And what is -- what are the bases for your belief? Well, let me back up.

Let's see if we can agree or define where we disagree.

Do you have a belief whether a sufficient exposure to solvents containing benzene

can be a substantial factor in causing the development of a myelodysplastic syndrome?

A. Well, I think the scientific evidence is adequate to support a conclusion that high exposures to benzene can cause the myelodysplastic syndromes but is not adequate to justify a statement that solvents other than benzene or solvents containing small amounts of benzene are linked in any way to myelodysplastic syndrome.

Q. Well, how do you, how do you quantify a high exposure to benzene?

A. The epidemiologic literature indicates that people who have worked in settings where the exposures have been either measured or estimated to be up in the tens and hundreds of parts per million or in which they were using straight benzene without any control of exposure with limited ventilation, such as in home industries, in shoemaking and leather working, are, are at increased risk of myelodysplastic syndrome.

Q. Well, again I'm trying to understand what you mean by high exposure as contracted to what Mr. Quillan's exposure would have been over a period of years.

A. I think I just answered it.

Q. Can you quantify that? I mean is, is there a study that's been, that's been done that holds that one must be exposed to X amount of benzene or solvent containing benzene to develop a myelodysplastic syndrome?

A. There's no study that has established exactly what you've pointed out. The studies that have shown excesses of myelodysplastic syndrome have been done in settings where, as I answered just a moment ago, where the exposures were up in the tens to hundreds of parts per million of benzene itself or in which people used neat or straight benzene as a solvent such as in shoemaking and leather working where the exposures were not measured but it was pure benzene and the circumstances were such that there was uncontrolled exposure and it's reasonable to infer that those were very high exposures.

Q. Well, looking at -- when you mean reasonable to infer that it is very high exposures, they did not quantify the level of exposure in those situations, in those studies, did they not?

A. That is correct. The people were using straight benzene as a solvent in glueing leather, and they were doing it in relatively unsophisticated

settings, assembly shoes. And those settings typically result in exposures that can be in the hundreds of parts per million to straight benzene, not, not mineral spirits with traces of benzene. I mean it is a very different setting.

Q. Well, could we agree that benzene is a known carcinogen?

A. Benzene is known to cause acute myelodysplastic leukemia --

Q. Okay. And --

A. -- under circumstances of exposure such that the cumulative exposure is above forty or fifty parts per million years and when those exposures occur within about fifteen years or less of the diagnosis of AML.

Q. Do you know of any governmental agency that has found a safe level of exposure to a known carcinogen such as benzene?

A. Could you tell me what you mean by safe level?

Q. Sure. Any, any exposure level to a carcinogen such as benzene for which a person was unlikely to contract a cancer.

MR. CARR: Your question was unlikely?

MR. SALES: Sure.

MR. CARR: Okay.

THE WITNESS: Yes. I mean OSHA has a permissible exposure limit of one part per million. NIOSH has a recommended exposure limit of .1 part per million. ACGIH has a TLV, I don't recall what it is, but it's somewhere in the range of .1 part per million, .1 or .2. ACJ is not a government agency but OSHA and NIOSH are.

BY MR. SALES:

Q. Well, but those are --

A. EPA -- well, well, those are --

MR. CARR: Let him finish his answer.

MR. SALES: Go ahead. I'm sorry.

THE WITNESS: Those are, those are settings that are believed to not pose unreasonable risks. In other words, it is unlikely that anyone would be harmed by them. That's what they're about.

BY MR. SALES:

Q. Well, OSHA and NIOSH and the ACGIH have levels, potential levels of exposure to carcinogens such as asbestos as well but do not endorse that as a level, a safe level of exposure to a carcinogen.

A. Well, I thought we were talking about benzene, not asbestos.

Q. Well, the analogy is the same. Are you saying

that the ACGIH, NIOSH and OSHA have stated that their permissive -- their PELs or TLVs are safe levels of exposure to benzene?

MR. CARR: Object to the form of the question. First question addressed likelihood. We're back to the word safe which is an undefined term.

BY MR. SALES:

Q. Okay. Go ahead.

A. Your question was whether there were levels that were unlikely to cause disease and the answer is yes. That's what the PELs and RELs and TLVs are about. They are very unlikely to be associated with any risk of disease. The only way you can come to any assessment of risk of disease at those low exposure levels is by extrapolating well below the observed data using a theoretical model to estimate risks that are so low they can't be measured.

Q. Flipping that though to the question I have just asked, and that is, do either OSHA, NIOSH or AC -- ACGIH in setting the TLVs or PELs state that those are safe levels of exposure with regard to development of cancer?

A. Well, we would have to go back through all of the

testimony leading up to the OSHA benzene standard and all the challenges to that standard.

Q. Is your answer that you don't know?

MR. CARR: Hang on. Let him finish his answer, please.

BY MR. SALES:

Q. Okay.

A. The answer is there is a very large mass of published material and public record that is directly relevant to answering your question and I have not memorized it. As to what it says explicitly I don't know. It was clearly evident in the setting of the PEL and the REL and the TLV that those entities felt that those were reasonably safe levels in, in the work setting.

Q. In what way did you evaluate Mr. Quillan's exposure to Safety-Kleen to conclude that it was insufficient to be a substantial factor in causing his myelodysplastic syndrome?

A. Well, the, the first and most important way was to look at the information I was provided about the benzene content of the Safety-Kleen and the benzene content was extremely low. Down, I don't recall all of the numbers, but less than a part per million.

So issue number one is Mr. Quillan was potentially exposed to vapors from a petroleum distillate that had extremely low levels of benzene at most in it; and given my background in occupational medicine and public health and chemical engineering, it seemed implausible to me that he could have had any substantial exposure to benzene.

The second line of reasoning comes from looking at the epidemiologic literature in the scientific publications to see whether people who did jobs such as Mr. Quillan's are known or have been shown to be at increased risk of myelodysplastic syndrome and they have not.

And so there's simply neither scientific support for a belief that exposure to Safety-Kleen or materials like it, such as mineral spirits, are associated with increased risk of myelodysplastic syndrome; and there is good reason to think that the materials he handled contained such small amounts of benzene or no benzene at all that one could measure that there was not any plausible exposure scenario in which he could be exposed at the levels that are known to cause damage to the bone marrow leading to leukemia and pre-malignant

conditions such as myelodysplastic syndrome.

MR. CARR: Ken, can you stop for one second. Will you read back the last question?

(The last questions is read back: In what way did you evaluate Mr. Quillan's exposure to Safety-Kleen to conclude that it was insufficient to be a substantial factor in causing his myelodysplastic syndrome?)

THE WITNESS: And then the last part of my answer would be I've also relied upon the report of John Spencer, which I believe clearly substantiates that his exposure, that Mr. Quillan's exposures were extremely low, if any.

BY MR. SALES:

Q. In looking at Mr. Quillan's exposure to Safety-Kleen, did you do any attempt to study the release of benzene in the Safety-Kleen product?

A. What do you mean by study the release of benzene?

Q. Do any study, get the Safety-Kleen product, try to study how it might release benzene, to what extent it might release benzene?

A. Do you mean did I do a laboratory study or simulation?

Q. Yes, sir.
A. No.
Q. Did you ask anybody to do it?
A. Well, I believe such studies have been done. I believe Mr. Spencer has done such studies. I believe another group at ChemRisk has done such studies and they're in the published literature.
Q. Do you consider ChemRisk to be an independent and reliable source of studies?
A. Well, the work I'm referring to is published in the peer-reviewed literature. I believe that it is peer reviewed and is reliable.
Q. Do you believe that ChemRisk is a company that does independent studies that can be relied upon as objective studies regardless of whether they are in the peer-reviewed literature or not?
A. To the extent that I know ChemRisk, I am aware that they do scientific research and they publish it in the peer-reviewed literature like everyone else and it undergoes the same standards of scrutiny and I believe it's reliable.
Q. How do you know ChemRisk?
A. I am aware of the publications that have come from ChemRisk that are in the peer-reviewed literature. I also know some of their scientists. I can think

of two of them who were trained in public health at the University of Michigan, I knew them as graduate students, and I know Dr. Paustenbach who is the president of ChemRisk.

Q. How do you know Dr. Paustenbach?

A. I have met him.

Q. How often?

A. Oh, I probably me him six to eight times.

Q. Have you been to any conferences where he has talked?

A. I was at a conference in 2005, the American Industrial Hygiene Conference, where he was the moderator of a session in which I spoke.

Q. What was that session in?

A. It had to do with cancer risk related to asbestos.

Q. Was that -- did that deal with brakes as well?

A. I gave a talk on brakes and the Meta-analysis that I did with some of my colleagues.

Q. Have you worked with Dr. Paustenbach in any other capacity?

A. No. And I'm not sure what capacity you're referring to other than he moderated a scientific session in which I was a speaker.

Q. Who else do you know at ChemRisk?

A. Well, I said two of their employees did their

graduate study at the University of Michigan.
Q. They were who?
A. Let's see. I believe, boy, I'm not sure I can do it from memory. I think it was Kara Franke but I'm not sure that's right. And the other was Dana, and I can't recall her name, but she got married and changed her name which is why I'm having trouble with her name now. Anyway, I will think of it.
Q. Okay. Anyone else with ChemRisk that you know?
A. I have met some of their scientists in various scientific settings.
Q. Do you know with regard to any work that they've done involving myelodysplastic syndromes or benzene who has funded their research?
A. I do not know their work in myelodysplastic syndrome. So I have no knowledge of that. With respect to benzene the only work I'm aware of is some of the exposure reconstruction and simulation studies they've done and I don't know who funded that.
Q. Do you know whether ChemRisk and Dr. Paustenbach and his associates have provided regular testimony to industry in toxic exposures cases?
A. I don't know the history of ChemRisk and

Dr. Paustenbach.

Q. So you have no idea to what extent they may provide testimony to the industry in toxic exposure cases?

A. I believe that Dr. Paustenbach has testified on behalf of industry but I don't know the extent of it.

Q. Okay. Any of the other people in the company, do you know to what extent that company regularly provides testimony to industry in toxic exposure cases?

A. I do not. The -- one of the women who we trained, her married name now is Dana Hollands, but I can't remember her previous name.

Q. Did you talk to anyone at Safety-Kleen regarding whether or not the company has done any internal studies of whether their product may contribute to the cause of myelodysplastic syndromes?

A. No.

Q. Did you ask them whether they ever had any claims from other people regarding whether or not they -- their Safety-Kleen product has contributed to the cause of myelodysplastic type syndromes?

A. No. So you're asking did I ask them about their litigation history?

Q. Sure.
A. No. I didn't ask them about that.
Q. Okay. Why didn't you?
A. Because I don't think it's relevant to whether Mr. Quillan's claim has a scientific basis or not.
Q. Why didn't you ask them whether they had done any internal studies of the potential release of benzene from their Safety-Kleen product?
A. My review of this issue is based on the peer-reviewed scientific literature which I think I have reviewed carefully and thoroughly. If Safety-Kleen has done any work, it's in the peer-reviewed literature; or funded any work, it's in the peer-reviewed literature regarding the risks of myelodysplastic syndrome. I think I would have seen it. And it's not in the peer-reviewed literature. I would be cautious about using it as a foundation for my opinion as to whether their product causes myelodysplastic syndrome.
Q. You don't know one way or the other whether Safety-Kleen has attempted to determine to what extent benzene may be released from the use of Safety-Kleen in the normal workplace?
A. I do not know what work they may have done in that

area.
Q. I'm still, and it's probably my fault, I'm just not understanding. To what extent did you attempt to quantify Mr. Quillan's exposure to Safety-Kleen?
A. I didn't attempt to quantify his exposure. John Spencer quantified his exposure.
Q. So you're totally relying on Mr. Spencer's report in that regard?
MR. CARR: For the record we just finished I believe it's Dr. Ellenbecker's deposition which has been sent to Dr. Garabrant. He's not had an opportunity to review it given that it was just completed a day or two ago, but I'm going to ask him to look at that as well.
MR. SALES: Okay.
MR. CARR: He hasn't had an opportunity to formulate an opinion on it.
BY MR. SALES:
Q. I understand but I'm here today to take your deposition about your opinion. You've already got an opinion, correct?
A. I have an opinion regarding the relationship between Mr. Quillan's alleged exposure to Safety-Kleen and benzene that may have been

present in that product in the causation of his myelodysplastic syndrome.

Q. And to the extent that it is been quantified that exposure to Safety-Kleen of the benzene and Safety-Kleen has been quantified, you're opinion relies on Mr. Spencer's report, correct?

A. Yes. I have also read Dr. Ellenbecker's initial report which did not quantify it and his new report which sought to quantify it.

Q. And you haven't relied or accepted his conclusions I take it?

A. I have not.

Q. Okay. You disagree with Dr. Ellenbecker's conclusion?

A. I think Dr. Spencer's report provides a more reliable basis for estimating Mr. Quillan's exposure but I haven't seen Dr. Ellenbecker's deposition testimony so I have to look at that before I can see how he justifies the decisions he made in writing his report.

Q. In what way do you find the Spencer report more reliable or how, how does that make you disagree with Dr. Ellenbecker's evaluation?

A. All right. First, in Dr. Ellenbecker's report dated November 25, 2008 Dr. Ellenbecker made

absolutely no quantitative estimate of Mr. Quillan's exposure, which I regard as extremely odd for a doctoral-trained industrial hygienist, that he couldn't come up with any quantification, any range, nothing. That's odd. Okay. So that's, that's a deficiency that surprised me.

In contrast, Dr. Mr. Spencer went systematically through the physical properties of the benzene and 150 Premium Solvent supplied by Safety-Kleen. He talked carefully about the possibility that waste materials contaminated the Safety-Kleen. He talked about the benzene content of the Safety-Kleen product that was at or below.4 milligrams per liter. He talked about the published studies that have tried to estimate exposures, benzene exposures from mineral spirits such as Safety-Kleen's solvents, and he discussed them in detail. He applied what was demonstrated from those peer-reviewed published studies to the setting of 150 Solvent in a manner that I found to be reliable. And he then used those estimates to make an assessment of Mr. Quillan's likely benzene exposure. Dr. Ellenbecker did none of those things in his initial report. So I didn't find it

to be a reliable report.
Q. Is it your opinion then in order to relate disease to toxic exposure that from an epidemiological standpoint one must exactly quantify the exposure?
A. No. But you can't do it knowing nothing about the exposure.
Q. And it's your opinion that based on the material provided -- strike that.
I'm trying to understand what you mean by knowing nothing about the exposure.
A. Dr. Ellenbecker's report essentially indicates nothing about the exposure. Absolutely nothing.
Q. If you were to design an epidemiological study regarding benzene exposure in the development of myelodysplastic syndromes, how would you do it?
A. Well, I think it's already been done. I think that there are a number of studies that have been conducted and published that have tried to look for the relationship between solvent exposure and benzene exposure and risk of myelodysplastic syndrome. We could just look at those studies and see how they were done.
Q. Well, my question to you is how would you design such an epidemiological study?
A. I would probably use a case control design and try

to reconstruct people's past exposures.

Q. And you believe that they needed -- they would need to be rather exactly quantified when you say case control?

MR. CARR: Objection. Vague.

THE WITNESS: I don't understand your question.

BY MR. SALES:

Q. Well, explain to me what you mean by case control and, and try to quantify. That's the terminology you used. What do you mean by that?

A. A case control study is one in which you have access to a population of people who have the disease of interest, in this instance myelodysplastic syndrome. And then you define the source population from which those cases arose. And then you choose people from the source population who are representative of that source population. You then reconstruct the various factors of interest for both the cases and controls and compare them. And comparison is typically done by calculating exposure odds among the cases and exposure odds among the controls and then taking an exposure odds ratio. And then assessing the role of chance by calculating a

ninety-five percent confidence interval around the odds ratio.

Q. So, for example, you might take a group of people who had known exposures to solvents containing benzene and compared to a group of people who for -- you could not identify exposure and see whether they had increased risk of developing disease?

A. Are you talking about case control studies?

Q. Yes, sir.

A. No.

Q. That's a cohort, is it not?

A. I'm not sure what you have designed but it's not a case controlled study.

Q. Okay. The, the case control study that you've just talked about, give me a little more precision in who would be in what group in that case control.

MR. CARR: Objection. Vague.

THE WITNESS: I've already answered that. The people with myelodysplastic syndrome would be the cases.

BY MR. SALES:

Q. Right.

A. And the people who were representative of the

source population from which the cases arose would be the controls.

Q. All right. I see what you're saying.

That's one way of doing an epidemiological study?

A. Case control studies are one way that we do epidemiology studies.

Q. Okay. And there are other ways to do epidemiological studies?

A. There are.

Q. I guess the largest example or most well-studied, for instance, is asbestos. Where cohorts have been examined, groups of people, to see whether they have increased disease levels as opposed to the nonexposed or a general population.

A. What's your question?

Q. Well, there are, there are other -- let me go in a different direction.

You said there had been, or I may have missed speak, you said there have been sufficient studies to date regarding benzene exposure in solvents and myelodysplastic syndromes to come to conclusions?

A. I don't, I don't believe I said that.

Q. Okay. I may have misunderstood you. Okay.

MR. CARR: Ken, sometime in the next five minutes, we have been going about an hour, can we take a break?

MR. SALES: Okay. Take a break. Go ahead.

VIDEOGRAPHER: We're going off the record. The time is 12:23 and 5 seconds p.m.

VIDEOGRAPHER: We're back on the record. This is the beginning of tape three. The time is 12:34 and 34 seconds p.m.

BY MR. SALES:

Q. Getting back to the epidemiological studies and the studies that have been done, there's never been a study published in the literature regarding exposure to the Safety-Kleen product, has there?

A. I'm not aware of one.

Q. And one way to do that, for instance, to do a epidemiological study of like Safety-Kleen or another benzene-containing product would be to identify a group that's exposed to Safety-Kleen on a regular basis in their work, correct?

A. Well, I'm not sure what epidemiology study you're trying to design. There are lots of ideas you can think of theoretically that cannot be done practically. So it's pretty easy to come up with

theoretical ideas for how to do studies. It's much harder to actually do them.

Q. Well, let me, let me analogize so I can -- maybe we can get on the same plane here.

With regards to say asbestos, some of the earlier studies or say the silica studies involved looking at asbestos workers, like the seventeen thousand asbestos workers in the asbestos workers' union.

A. Are you talking about the insulators?

Q. Yeah. They were in the asbestos workers' union. So he looked at a group of seventeen some odd thousand insulators and followed them over a period of years, which as I understand the study, he's still continuing to watch that group of people to see what levels of disease they had as compared to the general population.

But one, one way to do this would be to look at individuals such as Mr. Quillan who worked regularly in their occupation around Safety-Kleen or other similar products, correct?

MR. CARR: Objection. Side bar. Vague.

THE WITNESS: How would you do that?

BY MR. SALES:

Q. How would you look at asbestos workers?

A. You got a union.
Q. Well, I understand.
A. They are union members.
Q. Well, I mean I don't have to be an epidemiologist but you could certainly look around the country for -- for instance, you could go to Safety-Kleen, you could say to Safety-Kleen who do you provide your products to? And if Safety-Kleen wanted to do such a study, they could go to their, their end users and say, gee, who uses our products in your shop, and we want to set up a study of people who use our products on a regular basis in their occupation. You could do that, couldn't you?
A. In my experience, and I've been doing epidemiology studies for thirty years --
Q. Uh-huh.
A. -- it would be extremely difficult for a chemical supplier to go out to purchasers of their products and to get them to participate in a large epidemiology study. It's very difficult to do.
Q. Well, regardless though, a viable way of doing a study of, for instance, of exposure to say Safety-Kleen would be for the company that manufactured it to go to its customers and say we would like to look at your workers who use

Safety-Kleen on a regular basis and study them over a period of years. I mean that's one way to put together the cohort whether it's, whether it's difficult or not, that would be one way to do it, wouldn't it?

A. Well, you just said's that's a viable. That's your opinion, that's not nine.

Q. Well --

A. You're designing the study. I'm not. I don't think that that works. I've been doing epidemiology for thirty years.

Q. Well, wouldn't you want to identify a cohort of people whose only exposure was to say the Safety-Kleen product from using it on a daily basis and then to follow that cohort over a sufficient period of time?

A. Well, there is a premise to your question, wouldn't I want to?

Q. Yeah.

A. I wouldn't undertake any epidemiologic study unless there was a clear reason that it needed to be done and there is no clear reason.

Q. Well, when you say there is no clear reason, I asked you earlier whether you had asked the people at Safety-Kleen whether they had had reported to

them numbers of people, whether by litigation or otherwise, that had come down with myeloplastic -- myelodysplastic syndromes and you said no. What if they have a large number of people, through litigation or otherwise, coming to them and saying we're developing myelodysplastic syndromes after working with Safety-Kleen. Wouldn't that be a reason to want a study to see whether it caused those conditions or had no cause?

A. Well, what that would mean is there is a lot of people making allegations and suing them. That doesn't necessarily mean there's any scientific evidence to support those allegations, and I think that Safety-Kleen, if I were in their shoes, I would look carefully at what it is these people are alleging and whether it had any scientific plausibility before I would undertake a study. And if the allegations such as in this case are that benzene in Safety-Kleen is causing myelodysplastic syndrome, I would look at the benzene concentrations, which of course Safety-Kleen has done, and this product is down below .4 milligrams per cubic meter which is extremely low.

And then I would look to the scientific

literature and see whether there was any support for the premise that trace benzene such as .4 milligrams per cubic meter and below would put people at increased risk of myelodysplastic syndrome or leukemia or other lymphohematopoietic diseases. And the answer there is no literature to support that.

Benzene has been studied hundreds and hundreds of times. There are dozens of epidemiologic studies that have looked at risks of hematologic diseases among benzene-exposed cohorts and there is no support for the premise that exposures such as might occur from Safety-Kleen would put people at increased risk of those diseases.

Q. Well, that's the whole point though. If you're having a large number of people who are exposed to Safety-Kleen without being -- having other significant exposures to products that contain benzene develop myelodysplastic syndromes and you wanted to design an epidemiological study, the way to do it would be to look at those users of Safety-Kleen and follow them over a long period of time to see whether they had increased development of myelodysplastic syndromes as opposed to those

who weren't exposed to Safety-Kleen, wouldn't you?

A. What, what is the basis for the claim that there were large numbers of people developing myelodysplastic syndrome?

Q. I was asking you theoretically. I'm not -- 'cause you told me you haven't talked to Safety-Kleen about it. For all you know they have large numbers or they don't. I mean what I know and what you know may be two different things.

My question is theoretically I'm asking you to assume that there is a number of potential or people claiming, whether it's by litigation or otherwise, I mean litigation is just one way that you might know that you have a product that's causing injury, you may believe it is totally wrong but if you wanted to design an epidemiologic study to discount whether your product was a contributor to that condition, in this case myelodysplastic syndromes, wouldn't the best way to do it is to put together a group of people who use the product and follow them over a period of years to see whether they had increased numbers?

MR. CARR: Objection. It assumes facts not in evidence.

THE WITNESS: Your, your question --

MR. CARR: Excuse me. Hang on a second.
THE WITNESS: Your question --
MR. CARR: Excuse me. Hang on a second.
THE WITNESS: Sorry.
MR. CARR: It's an incomplete hypothetical and it is vague. That's it.

BY MR. SALES:

Q. Go ahead.

A. Your question has a premise that is simply not known to be true. Okay.

Q. I'm asking you to assume it, and I'm asking you to tell me whether or not it would be appropriate, assuming that there were -- I wanted to develop an epidemiological study to disprove specifically that Safety-Kleen and the amount of benzene contained therein could contribute to the cause of myelodysplastic syndromes. Wouldn't it be appropriate to study a group of those people working around the product for a number of years and determine whether they had any increased numbers?

MR. CARR: Same objections.
THE WITNESS: Your question is loaded with premises that show a complete lack of understanding for the scientific process. Okay.

First off, your premise that a study can prove the null hypothesis. That's contrary to scientific methods. The idea that you can prove that a chemical doesn't cause something, that is contrary to what scientists do.

We, we pose hypotheses that chemicals do cause something. We then seek to prove them. If we can't prove them, then we say there is no proof that that chemical causes it.

BY MR. SALES:

Q. That's fair enough.

A. We don't, we don't say I'm going to prove it can't cause it because it can't be done.

Q. That's fair enough.

A. So that premise is simply wrong.

But more fundamentally than that, your premise that something should be done in the complete absence of evidence that there is anything going on is fundamentally not how scientists function. We follow up leads. We follow up plausible hypothesis. What you're proposing I think is that any time a company is informed that somebody is suspicious that something is happening, they should do an epidemiologic study; and my experience as a

practicing epidemiologist, and I have spent my career designing and conducting the studies that look for cancer risks related to chemicals, is that if we did what you're proposing we would spend countless hours pursuing false leads to no benefit.

I'll give you an analogy. Early in the 20th Century there were a substantial number of case reports of women who had received trauma to their breast and very soon afterward were diagnosed with breast cancer and believed that the trauma, such as falling down on a street car and bruising themselves or bumping into the handrail, was the cause of their breast cancer.

If you were to pursue that simply because of those allegations, the street car companies would have been in the position of doing a substantial amount of absolute fruitless work pursuing leads that were in fact nonsense, really not biologically plausible, and that with subsequent investigation prove to have no scientific foundation at all.

So your idea that any time there is an allegation a company should do an epidemiology study really has no precedent and I think is

simply nonsensical. Could be a waste of resources. There has to be plausible, a plausible scenario under which you think that this effect could be related to your product before you should try to undertake anything as expensive, difficult and complicated as doing an epidemiology study.

Q. Doctor, I'm going to show you Exhibits 6A and 6B. These are your statements in this case I believe.

A. Yes.

Q. Okay. Are -- is this your entire billing to date?

A. I believe it is.

Q. Do you plan to do more work on this case?

A. If I'm asked to.

Q. And your billing rate is what?

A. Six hundred and twenty-five dollars an hour.

Q. And does that change if you are in court?

A. No.

Q. So it's six hundred and twenty-five no matter what you do?

A. Yes.

Q. Okay. Do you have minimums?

A. No.

Q. So I guess I'm paying for this deposition today. I'm not paying for the whole day?

A. No. You're paying --

Q. For the number of hours?
A. For the number of hours we spend.
Q. Down to the minute?
A. I usually do it to the nearest tenth of an hour.
Q. I'll live with that.
MR. CARR: So you pay for our depos --
MR. SALES: Oh, I don't know.
MR. CARR: -- in the jurisdiction? We haven't talked about it but I will not take what you just said as an admission. How about that?
MR. SALES: It's a mixed bag.
MR. CARR: Okay.
MR. SALES: Lot of times we pay, you pay. It mixes.
MR. CARR: There's not been any discussion of that one way or other?
MR. SALES: No. I'm not worried about it one way or the other. It's not like anybody is cheating. I'm not.
BY MR. SALES:
Q. How much -- let's say in the past five years would you estimate your -- out of your total income what percentage would be related to litigation-oriented work such as what we are doing here today?
A. I don't know that I have an exact number. It's

more than half.
Q. Okay. Would it be more than seventy percent?
A. I don't think so.
Q. Sixty percent?
A. That I couldn't say.
Q. All right. So somewhere between fifty and seventy percent?
A. I would think that's reasonable, yeah.
Q. Okay. In the year 2009, for instance, do you know what your income was from litigation-related sources?
A. I do not. I do not know.
Q. Do you know how many hours you may have worked doing litigation related material in the year 2009?
A. That's roughly the same question as what my income was and the answer is I don't know.
Q. How do you provide that information to your -- I assume you're using an accountant to do your tax returns?
A. I do.
Q. Yeah. And so you have to provide that information, how do you do that?
A. Are my tax returns fair game in the deposition? I wasn't aware.

MR. CARR: My, my -- well, first of all, it's your tax returns. No request has been made for them.

MR. SALES: I haven't asked for them.

MR. CARR: Right. So I don't think he's asking you to give him your tax returns. I think he's asking is there a method by which you report money you've made consulting in cases to your CPA and that seems like a simple yes or no question to me.

THE WITNESS: Yes. I, I report my income to my accountant.

BY MR. SALES:

Q. Okay. So you will get a statement from say the university who sends you whatever they might send, a 1099 or W-2, I don't know how that might work for you. You probably have a separate medical practice I would assume. Right or wrong? I mean the doctors I work with who use -- who work with universities, they are with the university, and then they have their separate practice and sometimes the university has it all. I don't know how yours works but you will get some sort of statement from those entities, right?

A. I will, I will get a statement from the University

of Michigan.
Q. Okay. All right. And then you have, you have your litigation work. Is that under, for instance -- well, that goes to -- with the PLLC, I guess is this your private medical practice?
A. That is my private company.
Q. Okay. It's, it's not -- well, it's a professional limited liability corporation. Is it, is it meant to be your medical practice or is this a company devoted to the litigation area?
A. That is my private limited liability corporation.
Q. Okay. And is that devoted to litigation?
A. No. It is -- first off, my medical practice is entirely through the University of Michigan.
Q. Fair enough. Okay. So the PLLC then, of the income it gets, is that -- how much of that is related to litigation-related materials, matters such as this?
A. The majority of it.
Q. Okay. So then does that, does that company report to you every year what your income from that would be?
MR. CARR: Objection. Vague.
THE WITNESS: It's hard to say. The company is me. I mean it's --

BY MR. SALES:
Q. Well, it has to generate some sort of report of income. I mean you get a K-1, do you not?
A. No.
Q. Okay. Your accountant doesn't prepare a K-1 for you?
A. No.
Q. Okay. Well, I guess what I'm trying to figure out, for instance, in the last year we can probably agree that a hundred percent of the litigation work you did was on behalf of defendants in litigation, correct?
A. Yes.
Q. Okay. What I'd like to know is what income you derived from that litigation work in the past year?
A. Okay. You've already asked me the percent of my income.
Q. Yeah.
A. And I've answered that.
Q. Right.
A. Okay. Now, if you want the amount, then that goes to revealing my personal tax return which --
Q. Actually I'm not asking for your personal tax return.

A. But you're getting --
Q. I might be able to but I'm not.
A. You're getting the percent and the amount, so it's essentially the same. I've given you the percent.
Q. Well, I understand, what I would like to know, and if you would, I would like for you to produce to me whatever income in the year 2009 that you or your company made from litigation-oriented work.
MR. CARR: Okay. We will consider that a formal request.
MR. SALES: Sure.
MR. CARR: We'll respond to it.
MR. SALES: Sure.
MR. CARR: So you understand he has made a formal request. You need not agree or not agree right now. We will consider it.
MR. SALES: Right.
MR. CARR: And, you know, obviously to the extent that I'm observing, Dr. Garabrant may not be interested in that, and we need to talk the judge about it, we will do that.
MR. SALES: I understand.
MR. CARR: Okay.
BY MR. SALES:
Q. Okay. Do you know how many cases that you worked

on in the year 2009?
A. I do not by number. I would estimate that I probably worked on a couple of dozen.
Q. Okay.
A. And what -- it's a little bit difficult because I have things, for example, the Quillan case where I did work in the winter and then nothing happened until just recently. So it was sort of dormant for almost a year or nine months, and there, there are things that I'm asked to do. Something -- nothing happens for a year or two years --
Q. Sure.
A. -- or three years and then someone says we need you to look at these materials so.
Q. Well, for instance, these Exhibits 6A and B, do you have like an -- in order to generate your statements to clients in litigation, do you have a piece of software that you use to collect and to send that statement to put it together?
A. I use Microsoft Word.
Q. Okay. So you just, you just put it on a -- I mean you don't have like an accounting program that you use?
A. No.
Q. Okay. Or a billing program of some kind?

A. No.
Q. A dedicated billing. So what you do is you just add the file and you figure out how much time you worked on a particular day and then you -- how much time you worked on a particular day and you write, you write it down and you send a bill?
A. That's correct.
Q. Okay. Fair enough. During a normal work week how many hours a week do you think you would spend on litigation-related matters as opposed to your other work as a physician?
A. It varies.
Q. Okay. Well, would, and this may be different than, than -- I asked you a question, you know, how much percentage of your income is to litigation as opposed to your physician-related work. It may be different though in terms of time because they don't always correlate. I understand that.

In terms of the time that you worked during a week, do you spend more than fifty percent of your time on litigation or less than fifty percent of your time on litigation?
A. Less.
Q. Okay. What percentage of your work week would you

spend on litigation?
A. It varies.
Q. On the average, say in a year how much? Of the total time you work in a year, how much of your time would be spent on litigation as opposed to non-litigation-related work?
A. It could be thirty, thirty-five percent.
Q. Okay. And what's your normal work week on the average?
A. My normal work week?
Q. Yeah. I mean is it forty, fifty, sixty hours; what is it?
A. My wife and I have a difference of opinion on that.
Q. Mine don't. I'm always gone.
A. I get up in the morning I go to work, you know, often 8:30, 9, sometimes 10, sometimes I work at home in the morning. Often if I have consulting work that had to be done that day, I will work at home in the morning, go down to the university, work usually 'til 6 or 7 at night, come home. Some nights I have to get stuff done either for the university or for consulting work and then I work most weekends at least one day.
Q. So do you think you put in a sixty hour on average

work week or fifty on average work week?
A. It's not sixty. I don't think so.
Q. Okay. Would fifty be more likely?
A. It's, it's probably fifty-ish, yeah.
Q. Okay. And hopefully since we're in the same geographical, geological and timeframe in this jury, you get at least a month off every year, don't you? Or if you are like most physicians I know you travel and speak?
A. You know, it varies.
Q. Yeah.
A. I find that I end up working on vacation. I take my laptop. You can't, you can't be away for long anymore.
Q. But do you get, I mean in all fairness, Doctor, I'm trying to do an analysis of your income and that's what I'm doing. In all fairness to you, I mean at your point in your career, and I don't mean that you're older because I'm not, at your point in your career you should have certain, I don't know if perks is the right thing, but at your level in the university and where you are, you should I would assume there's at least a few weeks a year you get to enjoy without the total dedication to your work?

A. I take vacation.
Q. Okay. All right. We don't need to quibble over that. Give me five minutes and I will let you know. I think I may be done.
MR. CARR: Sure.
VIDEOGRAPHER: We're going off the record. The time is 1:00 and 24 seconds p.m.
VIDEOGRAPHER: We're back on the record. The time is 1:06 and 36 seconds p.m.
MR. SALES: Doctor, have you -- would that be helpful?
VIDEOGRAPHER: Yes.
BY MR. SALES:
Q. Doctor, have you done any work with the Safety-Kleen people or any of their counsel previously?
A. I think I have assisted them in a small number of litigation matters in the past.
Q. And in what way?
A. I think I've been an expert witness regarding Safety-Kleen.
Q. Okay. I didn't see their name on the list that I had, and you didn't tell me -- I don't mean this in a bad way, but you didn't tell me that you had been involved in cases since 2008 involving

Safety-Kleen, so I would assume that that predates the list or predates that four years?

A. You know, to the best of my recollection, I think I may have been an expert in a case in which Safety-Kleen was a defendant. Whether I was retained by Safety-Kleen or not, I actually don't recall.

Q. Was this a case involving whether or not someone had developed a myelodysplastic syndrome as a result of exposure to benzene?

A. I'm not sure I remember any specific case. And to be honest I don't -- I think I have been involved in another case or small number of cases in which Safety-Kleen was a defendant. I might have been retained by them. I honestly don't know.

Q. How many years ago would this have been?

A. More than, more than four or five. I simply don't know.

Q. Okay.

A. So I guess, I guess my answer is I think I might have. I don't know.

Q. Your working with the law firm -- or I assume that the law firm retained or contacted you in this case?

A. Yes.

Q. First? It wasn't someone from Safety-Kleen?
A. That's correct.
Q. All right. Have you worked with that law firm previously?
A. I don't think so. I don't know.
Q. Do you know how they got your name?
A. I have no idea.

MR. SALES: Do you know whether, this is a request to Safety-Kleen, and you're, you're Safety-Kleen counsel.

Do you, do you -- would you provide, and this is a formal request, any information regarding Dr. Garabrant's prior work with Safety-Kleen in any manner?

MR. CARR: I'll consider it a formal request. To the extent that he has been retained, hired or may be used as a consultant, I can tell you the answer would be no. But I don't know of any instances where that's the case. But I think sitting here, Dr. Garabrant, I don't know if you are talking about the Wolfe case. We were a defendant in it but I don't remember if we retained you or not.

THE WITNESS: I don't -- you know, to be honest I don't know.

MR. CARR: Okay. Well, the answer is I will consider your formal request and we will look at it.

MR. SALES: Okay.

MR. CARR: Okay.

MR. SALES: Fair enough.

BY MR. SALES:

Q. Other than what you told me you have, you have no recollection of being retained or working for Safety-Kleen previously?

A. I've given you the best of my recollection.

Q. Okay. Do you plan on doing any more work on this case?

A. Only if I'm asked to.

MR. CARR: And for the record, we have sent him Dr. Rogers, Dr. Clapp, Dr. Ellenbecker. We are going to ask him to review those depositions and perhaps comment on both methodology and conclusions. But those depositions have been completed here in the past three, four, five days, so that's --

MR. SALES: Doctor --

MR. CARR: -- not doable yet.

BY MR. SALES:

Q. I'm sorry. Doctor, I've -- we've gone over your

reports, your declaration, your affidavit and then I've asked you a number of questions here in this deposition; and I think we probably covered between those documents and my questions all of the opinions you may have relative to Mr. Quillan and Safety-Kleen. Would you agree with that?

A. I don't think we discussed any of my opinions or the basis for them. We certainly didn't discuss any of the scientific literature.

Q. Well, when I -- what I said was your report, okay, your affidavit, your declarations, correct? And you provided me -- in addition, you provided me a copy of scientific literature that you have relied upon, correct?

A. Yes.

Q. Or you are?

A. Yes.

Q. Would that, would that -- I understand your opinion, and I don't want to -- but that would, that would be comprehensive of your opinions regarding Mr. Quillan?

A. Well, as of the date on which these documents were written, those would be comprehensive but there's all these new supplemental reports from Dr. Clapp, Dr. Ellenbecker, Dr. Rogers, new literature, their

deposition testimony. So I may have additional opinions --

Q. I'm with you.

A. -- related to those documents.

Q. And I don't mean to interrupt. I'm with you. I'm just trying to get us to today. Okay. And then I will talk to you just briefly about tomorrow.

As of today between your affidavits and I would assume that your report is a fairly, it is a fairly detailed report that expresses your opinions regarding Mr. Quillan and your evaluation of Mr. Quillan, correct?

A. As of January of 2009.

Q. Right. And we're -- yes. A year ago. Okay. Is there something that you've received in the intervening year that adds to that report?

A. I have received the affidavits of John Spencer, David Pyatt and various affidavits from Dr. Ellenbecker, Dr. Clapp, Dr. Rogers.

I think the one thing that is even clearer to me than it was year ago is that the Plaintiff's experts actually have not method for reaching a causal determination in this case.

Q. Okay.

A. Their opinions appear to be simply guesswork.

Q. Your report and your conclusions then have not changed since you did your original report?
A. That's correct.
Q. All right.
MR. CARR: For the record since he is my expert, you and I did discuss the fact the Plaintiff's experts have injected differential diagnosis into this case, and we have discussed that topic. And for the record we still have recently taken depositions that this expert's not had an opportunity to digest yet. And there's also upcoming depositions of treaters as well where that issue may be discussed, and then we will ask Dr. Garabrant to share his views with that at trial but those issues were not in the case when he reported.
BY MR. SALES:
Q. Okay. I appreciate that. But I -- and that's what I'm trying to isolate because I'm trying to get us to today and then I'll close out tomorrow in some way.
At the time you did your original report, for instance, you did not have Mr. Spencer's evaluation?
A. I did not have his report.

Q. Okay. Had you spoken to him?
A. No.
Q. All right. So I assume that when you did your original report, you made your original conclusions, you had not relied on Mr. Spencer's evaluation in this case?
A. I had not seen his report and I had not spoken with him to the best of my recollection. I may have asked whether he had an estimate of the exposure range for Mr. Quillan related to benzene because typically I need to have a sense for what the exposure expert thinks the exposure range was.

I don't recall whether I received that information from Mr. Carr and his colleagues but I may have received that. To be honest I don't remember.

Q. Okay. Well, I mean I'm just trying to understand. If you didn't talk to him and you didn't have his evaluation, and I didn't see anything in your report about Mr. Spencer, is it fair to say I can assume that when you reached your conclusions you, you did not have anything from him?
A. No. I just answered that. I may well have had an estimate of where he thought the exposure range would fall.

Q. Where --
A. What typically happens in my experience is that I have a deadline for my report and the exposure expert has the same deadline for his or her report, but I need to have a sense for what the exposure estimate is. And so I often ask counsel can you get a sense for where that's going to fall? Is it a tenth of a part per million year, ten parts per million year, a hundred parts per million year, give me a sense for it. And that's a difficult issue because often the exposure expert is working on their calculations and report simultaneously. But they often have a sense for, well, it's going to be, you know, somewhere between, you know, .1 and 2 or 2 and 5 or whatever. So I often get a sense for where that number is going to fall. I may have had that in this case. To be honest I don't, I don't recall.
Q. You have not, you have not documented that anywhere that you had --
A. No.
Q. -- that conversation?
A. No.
Q. So it's not in your report and no where in your file would there be any documentation that you

ever had such a discussion with Mr. Spencer, correct?

A. No.

Q. And you have no recollection of it as we sit here today?

A. I do not have any specific recollection of --

Q. Okay.

A. -- of any such discussion.

Q. Okay. So then you may develop additional opinions based upon other things that take place after today, correct?

A. I may develop additional opinions based on things that have already taken place prior to today.

Q. Okay.

A. But which I have not yet had time to review and consider.

Q. Okay. Well, this is what I want you to do for me. If you develop any additional opinions other than what you have given us through your testimony, the reports, the affidavits and so forth up until this point, would you please advise counsel so he can advise me that you have additional opinions?

MR. CARR: Yeah. And Ken, we'll consider that a formal request for that. Obviously if there's going to be reciprocity, and

it can be agreed on, we will do it. I, I don't know. I didn't make a similar request of your experts in depos but if we want to discuss that we will discuss it.

MR. SALES: Okay. That's all I got.

MR. CARR: You done?

MR. SALES: I'm done.

MR. CARR: All right.

THE WITNESS: Thank you.

MR. SALES: You're welcome.

VIDEOGRAPHER: This concludes the deposition.

MR. CARR: Whoa. Whoa. Let's -- we can go off the video record. Let's stay on the written record real quick.

VIDEOGRAPHER: This concludes the video portion of the deposition. The time is 1:20 and 5 seconds p.m.

MR. CARR: We talked earlier. An agreement that a copy would be made though exhibits not attached to the deposition of scientific literature upon which Dr. Garabrant intended to rely.

I am holding in my hot little hands four stacks of documents. The first one has an OCMAP

Plus label on it that says Rogers, the second is an OCMAP Plus label that says MDS, the third is a review of the data quality and comparability of case control studies of low level exposure to benzene in the petroleum industry, and the fourth is a group of studies with a stickie on it that says benzene AML. I think that says O dash R but I'm not sure.

THE WITNESS: D R.

MR. CARR: D R. Pardon me. I got you. Right. I'm going to give these to you. I'm going to hand these to the court reporter. She's going to make a copy of them, she going to return the original to Dr. Garabrant, and we are going to agree that this is the stuff that he has in this case on science right now. Agreed?

MR. SALES: Okay. Agreed.

(Garabrant Number 1 was marked)

(Deposition concluded at 1:21 p.m.)

STATE OF MICHIGAN)
SS.
COUNTY OF OAKLAND)

CERTIFICATE OF REPORTER

I, Barbara J. Turner, Certified Shorthand Reporter, a Notary Public, certify that this transcript is a complete, true and correct record of the testimony of DAVID HAY GARABRANT, M.D., deponent in the foregoing deposition, taken on January 21, 2010.

I further certify that prior to taking this deposition the witness was duly sworn by me to tell the truth.

I also certify that I am not a relative or employee of a party or an attorney for a party, or have a contract with a party, or am financially interested in the action.

_____

Barbara J. Turner, CSR-2343, RPR
Notary Public, Oakland County, Michigan
My Commission Expires: 02/14/14
Dated: This 22nd day of January, 2010