

DAVID PYATT

1 CAUSE NO. A-030272CC

2 ANN STUBBS, Individually) IN THE DISTRICT COURT OF
 3 and as Representative of) ORANGE COUNTY, TEXAS
 4 the Estate of BEN L.)
 STUBBS, Deceased,)
 5 Plaintiff,) 128TH JUDICIAL DISTRICT
 6 RADIATOR SPECIALTY)
 COMPANY, et al.,)
 7 Defendants.)

8 HERBERT W. WILKINSON and) IN THE DISTRICT COURT OF
 9 PEGGY S. HERBERT,) ORANGE COUNTY, TEXAS
 10 Plaintiff,) 128TH JUDICIAL DISTRICT
 11 RADIATOR SPECIALTY)
 COMPANY, et al.,)
 12 Defendants.)

13 -----

14 VIDEOTAPED DEPOSITION OF DAVID W. PYATT, Ph.D.
 15 MAY 17, 2006

16 -----

17 PURSUANT TO NOTICE, the deposition of DAVID W. PYATT,
 18 Ph.D., was taken on behalf of the Plaintiffs,
 19 pursuant to the Texas Rules of Civil Procedure, at
 20 900 Walnut Street, Boulder, Colorado, this date at
 21 9:05 a.m., before Janice L. Doyle, a Certified Court
 22 Reporter and a Notary Public.

23
 24
 25

DAVID PYATT

APPEARANCES

MS. DENYSE F. CLANCY, Attorney at Law, from the law firm of Baron & Budd, P.C., 3102 Oak Lawn Avenue, Suite 1100, Dallas, Texas, 75219, (214) 521-3605, appeared telephonically on behalf of the Plaintiffs.

MR. TYNAN BUTHOD, Attorney at Law, from the law firm of Baker Botts, LLP, One Shell Plaza, 910 Louisiana Street, Houston, Texas, (713) 229-1912, appeared on behalf of the Defendant Exxon.

MR. JAMES J. MAHER, Attorney at Law, from the law firm of King & Spalding, LLP, 1100 Louisiana, Suite 4000, Houston, Texas, 77002, (713) 276-7403, appeared telephonically on behalf of the Defendant Union Carbide.

MR. TODD LONERGAN, Attorney at Law, from the law firm of Coats, Rose, Yale, Ryman & Lee, P.C., 3 Greenway Plaza, Suite 2000, Houston, Texas, (713) 653-7316, appeared telephonically on behalf of Defendant Radiator Specialty Company.

Also Present: Ms. Carie Finegan,
Videographer

DAVID PYATT

I N D E X

DEPOSITION WITNESS:	PAGE
DAVID W. PYATT, Ph.D.	
Examination by Ms. Clancy	7

EXHIBIT	DESCRIPTION	PAGE
1	Notebook of Various Articles (Original Not Retained By The Court Reporter)	14
2	Notebook of Various Articles (Original Not Retained By The Court Reporter)	18
3	Notebook of Various Articles (Original Not Retained By The Court Reporter)	23
4	Notebook of Various Articles (Original Not Retained By The Court Reporter)	26
5	Notebook of Various Articles (Original Not Retained By The Court Reporter)	29
6	Various E-mails (Original Not Retained By The Court Reporter)	31
7	Various Articles Regarding Organic Solvents (Original Not Retained By The Court Reporter)	33

DAVID PYATT

1	EXHIBIT	DESCRIPTION	PAGE
2	8	Various Articles Regarding	34
3		Non-Hodgkin's Lymphoma (Original Not	
4		Retained By The Court Reporter)	
5	9	"Hematological Changes Among Chinese	35
6		Workers With A Broad Range of Benzene	
7		Exposures," American Journal of	
8		Industrial Medicine (Original Not	
9		Retained By The Court Reporter)	
10	10	"Environmental Exposure to Benzene:	36
11		An Update," Environmental Health	
12		Perspectives, (Original Not Retained	
13		By The Court Reporter)	
14	11	"Major Sources of Benzene Exposure,"	36
15		Environmental Health Perspectives	
16		(Original Not Retained By The Court	
17		Reporter)	
18	12	"The Environment and Disease:	37
19		Association or Causation?" Section	
20		Of Occupational Medicine (Original	
21		Not Retained By The Court Reporter)	
22	13	"Types of Leukemia in Chronic Benzene	37
23		Poisoning. A Study in Thirty-Four	
24		Patients," Acta haemat (Original Not	
25		Retained By The Court Reporter)	

DAVID PYATT

1	EXHIBIT	DESCRIPTION	PAGE
2	14	"Benzene and Hematopoietic	39
3		Malignancies," Clinics in Occupational	
4		And Environmental Medicine (Original	
5		Not Retained By The Court Reporter)	
6	15	Handwritten Notes (Original Not	40
7		Retained By The Court Reporter)	
8	16	Curriculum Vitae of David W. Pyatt	91
9		(Original Not Retained By The Court	
10		Reporter)	
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

DAVID PYATT

1 WHEREUPON, the following proceedings were
2 had:

3 IT WAS STIPULATED AND AGREED that the within
4 proceedings were taken pursuant to the Texas Rules of
5 Civil Procedure.

6
7 THE VIDEOGRAPHER: We're going on the
8 record at 9:05 on May 17th, 2006, at 900 Walnut
9 Street, Boulder, Colorado. We're here for the
10 deposition of David W. Pyatt, Ph.D., in the matter of
11 Ann Stubbs versus Radiator Specialty Company, et al.,
12 in the District Court for Orange County, Texas, 128th
13 Judicial District, Cause Number A030272CC.

14 Will counsel please state their
15 appearances beginning with plaintiffs' counsel?

16 MS. CLANCY: Denyse Clancy, counsel for
17 plaintiffs.

18 MR. BUTHOD: Go ahead on the phone, if
19 you want.

20 MR. LONERGAN: Todd Lonergan, attorney
21 for -- or counsel for Radiator Specialty.

22 MR. MAHER: Jim Maher, counsel for Union
23 Carbide Corporation.

24 MR. BUTHOD: Ty Buthod, counsel for
25 Exxon. And as we've talked about off the record

DAVID PYATT

1 before, we have an agreement to facilitate this with
2 the court reporter that one objection is good for all
3 during this deposition and that the court reporter
4 would mere -- would merely need to indicate in the
5 transcript that there's an objection from defense
6 counsel, or if Denyse makes an objection, of course,
7 it will be reflected as such. But that way, she
8 doesn't have to interrupt and figure out who on the
9 phone was talking.

10 THE VIDEOGRAPHER: The court reporter
11 will swear in the witness, please.

12

13 WHEREUPON,

14 DAVID W. PYATT, Ph.D,
15 the witness herein, having been first duly sworn by
16 the notary public, was examined and testified as
17 follows:

18

19 EXAMINATION

20 BY MS. CLANCY:

21 Q. Could you please state your name for the
22 record, sir?

23 A. Yes, David Pyatt.

24 Q. And is it Dr. Pyatt?

25 A. Yes, ma'am.

DAVID PYATT

1 Q. Okay. Dr. Pyatt, my name is Denyse
2 Clancy, and I'm counsel for plaintiffs in this case.
3 Good morning.

4 A. Good morning.

5 Q. First of all, have you ever given a
6 deposition before?

7 A. I have not.

8 Q. Okay. Let's -- I'm just going to go
9 over a couple of ground rules. First of all, since
10 this is a phone deposition, we're going to -- a
11 couple of things will be -- actually, we're going to
12 have to pay a little bit more stress to than normal,
13 one of which is that since the court reporter is
14 taking down every word that we say, I'm going to work
15 really, really hard to wait until you've completely
16 finished the answer to your -- to the question before
17 I proceed.

18 And furthermore, I'd ask that you wait
19 until I finish my question before answering. And
20 that will enable both of us to create a clear record
21 as well as either complete our question or complete
22 the answer. Does that make sense?

23 A. Yes, that's fine.

24 Q. Okay. The other thing is that if at any
25 point you don't understand me, if I'm speaking to

DAVID PYATT

1 quickly or I'm using a nonsensical word or something
2 like that, could you please interrupt me and/or when
3 I finish the question, tell me that you didn't
4 understand what I was asking and ask me to either
5 rephrase it or repeat the question?

6 A. I'll be happy to.

7 Q. Okay. The other thing is that the only
8 time that the Texas rules ask that you not take a
9 break is if a question is pending and you haven't yet
10 finished the answer to it. Otherwise, if at any
11 point you need to take a break, please do not
12 hesitate to let me or your counsel know and we'll
13 break immediately. Does that make sense?

14 A. Yeah. I appreciate that.

15 Q. Okay. The other thing is that the
16 reason that I have gone over the issue of you telling
17 me if at any point you don't understand my question
18 is because if -- when this goes to trial and we are
19 questioning you at trial and I ask you the same or
20 similar type of question I've asked you in deposition
21 and your answer is, "Well, I didn't understand the
22 question that you asked me in deposition," what I'm
23 going to be able to tell the jury at that time is,
24 "Well, I asked him to tell me if he didn't understand
25 and he didn't speak up during the deposition." Does

DAVID PYATT

1 that make sense?

2 MR. BUTHOD: Form.

3 THE WITNESS: I will do the best I can.

4 Q. BY MS. CLANCY: Okay. Thank you. First
5 of all, I want to do some housekeeping things. I
6 want to make -- try to understand what you have in
7 front of you today or what you've brought in response
8 to the deposition notice and what I have in front of
9 me today. First of all, were -- did you review the
10 deposition notice that was served on you in this
11 case?

12 A. I did.

13 Q. Okay. And did you bring materials with
14 you that are responsive to the deposition notice?

15 A. Yes, ma'am, I did the best I could.

16 Q. Okay. Why don't you -- your counsel has
17 been kind enough to alert me, I think, as to most of
18 the materials that you were bringing today, but why
19 don't you start describing them, and I then I can
20 check off what I have in front of me and we can see
21 if I'm missing anything.

22 A. Okay.

23 Q. Okay. So go ahead.

24 A. I have -- well, I'll start with this. I
25 have a binder that has a variety of studies in it,

DAVID PYATT

1 the -- the primary studies that I relied upon to base
2 my opinion. These deal specifically with the issue
3 of benzene exposure and hematopoietic malignancies.
4 Most of these -- well, all of these are contained in
5 that spreadsheet that we sent you. Not everything on
6 that spreadsheet is -- is necessarily in this binder.
7 These were the -- what I considered to be the most
8 important studies. I'm just going to go through in
9 random order, if that's okay.

10 Q. That's fine. And I'll just -- I think
11 -- hold on one second and I'm pulling up the
12 spreadsheet so that we can -- we can look at this
13 together. Bear with me one second.

14 A. Sure.

15 Q. Okay, Dr. Pyatt, I have the spreadsheet
16 in front of me. And go ahead. If you could go
17 through in -- in the order that you have them in
18 front of you, the articles.

19 A. Oh, you want me to go through the
20 specific articles that are in this binder?

21 Q. Well, I said if you could list, for
22 example, the article by title or lead author, that
23 helps me to identify what you've actually brought
24 with you today.

25 A. Sure. That's a -- it's a pretty

DAVID PYATT

1 exhaustive list, but I'll be happy to do that.

2 Q. Well, I'm looking at a two-page
3 spreadsheet, is that right?

4 A. Well, no, ma'am. It was -- well, when I
5 printed it out on my computer, it was like 22 pages.
6 And this has all of the studies that I've ever looked
7 at one point or another, looking at the epidemiology
8 of benzene-exposed workers. Out of that list, I
9 brought in -- I don't know -- probably 25 or so that
10 I actually have the studies themselves in a binder.
11 And those are the ones that I consider to be the most
12 reliable, the strongest literature, and the best
13 literature, specifically addressing this topic.

14 Q. Okay.

15 A. So I can -- I can go through this
16 binder, if you'd like, and tell you what studies are
17 in that, you know, that I actually have the paper.

18 Q. Okay. That would be great. I'd like to
19 know -- because what you're saying is that the binder
20 that you brought with you today are for you the
21 studies that you said are the ones that are most
22 important for you providing your opinion in the case
23 today?

24 A. That's correct.

25 Q. Okay. And these are the studies that

DAVID PYATT

1 you relied upon in providing your opinion in the case
2 today?

3 A. That's correct.

4 Q. Okay.

5 A. Not -- yeah, pretty much. Not
6 exclusively. I -- I mean, I've read all the studies
7 that are in this spreadsheet as well, and my opinion
8 is based on my understanding of the overall,
9 collective literature based on this topic. But these
10 are the studies, you know, I brought in 25 or so that
11 -- that I think are the most important.

12 Q. Okay. Well, if you could list -- if you
13 could list for me the studies that you have in your
14 notebook.

15 A. Okay. Then in this one notebook,
16 because I have other notebooks as well.

17 Q. Okay.

18 A. Okay. So I have Blair from 1992,
19 Budinsky from 1998. They're in alphabetical order.
20 This is Cartwright and Bernard. There were two
21 different studies from 1984. Collins from 2001,
22 Constantini from 2005, Decoufle from '83,
23 Fabbro-Peray from 2001, Franceschi -- I'm not sure
24 I'm pronouncing that right -- from 1989. Fritschi
25 from 2005, Fu from 1996, another Fritschi from 1996,

DAVID PYATT

1 Gerin from 1998.

2 Glass, 2003. Hayes, 1997 and 2000. La
3 Vecchia, 1989. Linet, 1993. Linet, 1994. Lynge,
4 1997. Mao, 2000. Nilsson, 1997. Mills, 2005. I
5 tried to have these in alphabetical order, but some
6 of them are misplaced. Ott, 1989. Persson, looks
7 like 1999. Paci, 1989. Savitz, 1997. Schnatter,
8 1996. Schumacher, 1988. Siema --
9 S-I-E-M-A-I-T-Y-C-K-I. I don't know how to pronounce
10 that. 1987.

11 Sorahan, 2005. Rinsky, '87. Vianna,
12 '79. Wong, parts 1 and 2 from 1987. Wong from 2000.
13 Wong, 1999. Wong, 2005. Xu, X-U, from 2003. Young
14 from 1989. Yin from 1996.

15 So that's the -- the binder that's
16 sitting in front of me right now.

17 Q. Okay. And sir, from the reading of --
18 from the reading of those authors, would you say that
19 those are primarily epidemiological studies in that
20 binder?

21 A. Yes, I -- I think that's what they are.

22 Q. Okay. I want to go ahead and mark that
23 as Plaintiff's Exhibit 1. Janice, could you mark
24 that for me as Plaintiff's Exhibit 1?

25 A. Does she have to take it?

DAVID PYATT

1 MR. BUTHOD: Yeah. You'll get it back.
2 What -- what counsel wants is to have a copy of all
3 that.

4 THE WITNESS: Okay.

5 MR. BUTHOD: And then she'll have that
6 all copied here locally, and then the binder will be
7 sent back to you.

8 THE WITNESS: Okay.

9 Q. BY MS. CLANCY: Okay. What else did you
10 bring with you today, sir?

11 MR. BUTHOD: Denyse, the court reporter
12 is putting the sticker on, so you might give her a
13 minute.

14 MS. CLANCY: Oh, okay. Take your time.

15 (A discussion was held off the record.)

16 (Exhibit No. 1 was marked for
17 identification by the court reporter.)

18 THE WITNESS: Okay. Then in a box
19 beside me I have a binder with the entire study, all
20 of the studies from the NCI China Project starting
21 back in 1987 going up to most recent that I could
22 find. So I don't know how many are in there; 20, 25
23 different studies or maybe not that many. But
24 starting with Yin, you want to go through those? Yin
25 in '87?

DAVID PYATT

1 Q. BY MS. CLANCY: Sir?

2 A. Yes.

3 Q. Sorry. Could you slow down a little bit
4 both for me and also for Janice?

5 A. Yes.

6 Q. Take this down.

7 A. You bet.

8 Q. Thank you.

9 A. You bet. So --

10 Q. Okay. So your -- your second binder, as
11 I understand it, is all of the, what you called --
12 did you call them the China studies?

13 A. Yeah, the NCI CAPM, the Chinese Academy
14 of Preventative Medicine, that whole series of
15 articles that -- the first publication that I'm aware
16 of was from Dr. Yin in 1987, and then it goes all the
17 way up to Lan, 2004, and that's -- that's the last
18 one that I have from this -- this series. So I can
19 -- I can go through them, if you'd like me to read
20 them off, or we can just can classify them as the
21 collection of China studies.

22 Q. Actually, what would be helpful to me is
23 if you could read the author and title of each in
24 that notebook.

25 A. Okay. The first one is from 1987. And

DAVID PYATT

1 you want the title as well?

2 Q. Yes, please.

3 A. Okay. "Leukemia In Benzene Workers: A
4 Retrospective Cohort Study."

5 Q. And the -- the lead author, sir?

6 A. Is Yin.

7 Q. Okay. Thank you.

8 A. And then there's another publication by
9 the same author, Yin, and this is in the -- oh, you
10 don't need the journal. You just want the title.
11 The title is "Occupational Exposures To Benzene In
12 China," and that was also from '87.

13 And then I have Yin, 1989, "A
14 Retrospective Cohort Study of Leukemia And Other
15 Cancers In Benzene Workers."

16 Q. Okay.

17 A. Okay. I have Travis from 1994,
18 "Hematopoietic Malignancies And Related Disorders
19 Among Benzene-Exposed Workers In China."

20 Then Yin from 1994, "Cohort Study Among
21 Workers Exposed To Benzene In China, Part 1, General
22 Methods And Resources."

23 Q. And the lead author, sir?

24 A. Yin, Y-I-N.

25 Q. Thank you.

DAVID PYATT

1 A. Okay. The next one is Dosemeci is the
2 lead author. The year is 1994, and it's entitled
3 "Cohort Study Among Workers Exposed To Benzene In
4 China To Exposure Assessment."

5 Q. Okay.

6 A. And then I have Dosemeci, 1996,
7 "Indirect Validation Of Benzene Exposure Assessment
8 By Association With Benzene Poisoning."

9 Q. Okay.

10 A. And I have Yin, 1996, "A Cohort Study Of
11 Benzene Among Benzene-Exposed Workers In China
12 Overall Results."

13 Q. Okay.

14 A. Hayes, 1996, "Mortality Among
15 Benzene-Exposed Workers in China."

16 Q. Okay.

17 A. Rothman, 1996, "Hematotoxicity Among
18 Chinese Workers Heavily Exposed To Benzene."

19 Linet, 1996, "Clinical Features of
20 Hematopoietic Malignancies And Related Disorders
21 Among Benzene-Exposed Workers in China."

22 Q. Okay.

23 A. Hayes, 1997, "Benzene And The
24 Dose-Related Incidence of Hematopoietic Neoplasias In
25 China."

DAVID PYATT

1 I have Hayes, 2001, "Benzene And
2 Lymphohematopoietic Malignancies In Humans."

3 Q. Okay.

4 A. Hayes, 2000, "Benzene And
5 Lymphohematopoietic Malignancies In China."

6 I have Dosemeci in 1996. Sorry. That's
7 a little out of order. Indirect val- -- oh, I
8 already mentioned this one. Sorry. It's got another
9 tab, but it's the same study. This is the Dosemeci,
10 '96, "Indirect Validation of Benzene Exposure
11 Assessment By Association with Benzene Poisoning."
12 So we've already talked about that one.

13 Budinsky, 1999, "An Evaluation Of
14 Modeled Benzene Exposure And Dose Estimates Published
15 In The Chinese-National Cancer Institute
16 Collaborative Epidemiological Studies."

17 I have Wong from 2002, "Investigations
18 of Benzene Exposure, Benzene Poisoning and
19 Malignancies in China."

20 And then I think the last one is Lan in
21 2004, "Hematotoxicity In Workers Exposed To Low
22 Levels of Benzene."

23 Q. Okay. And what I'm going to mark then
24 as the -- that notebook, the China studies, I'll mark
25 as Plaintiff's Exhibit Number 2. Janice, could you

DAVID PYATT

1 mark that for me as Plaintiff's Exhibit Number 2?

2 (Exhibit No. 2 was marked for
3 identification by the court reporter.)

4 THE WITNESS: Okay.

5 Q. BY MS. CLANCY: All right. Dr. Pyatt,
6 what else did you bring with you today?

7 A. Probably too much, but this is a binder
8 on -- it's probably not exhaustive, but it's a binder
9 on ep- -- epi studies in refineries, various authors
10 looking at refinery workers. And there's a -- it's a
11 pretty big -- pretty big list.

12 Q. Okay. And the -- I have a spreadsheet
13 from you. It was titled petroleum. Is that the --
14 the binder -- are those the studies in that binder?

15 A. I haven't cross referenced them like
16 that. I mean, I'm sure they're on one of these
17 pages. Might be on the petro chemicals. No. It's
18 probably on that. The refineries, yes. Well, there
19 is one -- there is the petroleum. You know, I'd have
20 to go through. I don't honestly know if every single
21 study in this binder made it to this spreadsheet.

22 This spreadsheet is kind of a work in
23 progress, and we just felt like we needed to get you
24 something, so we sent this. But I'd have to go
25 through and double check. So I can go through and

DAVID PYATT

1 list them, if you'd like, in the binder.

2 Q. Yeah, if you could list the -- the
3 studies in the refinery -- or I guess -- yes, the
4 refinery binder, as you called it, right?

5 A. Yes.

6 Q. Okay. If you could list those for me by
7 author and title, that would be helpful for me to see
8 how it fits with the spreadsheet that I have.

9 A. Okay.

10 Q. Thank you.

11 A. Consonni, C-O-N-S-O-N-N-I, "Mortality
12 Study In An Italian Oil Refinery Extension Of The
13 Follow-up."

14 Honda, 1995, "An Updated Study Of
15 Mortality Among Workers At A Petroleum Manufacturing
16 Plant."

17 Caplan, C-A-P-L-A-N, "Update Of A
18 Mortality Study Of Workers In Petroleum Refineries."

19 Hannis from 1982, "Epidemiologic Study
20 Of Refinery And Chemical Plant Workers."

21 Q. Okay.

22 A. The anchoring author on this one is
23 Cole. The first author is Wongrich. I don't know.
24 It's W-O-N-G-S-R-I-C-H-A-N-A-L-A-I is the first
25 author. And it's "Mortality From Leukemia And Other

DAVID PYATT

1 Diseases Among Workers At A Petroleum Refinery."

2 Q. Thank you.

3 A. Rushton from 1981. Excuse me. "A Case
4 Control Study To Investigate The Association Between
5 Exposure To Benzene And Deaths From Leukemia In Oil
6 Refinery Workers."

7 Thomas. And you can tell these are in
8 no particular order. Thomas, 1982, "Mortality
9 Patterns Among Workers In Three Texas Oil
10 Refineries."

11 Wen, W-E-N, from '83, 1983. "Long-term
12 Mortality Study Of Oil Refinery Workers."

13 This one is Theriault, I think.
14 T-H-E-R-I-A-U-L-T from 1979, "Mortality Study Of Oil
15 Refinery Workers."

16 Q. Okay.

17 A. McCall from 1985, "Excess Leukemia In
18 Refine -- In A Refinery Population."

19 Tsai, T-S-A-I, from 1983, "Respective
20 Retrospective Mortality And Medical Surveillance
21 Studies Of Workers In Benzene Areas Of Refineries."

22 The next one is Collingswood,
23 Collingwood, "An Updated Mortality" -- excuse me --
24 "An Updated Cohort Mortality Study of Workers At A
25 Northeastern United States Petroleum Refinery."

DAVID PYATT

1 Marsh from 1991, "Mortality Patterns
2 Among Petroleum Refinery And Chemical Plant Workers."

3 Wong from 1998, "An Updated Mortality
4 Study Of Workers At A Petroleum Refinery In Beaumont,
5 Texas." Who did I say the first author was?

6 MR. BUTHOD: Wong.

7 THE WITNESS: I'm sorry.

8 Q. BY MS. CLANCY: Wong. Is it Rob?

9 A. Yes. My fault. Yeah. I actually have
10 it labeled. My little tab's wrong. Yeah, it's Rob.

11 Q. Okay.

12 A. Yep. Okay. This one is Wong, first
13 author. Looking for a date. 2001. "An Updated
14 Mortality Study Of Workers At A Petroleum Refinery At
15 Beaumont, Texas, 1945 to 1966."

16 Wong from 1986, "An Epidemiological
17 Study of Petroleum Refinery Employees."

18 Dagg, D-A-G-G, "An Updated Cause
19 Specific Mortality Study Of Petroleum Refinery
20 Workers."

21 Satin, S-A-T-I-N, from 1996, "A 50-Year
22 Mortality Follow-up Of A Large Cohort Of Oil Refinery
23 Workers In Texas."

24 The first author, I can't --

25 S-I-E-M-I-A-T-Y-C-K-I. "Associations Between Several

DAVID PYATT

1 Sites Of Cancer And 12 Petroleum-Derived Liquids."

2 Wong from 1989, "Critical Review Of
3 Cancer Epidemiology And Petroleum Industry Employees
4 With A Quantitative Meta Analysis By Cancer Site."

5 Wong, 1995, "Cell-Type Specific Leukemia
6 Analysis In A Combined Cohort Of More Than 2008 --
7 208,000 Petroleum Workers In The United States And
8 The United Kingdom, 1937 to 1989."

9 And then Wong, 2000, "A Critical Review
10 Of Cancer Epidemiology In the Petroleum Industry With
11 A Meta Analysis Of A Combined Database Of More Than
12 350,000 Workers."

13 Q. Okay. And is that -- that is all the
14 articles in the petroleum notebook?

15 A. In the refinery notebook, yes.

16 Q. Refinery. Okay. We'll go ahead and
17 mark that as Plaintiff's Exhibit Number --

18 A. Number 3? You kind of broke up there.

19 Q. Yes, yes, Number 3.

20 A. Okay.

21 (Exhibit No. 3 was marked for
22 identification by the court reporter.)

23 THE WITNESS: Okay. This one's a little
24 shorter.

25 Q. BY MS. CLANCY: What is the -- what is

DAVID PYATT

1 the next one, sir?

2 A. This is a -- the collective series in
3 the pliofilm, what I call the pliofilm cohort.

4 Q. Okay.

5 A. And this is Infante from 1977, "Leukemia
6 In Benzene Workers."

7 Infante, 1978, "Leukemia Among Workers
8 Exposed To Benzene."

9 White from 1982, "A Quantitative
10 Estimate Of Leukemia Mortality Associated With
11 Occupational Exposures To Benzene."

12 Infante, 1983, "Benzene Epidemiological
13 Observations Of Leukemia By Cell Type And Adverse
14 Health Effects Associated With Low Level Exposures."

15 Rinsky, 1981, "Leukemia In Benzene
16 Workers."

17 Crump from, it looks like, 19-- 1984,
18 "Quantitative Estimates Of Risk Of Leukemia From
19 Occupational Exposures To Benzene."

20 Rinsky, 1987, "Benzene And Leukemia
21 Epidemiologic Risk Assessment."

22 Rinsky from 1989, "Benzene and Leukemia,
23 A Review Of The Literature And A Risk Assessment."

24 Paustenbach, 1982, "Re-evaluation Of
25 Benzene Exposure For The Pliofilm Rubber Worker

DAVID PYATT

1 Cohort, 1936 to 1976."

2 Wong, 1995, "Risk Of Acute Myeloid
3 Leukemia And Multiple Myeloma In Workers Exposed To
4 Benzene."

5 Paxton, 1994, "Leukemia Risk Associated
6 With Benzene Exposure In The Pliofilm Cohort,
7 Mortality Update, And Exposure Distribution."

8 And there's another one, same year, same
9 author, Paxton, 1994. "Leukemia Risk Associated With
10 Benzene Exposure In The Pliofilm Cohort Two Risk
11 Estimates."

12 Q. Okay.

13 A. Crump, 1994, "Risk Of Benzene-Induced
14 Leukemia, A Sensitivity Analysis Of The Pliofilm
15 Cohort With Additional Follow-up And New Exposure
16 Estimates."

17 Crump from 1996, "Risk Of
18 Benzene-Induced Leukemia Predicted From The Pliofilm
19 Cohort."

20 Schnatter, 1996, "Determination Of
21 Leukemogenic Benzene Exposure Concentrations, Refined
22 Analysis Of The Pliofilm Cohort."

23 Rinsky, 2002, "Benzene Exposure And
24 hematopoietic Mortality, A Long-term Epidemiologic
25 Risk Assessment."

DAVID PYATT

1 Silver, 1992. I'm sorry. 2002. Did
2 you -- did I say 1992 for Rinsky, the last one?

3 Q. I think you said -- I did not -- I think
4 you said current date for that.

5 A. Okay. Yeah. The last one was 2002, so
6 is this one. Silver, 2002, "Effective Follow-up Time
7 On Risk Estimates, A Longitudinal Examination Of The
8 Relative Risk Of Leukemia And Multiple Myeloma In A
9 Rubber Hydrochloride Cohort."

10 And the last one is Williams, 2003,
11 "Reconstruction Of Benzene Exposure For The Pliofilm
12 Cohort 1936, 1976, Using Monte Carlo Techniques."

13 Q. Okay. I'm going to go ahead and mark
14 the pliofilm study notebook as Plaintiff's Exhibit
15 Number 4.

16 (Exhibit No. 4 was marked for
17 identification by the court reporter.)

18 THE WITNESS: Okay.

19 Q. BY MS. CLANCY: Okay. What's the next
20 stuff that you brought with you, sir?

21 A. This is a binder that was a collection
22 of the UNC studies of the rubber manufacturing
23 facilities, and I just called them a -- the rubber
24 studies, but it was specific to that cohort. Most of
25 them were. There is a couple of other ones in here.

DAVID PYATT

1 Q. Okay. And so how would -- I'm sorry.
2 What would be the -- I don't want to put words in
3 your mouth, but how would you --

4 A. These are -- these are epidemiological
5 studies that evaluated workers in a -- a rubber
6 manufacturing facility. It started off being a
7 collection that began with Checkoways paper in '76 or
8 '4, but there's -- there are a few other ones in
9 there. So I can go through them, if you'd like.

10 Q. Yeah. About how many are in there, sir?

11 A. Maybe 10, 15.

12 Q. Okay. I think I might have all of those
13 on my spreadsheet, but it would be actually helpful
14 if you would read them so I can see.

15 A. Okay.

16 Q. Thank you.

17 A. Uh-huh. The first one is Fox from 1974,
18 "A Survey Of Occupational Cancer In The Rubber And
19 Cable-Making Industries Results Of Five-year
20 Analysis, 1967 to '71."

21 And then McMichael, 1974, "An
22 Epidemiologic Study Of Mortality Within A Cohort Of
23 Rubber Workers 1964 To '72."

24 McMichael, 1975, "Cancer Mortality Among
25 Rubber Workers, An Epidemiologic Study."

DAVID PYATT

1 Another one, McMichael, '75, "Solvent
2 Exposure In Leukemia Among Rubber Workers, An
3 Epidemiologic Study."

4 McMichael, 1976, "Mortality Among Rubber
5 Workers' Relationship To Specific Jobs."

6 Monson, 1976, "Mortality Among Rubber
7 Workers, Part 1, White Male Union Employees In Akron,
8 Texas -- Akron, Ohio."

9 Then there's another one, Mortality
10 among same, same author, Monson, 1976. "Mortality
11 Among Rubber Workers To Other Employees."

12 Monson, 1978, "Cancer Mortality And
13 Morbidity Among Rubber Workers."

14 Parkes, 1982, "Cancer Mortality In The
15 British Rubber Industry."

16 Wolf, 1981, "A Case Control Study Of
17 Leukemia In The U.S. Rubber Industry."

18 Checkoway, 1984, "An Evaluation Of The
19 Associations Of Leukemia And Rubber Industry Solvent
20 Exposures."

21 Wilcosky, "Cancer Mortality And Solvent
22 Exposures In The Rubber Industry," 1984.

23 Arp, A-R-P, "Lymphatic Leukemia And
24 Exposures To Benzene And Other Solvents In The Rubber
25 Industry."

DAVID PYATT

1 Vanert, 1980, "Rubber Exposures To
2 Chemical Agents In The Manufacture Of Rubber Tires,
3 Solvent, Vapor Studies."

4 Norseth, N-O-R-S-E-T-H, "Cancer
5 Incidents In The Rubber Industry In Norway."

6 Delzell, 1981, "Mortality And Cancer
7 Morbidity Among Workers In The Rubber Tire Industry."

8 Delzell, 1982, "Mortality Among Workers,
9 Processing Workers."

10 And that's all I have in this binder.

11 Q. Okay. And I'm going to go ahead and
12 mark the rubber binder then as Plaintiff's Exhibit
13 Number 5.

14 (Exhibit No. 5 was marked for
15 identification by the court reporter.)

16 Q. BY MS. CLANCY: Okay. What else did you
17 bring with you today, Dr. Pyatt?

18 A. Oh, I'm pulling it over. Okay. This is
19 a hard copy of Dr. Infante's deposition, part 1.
20 Part 2 I've read, but didn't print it out, so I don't
21 have that. And Dr. Gardner's deposition.

22 Q. Okay. I'm not going to mark those as
23 exhibits for now. Are notes in the deposition on the
24 deposition hard copy?

25 A. No.

DAVID PYATT

1 Q. Okay.

2 A. No. And then what we sent you
3 yesterday, these were just some notes that I jotted
4 down as I was going through those two -- or actually,
5 Dr. Infante's and Dr. Mehlman's deposition, so these
6 are just some handwritten notes.

7 Q. Did -- have you been through Dr.
8 Gardner's deposition?

9 A. Yes.

10 Q. Did you take handwritten notes on that?

11 A. No.

12 Q. All right. What else did you bring with
13 you today?

14 A. These are the -- a couple of e-mails
15 between myself and Mr. Young based on that list of
16 things that you asked for. But there's really
17 nothing in there. There's a couple that say give me
18 a call or he would send one of these depositions
19 electronically, but I brought them.

20 Q. Okay. I'm going to mark -- wait. Is
21 that your entire correspondence file in this case?

22 A. Yes.

23 Q. Okay. What about any transmittal
24 letters?

25 A. I don't have one of those.

DAVID PYATT

1 Q. Did they -- what about depositions? How
2 were they sent to you?

3 A. The depositions were just attached to
4 these e-mails.

5 Q. Okay. I'm going to go ahead and mark
6 the deposition -- excuse me -- the e-mails
7 collectively as Plaintiff's Exhibit 6.

8 Janice, do you have something to clip
9 those together with or are they already --

10 A. We just -- we have a paperclip.

11 Q. Okay.

12 (Exhibit No. 6 was marked for
13 identification by the court reporter.)

14 Q. BY MS. CLANCY: All right. What else
15 did you bring with you today?

16 A. This is a hard copy of Dr. Mehlman's
17 deposition. This a hard copy of Dr. Pugh's
18 deposition.

19 Q. Okay.

20 A. This is a hard copy of Dr. Natelson's
21 deposition.

22 Q. Okay.

23 A. And this is a binder in no -- it's not a
24 binder. Excuse me. A folder in no particular order.
25 These are a random collection of what I consider to

DAVID PYATT

1 be solvent studies. These are the organic solvent
2 literature that I have not been organized enough to
3 put them in a binder, so they're just kind of stuffed
4 into a folder.

5 Q. Okay. We can go ahead and mark the
6 solvent literature as Plaintiff's Exhibit Number 7.

7 A. Okay.

8 Q. What else did you bring with you today?

9 MR. BUTHOD: Denyse, am I safe to put
10 down the -- the depositions; that is, those other
11 depos he mentioned?

12 MS. CLANCY: Yeah.

13 Q. BY MS. CLANCY: I forgot to ask you, Dr.
14 Pyatt. Did you take any notes in Dr. Mehlman's
15 deposition, I mean on the deposition itself?

16 A. Dr. Mehlman's? No, no, no, not on the
17 hard copy, no.

18 Q. Okay.

19 A. Just a few handwritten that -- that you
20 have seen.

21 Q. Okay. What else did you bring with you
22 today, sir?

23 A. Hang on. I'm waiting on the solvent --

24 Q. Okay.

25 A. The sticky to go on the solvent.

DAVID PYATT

1 (Exhibit No. 7 was marked for
2 identification by the court reporter.)

3 THE WITNESS: This is a small binder --
4 or sorry. This is a small folder that has -- I don't
5 know -- six or seven studies that specifically
6 address the increased risk of non-Hodgkin's lymphoma
7 following treatment of Hodgkin's disease. And there
8 are --

9 Q. BY MS. CLANCY: I'm sorry. Could you
10 repeat that again, because I was trying to copy that
11 down?

12 A. Uh-huh. These are just some that I had
13 in my files from other projects, this -- that these
14 studies specifically address the risk of a second
15 cancer, including non-Hodgkin's lymphoma, following
16 treatment of Hodgkin's disease.

17 Q. Okay. All right. I would like to go --
18 and how many studies are those, sir?

19 A. There are six, eight. I mean, the
20 literature is filled up with them, but these are -- I
21 only have six copies here or six studies.

22 Q. Okay. I'm going to go ahead and mark
23 those as Plaintiff's Deposition Exhibit Number --

24 A. Okay. You kind of broke off. Number 8?

25 Q. Number 8.

DAVID PYATT

1 A. Yes.

2 (Exhibit No. 8 was marked for
3 identification by the court reporter.)

4 THE WITNESS: The last little folder I
5 have, this -- we've already talked about this one.
6 This was Lan, 2004, which was hematotoxicity in the
7 China -- part of the China cohort, and I have another
8 study by Qu, Q-U, 2002, that Dr. Infante specifically
9 mentioned in his deposition, so I pulled it out of my
10 files to reread. So I have those two together.

11 Q. BY MS. CLANCY: Okay. Let's go ahead
12 and mark the Q-U and the Lan study -- sir, was the
13 Lan -- the Lan study another copy of that was also in
14 the China folder?

15 A. Yes, ma'am, that's the same.

16 Q. Okay. So we -- we've already marked at
17 least another copy of the Lan as an exhibit, correct?

18 A. Right.

19 Q. I don't recall the Q-U study as being
20 part of another exhibit. Was it?

21 A. No.

22 Q. Okay. So let's mark the Q-U study as
23 Plaintiff's Exhibit Number 9.

24 A. Okay.

25 (Exhibit No. 9 was marked for

DAVID PYATT

1 identification by the court reporter.)

2 THE WITNESS: Okay. We're getting
3 close.

4 MS. CLANCY: Okay.

5 THE WITNESS: An old copy of Sir
6 Bradford Hill environment and disease, so just
7 discussion, his president's address where he went
8 through the so-called Bradford Hill criteria.

9 And I have a loose copy of a study from
10 Aksoy from 1976, "Types of Leukemia In Chronic
11 Benzene Poisoning, A Study Of 34 Patients."

12 And I have a -- two studies, kind of
13 studies, reviews, by Lance Wallace where he discusses
14 the background ambient levels of benzene in the
15 United States in various locations here and there.

16 Q. Okay. Let's mark the Wallace article as
17 Plaintiff's Exhibit Number 9 -- I mean, excuse me --
18 Number 10.

19 A. Okay. Does anyone have a paperclip?
20 There's two of them. We don't have many office
21 supplies here.

22 Q. Okay.

23 MR. BUTHOD: Denyse, why don't you make
24 that 10 and 11, just because there are two that we
25 haven't clipped together.

DAVID PYATT

1 MS. CLANCY: That's fine.

2 Q. BY MS. CLANCY: Exhibit 10 is the --
3 well, sir, could you read --

4 A. I will. You bet. Ten is Wallace 1996,
5 "Environmental Exposure To Benzene, An Update."

6 So then the next one is Wallace, 1989,
7 "Major Sources Of Benzene Exposure."

8 Q. Okay. The second one then --

9 MR. BUTHOD: Hold on a second, Denyse.
10 (Exhibit Nos. 10 and 11 were marked for
11 identification by the court reporter.)

12 MR. BUTHOD: Okay. All right. Okay.
13 Now we're ready. Sorry.

14 THE WITNESS: So the only other things
15 we have, the Aksoy from '76 and Dr. Hill's
16 president's address from, it looks like, 1965.

17 Q. BY MS. CLANCY: Okay. What will be
18 Wallace then is Exhibit 10 and 11. So I'm going to
19 mark exhibit -- sir, is that correct, Wallace is
20 Exhibit 10 and --

21 A. Yes. Yeah. We're up to 12.

22 Q. Okay. Thank you. I'm going to mark as
23 Exhibit 12 the Bradford -- the copy of the Bradford
24 Hill speech that you brought.

25 A. Okay.

DAVID PYATT

1 Q. And Exhibit 13 is the Aksoy material.

2 A. Yes.

3 Q. And can you tell me why --

4 (Exhibit Nos. 12 and 13 were marked for
5 identification by the court reporter.)

6 Q. BY MS. CLANCY: Okay. Thank you. So
7 Exhibit 12 is the Bradford Hill criteria. Exhibit 13
8 is the Aksoy material. Sir, can you tell me why you
9 pulled the Aksoy material out?

10 A. In that particular study, he addresses
11 the cell type on a cell-type-specific basis, the type
12 of leukemia that he saw in his shoe worker studies.

13 Q. Okay.

14 A. So since my understanding of Mr. Stubbs
15 is that he had chronic lymphocytic leukemia, I
16 thought it was germane to this issue.

17 Q. Okay. And tell me how you thought it
18 was germane.

19 A. Well, because Dr. Aksoy specifically
20 addresses whether or not there was any chronic
21 lymphocytic leukemia cases in his study, and he found
22 none.

23 Q. Okay. So you find that significant from
24 an epidemiological perspective?

25 A. I find it supportive of my general

DAVID PYATT

1 opinion that the literature does not support a basis
2 for chronic lymphocytic leukemia being caused by
3 benzene exposures. The Turkish shoe workers were
4 exposed to very, very high levels of benzene, and
5 there was no increase in CLL. So that's why I
6 brought them.

7 Q. Okey-doke.

8 A. And then the last thing and then we're
9 done.

10 Q. Okay. Thank you.

11 A. Is a copy of a book chapter that I
12 wrote, so it's me as the author in 2004. "Benzene
13 And Hematopoietic Malignancies" is the title.

14 Q. Okay. And I'll go ahead and mark the
15 book chapter as Exhibit 14.

16 A. Okay.

17 Q. Sir, did you bring anything else with
18 you today?

19 MR. BUTHOD: Just a second, please.

20 (Exhibit No. 14 was marked for
21 identification by the court reporter.)

22 THE WITNESS: No, ma'am, other than my
23 bag and that kind of thing.

24 Q. BY MS. CLANCY: Okay. Okay. Did you
25 bring with you the notes that you took on Dr.

DAVID PYATT

1 Infante's and Dr. Mehlman's deposition?

2 A. I do. I have those, yes.

3 Q. Okay. I don't believe that we've marked
4 those as an exhibit yet, so I'd like those to be an
5 exhibit to the deposition.

6 A. Okay.

7 Q. Mark that as Plaintiff's Exhibit 15.

8 (Exhibit No. 15 was marked for
9 identification by the court reporter.)

10 A. If we're going to discuss this, I get it
11 back, right?

12 MR. BUTHOD: Of course.

13 THE WITNESS: Okay.

14 Q. BY MS. CLANCY: Did you -- did you bring
15 with you any other notes today to the deposition?

16 A. No. That's it.

17 Q. Were there any other notes that you took
18 in this case in addition to those that you took on
19 Dr. Infante's and Dr. Mehlman's deposition?

20 A. No.

21 Q. When you communicated with the attorneys
22 in this case, did you take any notes?

23 A. No.

24 Q. Have you -- have you talked to any
25 experts in this case?

DAVID PYATT

1 A. No, ma'am. No, I have not.

2 Q. All right. Have you talked to any fact
3 witnesses in this case?

4 A. No.

5 Q. Have you talked to anybody in this case
6 outside of the attorneys for the defendants?

7 A. Not other than perhaps mentioning to my
8 business partner that I was being deposed in this
9 matter, so I probably mentioned it to him and that
10 that's where I'm going to be today. But certainly,
11 we didn't talk about, you know, any of the science.

12 Q. And -- and who is your business partner?

13 A. Well, I have two. His -- his name is
14 Sean Hayes, and he's in Estes Park. And then we just
15 expanded and brought on a new partner, and her name
16 is Lisa Awylard, and she's in DC.

17 Q. Did you talk to Mr. Hayes about any
18 substantive issues with respect to what you'd be
19 testifying to today?

20 A. No, ma'am.

21 Q. Have you talked to anybody outside of
22 the attorney who hired you in this case with respect
23 to any of the substantive matters about which you
24 will be testifying today?

25 A. No.

DAVID PYATT

1 Q. When were you first contacted by the
2 attorneys in this case?

3 A. I don't -- I can't answer that exactly.
4 I think it was sometime early this year. It might
5 have been in February when they sent -- Mr. Young
6 sent me medical records, and I briefly looked through
7 them when they first came in, but I didn't get into
8 really much analysis until probably three or four
9 weeks ago when it looked like it was moving forward.

10 Q. Okay. Did you also review medical
11 records with respect to your preparation in this
12 case?

13 A. Briefly, yes, ma'am.

14 Q. Okay. What medical records did you
15 review?

16 A. I don't -- I reviewed them for
17 Mr. Wilkinson and Mr. Stubbs, but I mean, I went
18 through them really quickly, and I didn't pay
19 attention to which doctor they were from or which
20 hospital.

21 Q. Okay. What were you looking for when
22 you reviewed the medical records?

23 A. Just a general understanding of what
24 their disease was,

25 Q. Okay. And what is your understanding of

DAVID PYATT

1 that?

2 A. My understanding for which plaintiff?

3 Q. For Mr. Wilkinson.

4 A. My understanding of Mr. Wilkinson was
5 that he was diagnosed in 1986 with Hodgkin's disease
6 and was treated with radiation therapy for that
7 disease and then had a recurrence in 1993 or 1994 of
8 a diffuse, fairly aggressive B cell lymphoma.

9 Q. Okay. And do you consider B cell
10 lymphoma to be non-Hodgkin's lymphoma?

11 MR. BUTHOD: Form.

12 THE WITNESS: B cell -- a diffuse B cell
13 lymphoma is classified as a non-Hodgkin's lymphoma.

14 Q. BY MS. CLANCY: Okay. And what about
15 Mr. Stubbs; what is your understanding of his
16 diagnosis?

17 A. Was that he was diagnosed with chronic
18 lymphocytic leukemia.

19 Q. And chronic lymphocytic leukemia is a
20 small cell lymphoma, correct?

21 MR. BUTHOD: Form.

22 THE WITNESS: They seem to have
23 morphologic similarities, and I know that there is
24 some discussion about them being classified together,
25 but epidemiologically they've been -- chronic

DAVID PYATT

1 lymphocytic leukemia has been treated as a
2 independent, distinct, clinical entity. So
3 nosologically, they might be grouped together.

4 Q. BY MS. CLANCY: Did you say
5 nosologically?

6 A. Noso -- based on their classification,
7 they might be classified together.

8 Q. Well, I'm talking about morphologically.
9 Morphologically, chronic lymphocytic leukemia is a
10 small cell lymphoma, correct?

11 MR. BUTHOD: Form.

12 THE WITNESS: Well, I -- I'm not really
13 qualified to answer that. I think you would need to
14 address that to a pathologist. I just know that in
15 the studies that I've read, chronic lymphocytic
16 leukemia has been separated out.

17 Q. BY MS. CLANCY: So you do not know as
18 you sit here today whether or not chronic lymphocytic
19 leukemia is a small cell lymphoma?

20 A. I believe those are morphologically
21 similar. They have different clinical presentations.
22 But that's my -- that's my only understanding.

23 Q. Well, you agree with me, do you not,
24 that chronic lymphocytic leukemia manifests itself in
25 the lymph cells as small cell lymphoma? If you do a

DAVID PYATT

1 biopsy, it will manifest itself as small cell
2 lymphoma, correct?

3 MR. BUTHOD: Form.

4 THE WITNESS: Well, I'm not -- I don't
5 diagnose patients. I don't know how it always -- it
6 manifests itself, but I don't think that's correct.
7 I think that is one of the distinctions between the
8 two and that the small cell lymphoma manifests itself
9 primarily as a solid tumor in the lymph nodes, and
10 the chronic lymphocytic leukemia is disseminated in
11 the peripheral blood. That's my understanding.

12 Q. BY MS. CLANCY: Okay. And how does
13 chronic -- and how does -- but what you're saying
14 then is the characterization of chronic lymphocytic
15 leukemia and small cell lymphoma might be
16 characterized as similar by a nosologist. That's
17 what you testified to previously -- previously?

18 MR. BUTHOD: Form.

19 THE WITNESS: I'm not sure what that
20 means.

21 Q. BY MS. CLANCY: Well, I'm just trying to
22 understand what you said with respect to the
23 nosologist's classification of the two.

24 A. Well, I don't -- nosology is a -- is a
25 term which is used to just describe the process of

DAVID PYATT

1 classifying diseases. And there are many
2 classification categories for non-Hodgkin's lymphoma,
3 and sometimes it's grouped in and other times it's
4 not. And that's just really outside of my area of
5 expertise.

6 Regarding -- specifically regarding this
7 case and the alleged association between benzene
8 exposure and these diseases, whether we call it
9 non-Hodgkin's lymphoma or chronic lymphocytic
10 leukemia is -- is almost semantical. It really
11 doesn't matter based on the literature. In my view,
12 there's no support for either of those two disease.

13 Q. Okay. Object as nonresponsive.

14 Sir, are you care -- are you familiar
15 with the World Health Organization classifications?

16 A. I am.

17 Q. Okay. And do you agree with me that
18 according to World Health Organization, B cell, small
19 cell lymphoma is considered as the tissue infiltrate
20 of chronic lymphocytic leukemia or do you not know?

21 A. I -- I would have to look at their -- I
22 haven't looked at it recently, and I really just --
23 that's outside -- that exceeds my area of expertise.

24 Q. Okay. So you're not qualified to
25 testify as to whether or not chronic lymphocytic

DAVID PYATT

1 leukemia manifests -- excuse me. You're not
2 qualified to testify whether or not B cell, small
3 cell lymphoma is considered as a tissue infiltrate of
4 chronic lymphocytic leukemia?

5 MR. BUTHOD: Form.

6 THE WITNESS: No, ma'am.

7 Q. BY MS. CLANCY: Okay. And you're not
8 qualified to testify as to whether or not chronic
9 lymphocytic leukemia is considered small cell
10 lymphoma?

11 A. No. That's -- that seems like the same
12 question, but no.

13 Q. Okay. And that's not something that
14 you'll be offering your opinions on in this case.

15 A. No.

16 Q. Okay. When you were contacted to
17 testify in this case, what were you asked to testify
18 about or what were you asked to give your opinion
19 about?

20 A. I was asked to give my opinion on a
21 general causation analysis of whether the literature
22 supported a relationship between benzene exposure and
23 Hodgkin's disease, non-Hodgkin's lymphoma, or chronic
24 lymphocytic leukemia.

25 Q. Okay. Anything else?

DAVID PYATT

1 A. No.

2 Q. Okay. What do you consider yourself an
3 expert in?

4 A. Well, I'm a toxicologist.

5 Q. Okay. And what is -- as a toxicologist,
6 what are you an expert in?

7 A. Well, through my training and my
8 research, I specifically investigated the molecular,
9 biochemical alterations in hematopoietic cells in
10 immunological cells following exposure to various
11 chemicals, one of which were -- was hydroquinone,
12 which is an active metabolite of benzene. So I've
13 done basic research on the effects of benzene on the
14 specific cell types of interest in this -- in this
15 matter.

16 Q. Okay. And so you've done research in,
17 is it, the laboratory with respect to the effects of
18 benzene toxic metabolites on the cellular structures?

19 A. I don't know about the cellular
20 structures, but yes, I have done research looking at
21 alterations in growth factor response, alterations in
22 phenotypic presentation, alterations in hematopoietic
23 regulations, cell signaling, clonogenic response, all
24 of the -- the functionality that we attribute to
25 these -- these cell types; hematopoietic bone marrow

DAVID PYATT

1 cells, immunological cells from the peripheral blood.

2 Q. And your -- you've been testifying --
3 according to your curriculum vitae, you've been
4 testifying in cases involving various types of
5 leukemia, multiple myeloma and non-Hodgkin's lymphoma
6 since 2001, is that correct?

7 MR. BUTHOD: Form.

8 THE WITNESS: You know, I don't honestly
9 -- I have had various projects over the last four or
10 five years dealing with those issues, yes. I don't
11 honestly know some of them whether I was listed as a
12 testifying expert or consulting expert or -- a lot of
13 times I would just discuss the -- the science as I
14 understood it.

15 Q. BY MS. CLANCY: Well, have you ever
16 testified in a case before involving benzene and the
17 development of hematopoietic malignancies?

18 A. Well, I'm going to have to be naive here
19 and ask you to define testify.

20 Q. Well, I'm just reading from your -- do
21 you have your curriculum vitae in front of you?

22 A. Yes.

23 Q. Okay. Why don't you pull that out.

24 A. Okay. And you're looking at the 2001?

25 Q. Where it says May 2001 to October 2002,

DAVID PYATT

1 senior toxicologist, Exponent, Boulder, Colorado.

2 A. Correct.

3 Q. And where it says number 8, "expert
4 witness consultation and testimony in toxic tort
5 litigation dealing with benzene and the alleged
6 development of hematopoietic malignancies, including
7 various types of leukemia, multiple myeloma, and
8 non-Hodgkin's lymphoma."

9 A. Right. I'm pretty sure that I have
10 written a report, but I don't recall which case that
11 was in, and I don't know if that's considered
12 testimony or not.

13 Q. Okay. So you've written and produced
14 reports before in cases involving benzene and
15 development of hematopoietic malignancies?

16 A. Yes, ma'am.

17 Q. Okay. Have you ever written a report
18 since you've started offering expert opinions with
19 respect to benzene and the development of
20 hematopoietic malignancies, have you ever written a
21 report on behalf of a plaintiff in a case?

22 A. I have not written a report on behalf of
23 a plaintiff, no.

24 Q. Okay. Have you ever provided testimony
25 on behalf of a plaintiff in a case involving benzene

DAVID PYATT

1 and the development of hematopoietic malignancies?

2 A. I -- I have never been asked to do that.

3 Q. So is the answer no?

4 A. Correct.

5 Q. Have you ever written a report or
6 testified -- well, let me back up.

7 Have you ever testified either in
8 deposition or at trial ever in a case involving
9 benzene and the alleged development of hematopoietic
10 malignancies?

11 A. This -- this is my first deposition.

12 Q. Okay. Ever in any case?

13 A. Correct.

14 Q. Okay. One of the other things that you
15 allege yourself expert for on your resume is you said
16 that you've been expert witness testimony on
17 consultation on the alleged association between
18 pesticide exposure and various forms of lymphoma.
19 That's under the February 2005 heading. Do you see
20 that on the first page?

21 A. Yes.

22 Q. What was your testimony in that case?

23 A. We're looking at number 4. Yes. I
24 wrote a report, but I don't believe it was ever
25 submitted.

DAVID PYATT

1 Q. Okay. And what was your opinion in that
2 case?

3 A. I would have to go back and -- and look
4 at the -- the specifics of it.

5 THE VIDEOGRAPHER: Counselor, we have --

6 Q. BY MS. CLANCY: Do you believe that
7 pesticide exposure causes lymphoma?

8 A. There is some literature that suggests a
9 -- a -- a risk. Not pesticides, per se, but
10 herbicides. But I think it's very difficult to
11 attribute it to a specific chemical. But as I
12 recall, that's the basis of that project.

13 THE VIDEOGRAPHER: Counselor, five
14 minutes till tape change.

15 MS. CLANCY: Thank you.

16 Q. BY MS. CLANCY: Well, is it your
17 professional opinion today as an expert in toxicology
18 that exposure to pesticides causes an increased risk
19 of developing non-Hodgkin's lymphoma?

20 MR. BUTHOD: Object to the form.

21 THE WITNESS: Well, my professional
22 opinion in this case is limited to the effects of --
23 of benzene exposure and the potential development of
24 these malignancies. I have not looked at the
25 herbicide literature in some time, and that is not

DAVID PYATT

1 part of what I'm doing here today.

2 Q. BY MS. CLANCY: Do you consider yourself
3 an expert in the -- in the effect of pesticides or
4 herbicides and exposure to those and the development
5 of lymphoma?

6 A. I have done one project looking at that,
7 and I reviewed the literature sometime ago
8 specifically addressing that issue.

9 Q. Well, sir, do you claim to offer
10 opinions in this case on the exposure of -- the
11 effects of exposure to herbicides and pesticides and
12 the development of lymphoma?

13 A. My opinions in this case will be
14 associating the -- addressing the literature from
15 benzene exposure and these hematopoietic
16 malignancies. Herbicides will not -- did not come
17 into play and did not affect my opinion at all.

18 Q. All right. So you will not be offering
19 any opinions in this case with respect to the effects
20 of exposure to herbicides or pesticides and the
21 development of lymphoma, is that correct?

22 MR. BUTHOD: Form.

23 THE WITNESS: I think I answered that,
24 but my opinion in this case will be limited to the
25 scientific literature associating benzene exposure

DAVID PYATT

1 and the development of these malignancies.

2 Q. BY MS. CLANCY: All right. So your --
3 so in other words, your opinion in this case will not
4 concern the effects of pesticides or herbicide
5 exposure and the development of lymphoma, correct?

6 A. Ms. Clancy, I feel like we've gone
7 through this three times. My opinion in this matter
8 will be benzene exposure and the scientific
9 literature associating that in the development of
10 these lymphoid malignancies.

11 Q. Okay. And I understand what you're
12 saying is that your opinion will be with respect to
13 benzene exposure and the development of malignancies.
14 I understand that, okay? That's one thing that
15 you're saying, right?

16 A. Correct.

17 Q. Okay. Part of my job here today is also
18 going to be to rule out what you are not going to be
19 testifying about. I have to understand what you're
20 offering an opinion about, okay? Does that make
21 sense?

22 A. It does. And --

23 Q. So what my question is specifically then
24 is: You are not going to be offering opinions in
25 this case as to herbicide or pesticide exposure and

DAVID PYATT

1 the development of malignancies in this case,
2 correct?

3 A. My opinion will be limited to the
4 scientific literature associating benzene with these
5 -- with these malignancies.

6 MR. BUTHOD: And Denyse, I'm sorry to
7 interrupt, but we've got to stop.

8 THE VIDEOGRAPHER: May we go off the
9 record?

10 MS. CLANCY: Yes.

11 THE VIDEOGRAPHER: We're going off the
12 record at 10:19. This is the end of tape one of the
13 deposition of David Pyatt, Ph.D.

14 MR. BUTHOD: Let's take five minutes.
15 Is that good with you on the phone?

16 MS. CLANCY: That's fine with me.

17 MR. BUTHOD: All right. Thanks,
18 everybody.

19 (Recess taken from 10:19 a.m.
20 10:30 a.m.)

21 THE VIDEOGRAPHER: We're back on the
22 record at 10:30. This is the beginning of tape two.

23 Q. BY MS. CLANCY: Dr. Pyatt?

24 A. Yes.

25 Q. Can you pull out your curriculum vitae

DAVID PYATT

1 again?

2 A. Yes, I have it.

3 Q. Okay. Have you ever conducted any type
4 of epidemiological study as to the effects of benzene
5 in causing malignant neoplasm?

6 A. I have not conducted a -- well, I guess
7 the short answer to that is no, I haven't conducted a
8 -- an epidemiological study on benzene specifically.

9 Q. Okay. And have you ever -- do you
10 consider yourself an expert in epidemiology?

11 A. Well, as a toxicologist, I -- I use
12 epidemiological data, as that is the human data. I
13 mean, I'll look at animal data and I'll look at human
14 data, but I'm not an epidemiol -- epidemiologist by
15 training, no.

16 Q. Okay. And have you ever written or
17 published any articles with respect to epidemiology?

18 A. I think perhaps the closest one would be
19 in 1997 I published a paper with -- on
20 dithiocarbamates as a potential confounder in the
21 butadiene epidemiology literature. So there we
22 looked very specifically at these epi studies, and
23 that was not really a basic science research-type
24 publication. But -- so if that counts, yes; if that
25 doesn't count, no.

DAVID PYATT

1 Q. Where -- where was that published?

2 A. Carcinogenicity. Carcinogenesis.

3 Q. Copy. My -- the copy of the resume I
4 see it says Exponent Inc. Was it later published in
5 a journal?

6 A. No, it's not. Irons first author and
7 Pyatt DW, 1997. Dimethyldithiocarbamate is a
8 potential confounder in butadiene epidemiology,
9 Carcinogenesis, volume 19. So that's -- that's the
10 peer-reviewed paper that I'm referring to.

11 Q. Okay. I'm sorry. You also gave a --
12 and I apologize. I was looking -- you also gave that
13 as a presentation?

14 A. Yes.

15 Q. Okay. And is that -- was -- that was
16 not, was it, an epidemiological study?

17 A. Technically, probably not, no.

18 Q. Okay. Other than that one paper, have
19 you ever published an epidemiological study --

20 A. No.

21 Q. -- in a peer-reviewed journal?

22 A. No.

23 Q. Have you ever -- do you hold any degrees
24 or have you ever taken any classes in epidemiology?

25 A. I took a basic -- a basic class in

DAVID PYATT

1 epidemiology in my -- in my graduate training. And I
2 teach now in the epidemiology to biometrics and
3 preventative medicine program in -- in our school of
4 medicine where I basically go through the Bradford
5 Hill criteria and -- and discuss causation. And that
6 is to their graduate program in epidemiology.

7 Q. Okay. So you've taken -- but in terms
8 of your coursework in epidemiology, you've taken one
9 class in epidemiology at graduate school, is that
10 correct?

11 A. That's correct, yes.

12 Q. Okay. And you don't hold a degree in
13 epidemiology?

14 A. No, ma'am.

15 Q. Okay. And what is the title of the
16 course that you teach?

17 A. You know, it changes. I think it's just
18 called Biometrics and Occupational Health, and then
19 it's got a number. And it really does change, and I
20 honestly don't know. I have an adjunct appointment
21 in that department, and I go in and teach these
22 classes on toxicology and causation when they ask me
23 to. And I don't honestly even know what the name of
24 the class is. I -- I think it's Occupational Health,
25 and it had a number this year, 301, I think.

DAVID PYATT

1 Q. Okay. And you're -- you're called in as
2 an adjunct professor to teach classes on toxicology,
3 is that correct?

4 A. That's correct.

5 Q. Okay.

6 A. This is in their occupational health,
7 their master's in public health program.

8 Q. Okay. And what -- what you're called in
9 to teach is classes with respect to toxicology?

10 A. That's -- that's correct, and how
11 toxicologists use data, available data to help with
12 public health regulatory decision making. So we
13 discuss animal data pros and cons, in vitro data pros
14 and cons, as well as epidemiological data pros and
15 cons.

16 Q. Okay. All right. You are not an
17 oncologist or hematologist, correct?

18 A. No, ma'am.

19 Q. And you're not a hematopathologist,
20 correct?

21 A. No.

22 Q. In terms of the actual type of field
23 experiments that you do, are those primarily in vitro
24 and animal studies?

25 A. Well, early in my graduate career, I did

DAVID PYATT

1 use animals, but I wouldn't call those in vivo
2 studies because I was just taking biological
3 material, bone marrow cells, from the animals and
4 then conducting the research on those outside of the
5 animals. And then the material never was put back in
6 the animals, so it wouldn't be ex vivo either. And
7 that's really true for the human bone marrow that
8 I've done research on as well.

9 So I guess in vitro would be the best --
10 the best description.

11 Q. Okay. So the type of experiments and
12 field work that you do are in vitro experiments?

13 A. I would put that in past tense that I
14 did. Since I've started Summit Toxicology, my -- my
15 consulting firm, I -- I'm no longer in the lab doing
16 that type of experimentation.

17 Q. Okay. When -- looking at your CV, when
18 -- when -- at what point in your career were you in
19 the lab doing experimentation with respect to the
20 effects of benzene metabolites?

21 A. Specifically, with respect to benzene, I
22 think probably the last time that I was involved in
23 those experiments would be -- well, it's hard to say.
24 The last time that I actually did any experiments
25 with my own two hands was probably 2001, but I was on

DAVID PYATT

1 a informal committee member on a graduate student
2 that was specifically doing that kind of research,
3 and I was talking to him about experiments and
4 looking at his data routinely.

5 But the last time that I personally did
6 an experiment using benzene metabolites was probably
7 2000, 2001.

8 Q. Okay. And that was -- well -- well,
9 during the 2000 to the 2001 period, I see listed here
10 that you were consulting toxicologist in -- in
11 Denver. Were you also at that point then working for
12 your Ph.D. in toxicology at University of Colorado?

13 A. No, no. I -- I graduated in 1996.

14 Q. With whom were you working as a
15 consulting toxicologist in Denver from '95 to 2001
16 such that you would be doing experiments as to the
17 effect of benzene toxic metabolites?

18 A. Well, you're -- you're mixing that
19 altogether. I still had a faculty appointment, and I
20 still had a lab and grants at that time, but I was
21 also consulting in addition -- in addition to that.

22 Q. Okay. I'm just looking -- and I'm
23 trying to piece together from your curriculum vitae,
24 so maybe -- maybe it would be helpful if -- if you
25 looked at it with me. The -- okay. So I see.

DAVID PYATT

1 During the period '98 to 2004, you were
2 the assistant research professor of toxicology at
3 University of Colorado Health Sciences Center.

4 A. That's correct.

5 Q. Is that where your lab was?

6 A. Yes.

7 Q. Okay. And in addition to that, you also
8 did work as a consulting toxicologist and expert, is
9 that correct?

10 A. Yes.

11 Q. Okay. When you were a research
12 associate in '96 -- from '96 to '97, who supervised
13 your research?

14 A. That would be Richard Irons.

15 Q. Okay. And when you conducted and
16 supervised toxicology studies, examining biological
17 alterations associated with the development of blood
18 disorders following exposure to benzene, was Richard
19 Irons supervising you in this experiment?

20 A. Yes. Richard Irons held a grant that
21 was paying for my -- for part of my salary and for
22 the experiments. And then I transitioned out of that
23 role as I started getting my own grants funded.

24 Q. Okay. And did you have your own grants
25 funded for the year 2000 paper that you published

DAVID PYATT

1 with respect to hydro -- hydroquinone and inhibiting
2 TMA -- TMA induced activation of NF capa B?

3 A. No. I'm -- I'm pretty sure that that
4 was on Dr. Irons' grant.

5 Q. Okay. So what have you received your
6 own grants for research?

7 A. Developmental immunotoxicology and then
8 two or three grants on understanding bone marrow
9 toxicity and -- as it applies to using hematopoietic
10 progenitor cells as therapeutic products.

11 Q. Okay. Did either of those grants
12 involve any research with respect to benzene?

13 A. No.

14 Q. Okay. So the only research that you've
15 done with respect to benzene in the laboratory would
16 be under the auspices of grants made to Richard
17 Irons, is that correct?

18 A. Not a hundred percent correct. The
19 immuno -- developmental immunotoxicity grant did have
20 hydroquinone as one of the chemicals that I was
21 interested in and that I looked at.

22 Q. Okay. So the developmental immunotoxic
23 -- immunotoxicity grant, that was a grant to have you
24 study -- well, what was the specific parameters of
25 the grant?

DAVID PYATT

1 A. The specific parameters, I was looking
2 for a way to develop a -- a model for -- for the
3 developing immune system so that we could look at how
4 B cell and T cell lymphopoiesis might be affected in
5 humans with exposure to various -- various chemicals.
6 There's not a way to do that in -- in humans, and so
7 we're relying on animal data as a surrogate. And
8 there's pretty profound hematopoietic and
9 immunological differences between those, so that was
10 the purpose of -- of the grant.

11 Q. Was to study the effects of certain
12 substances on the immunological functions of the B
13 cells and T cells in humans? Is that the purpose of
14 it?

15 A. Well, the actual purpose was to
16 understand if these chemicals are going to defect --
17 affect the development of these cells, the actual
18 lymphopoietic process, how you're going to get from
19 earlier progenitor cells into functioning T and B
20 cells.

21 Q. Okay. And which chemicals specifically
22 were you looking at?

23 A. Hydroquinone was -- was one. I'm
24 thinking. Cigarette smoke extract was another. We
25 had a couple of metals. You know, the -- the purpose

DAVID PYATT

1 was to figure out if -- if the model was going to
2 work, and then any chemical -- it was more of a
3 method-specific grant rather than a chemical-specific
4 grant. And really, I would have to go back and look
5 exactly. It's been awhile since I've read that
6 grant, so I'd have to go back and look at which ones
7 we were using.

8 Q. So it was method specific in terms of it
9 was looking for the method by which you could develop
10 the T cells and B cells in the lymphopoietic process?

11 A. It was to investigate a method developed
12 by David Scadden at MIT, who basically invented this
13 three-dimensional matrix in which T cells and B cells
14 would ostensibly develop from early progenitor cells
15 all the way through. And so I wanted to establish
16 that in the laboratory and then impact on that
17 process with chemicals that are known to have
18 immunotoxic properties.

19 Q. And hydroquinone has -- hydroquinone has
20 immunotoxic properties on B cells, correct?

21 A. Under certain exposure conditions, yes.

22 Q. And hydroquinone is a reactive
23 metabolite of benzene, correct?

24 A. Hydroquinone is one of many active
25 metabolites of benzene, yes.

DAVID PYATT

1 Q. Who was that grant given to by?

2 A. It was a seed organization within the
3 School of Pharmacy.

4 Q. And who was funding that?

5 A. It was the University of Colorado.

6 Q. And where did the University of Colorado
7 get the grant money from?

8 A. I don't understand all the finances of
9 the university. I think it was taken from off of
10 overhead and other grants, but it was a -- it was
11 considered seed money to fund interesting projects
12 with potential for additional funding later.

13 Q. Who was -- when -- who did Dr. Irons --
14 when you did your work for Dr. Irons, who did his
15 grant money come from?

16 A. I don't -- I don't honestly know. I
17 know that he had a NIH grant, and I know that I was
18 part of that. But other than that, I'm not totally
19 familiar.

20 Q. Well, the projects that you worked on
21 for Dr. Irons, you worked on several grants in
22 assisting him or just one grant?

23 A. I -- I honestly do not remember all of
24 the financial structuring of his lab, and that wasn't
25 my job to, you know, come in as a business manager.

DAVID PYATT

1 My job was to come in and design and conduct these
2 experiments, and I was paid a salary, and I had money
3 to do the experiments. And that's about as far as I
4 can go with it.

5 Q. And -- and you don't -- your testimony
6 under oath today is that you don't know who was
7 funding the grant upon which you were working?

8 A. All I know is that he did have one NIH
9 grant, and I assume that part of my salary was paid
10 off of that NIH grant.

11 Q. And you're not aware of any other grants
12 that Dr. Irons had?

13 A. No.

14 Q. Not aware of any grants or monies
15 received from -- by Dr. Irons from the American
16 Petroleum Institute?

17 A. Not with -- specifically with regard to
18 my salary, no.

19 Q. But you are aware that he had received
20 grants from American Petroleum Institute, correct?

21 A. That's my understanding.

22 Q. And what projects have you worked on
23 with Dr. Irons involving projects on behalf -- or
24 funded by the American Petroleum Institute?

25 A. Well, the only ones that I worked on are

DAVID PYATT

1 the ones that I told you about, and I don't know that
2 they were specifically for the American Petroleum
3 Institute.

4 Q. So as you sit here today, you do not
5 know if they were for or if they were not for the
6 American Petroleum Institute, the projects that you
7 worked on for -- with Dr. Irons, is that correct?

8 A. Well, Ms. Clancy, I was just conducting
9 the research that I was interested in conducting.
10 And the -- the source of the money, I don't know
11 exactly where the source of the money came from. I
12 know that there was an NIH grant, and I believe I was
13 on the NIH grant, and that's -- that's as far as I
14 can go.

15 Q. And -- and you don't know if additional
16 sources of the money that you -- for the project you
17 were working on for Dr. Irons came from the American
18 Petroleum Institute, correct?

19 A. That's correct. I do not know how the
20 money that he had coming into the lab was being
21 divvied up between the various projects and paying
22 myself, other technicians, et cetera. I don't know
23 how that worked.

24 Q. Have you ever issued a report in
25 litigation that the plaintiff's disease was caused by

DAVID PYATT

1 exposure to benzene?

2 A. I have never issued such a report, no.

3 Q. What is your company's toxicology --
4 what is the basic business of Summit Toxicology?

5 A. I'm not sure I -- what do you mean the
6 basic business?

7 Q. Well, what is it? What was it formed to
8 do, Summit Toxicology?

9 A. My partner and I just decided that we
10 liked working for ourselves better than we liked
11 working for other companies, so we formed a small
12 consulting company. And we have a variety of
13 different projects that we do in that company.

14 Q. What are the different projects?

15 A. The different projects that I'm working
16 on --

17 Q. Yes.

18 A. -- or --

19 I am writing several papers right now.
20 I'm working for a local pharmaceutical company to
21 help them develop occupational exposure limits and
22 excipient tox -- tox justifications. I'm -- I told
23 you I'm -- I'm teaching, and I'm teaching a
24 toxicology class in the fall. We have a project
25 looking at children's health. We have a project

DAVID PYATT

1 evaluating etiological factors that may or may not be
2 involved in childhood leukemia.

3 We have a biomonitoring project that's
4 getting started. We have pharmacokinetic modeling
5 projects for EPA as well as for private industry. We
6 have a variety of things that we're working on.

7 Q. Okay. And how much of your time is
8 spent in litigation-related projects?

9 A. I -- I -- I don't track that. I've
10 never tracked it in that way, but it is minority. I
11 don't do this very often.

12 Q. How many hours have you spent on this
13 case to date?

14 A. I really couldn't tell you. I haven't
15 had a -- I haven't had an opportunity to count them
16 up.

17 Q. Have you submitted a bill to the
18 defendants in this case?

19 A. No, ma'am.

20 Q. The amount -- have you spent more than a
21 week on this case?

22 A. Well, it would -- that would require
23 speculation on my part, and I just -- I honestly
24 don't know. I will figure it up, and then I will
25 submit a bill. And at that point, I'll know the

DAVID PYATT

1 answer. But right now, I don't.

2 Q. Okay. Well, I'm just trying to get a
3 general sense of how much time you've spent on this
4 case. Have you worked -- you were hired on this case
5 at what date?

6 A. Well, I don't -- I don't remember
7 exactly when. It was sometime early in the year, and
8 I didn't spend very much time on it.

9 Q. When did you start to spend a
10 significant amount of time on this case?

11 A. Probably three weeks ago.

12 Q. Okay. And have you worked fairly
13 consistently on this case for the last three weeks or
14 sporadically?

15 A. It would be sporadically. I've had
16 plenty of other things that I've had to attend to as
17 well.

18 Q. Okay. And what is your billing rate?

19 A. My billing rate is 220 an hour.

20 Q. And is that flat? So matter if you're
21 in deposition testimony or trial testimony or
22 reviewing of the files it's 220 an hour?

23 A. That's -- that's what I get paid for my
24 time irrespective of what I'm doing, and that's true
25 for -- for all project -- well, it's not. With EPA,

DAVID PYATT

1 we -- it's a flat rate for some of the projects that
2 we bid, and so it's not on an hourly basis.

3 So it could be that; it could be more;
4 it could be less. Just depends on how long it takes
5 us to do it, how long it takes me to do it.

6 Q. Okay.

7 A. Yes, that's what I get paid for my time.

8 Q. Who -- is your -- are you in receipt of
9 any grants right now or funding from any industry
10 organizations, specifically the American Petroleum
11 Institute?

12 A. I have -- I have a project with the
13 American Petroleum Institute, if that's what you're
14 asking.

15 Q. Okay. What is that project?

16 A. It is to evaluate the -- what's out
17 there in the literature on childhood leukemia,
18 childhood -- yeah, childhood leukemia; what's known
19 about it; what are the established causes, if any;
20 what's been suggested; what does that literature say.

21 Q. Okay. And the American Petroleum
22 Institute is funding your research on that study?

23 A. Yes.

24 Q. Okay. And have you come to any
25 conclusions with the respect to the literature on

DAVID PYATT

1 childhood leukemia?

2 A. No, ma'am. I haven't actually started
3 the writing process. I've just been collecting all
4 of the literature.

5 Q. And what is the outstanding question
6 with respect to the project that you are doing for
7 the American Petroleum Institute?

8 A. Well, I wouldn't say there is an
9 outstanding question. I think it's going to be a
10 scholarly review of the literature and what's been
11 published on this topic.

12 Q. On the topic of childhood leukemia?

13 A. Correct.

14 Q. Okay. And is it childhood leukemia with
15 respect to any -- any -- I mean, that's a very broad
16 category. I mean, is it the medical effects of
17 childhood leukemia or is it effects of toxic
18 substance and the cause of childhood leukemia?

19 A. Well, it won't be a study on clinical
20 trials and therapeutic treatment, if that is your
21 question, but it will be looking at the literature on
22 environmental studies that have suggested a -- an
23 environmental link. But it's also, you know, an
24 infectious link; you know, the scientific literature
25 on what we think is potentially causing, if anything,

DAVID PYATT

1 childhood leukemia.

2 Q. Okay. And specifically, you're --
3 you're going to be looking at the environmental
4 studies that have suggested environmental links to
5 childhood leukemia?

6 A. Not specifically any more than any of
7 the other studies, but yes, that will be one aspect
8 of it, correct.

9 Q. Well, you said childhood leukemia
10 studies. Is it -- is this related to any type of --
11 I mean, that's a very broad area of study. What --
12 what do you mean study? You said you're not looking
13 at the clinical effect. You're not looking at the
14 treatment of childhood leukemia, so what -- and you
15 said so you're looking -- so we've narrowed it down
16 to one area is the environmental studies that have
17 suggested environmental link to childhood leukemia.

18 What other types of studies are you
19 going to be looking at?

20 A. Well, the studies that suggest there
21 might be an infectious origin, the studies that
22 suggest that it might be something that has occurred
23 in utero. You know, there's -- there's many
24 different aspects.

25 Q. Okay. So the -- the -- the areas that

DAVID PYATT

1 you've listed so far are the studies that would
2 suggest -- that would examine what potential causes
3 of childhood leukemia might be. For example, is it
4 something that occurs in the uterus? Is it something
5 that occurs from infection? Is it something that
6 occurs from environmental exposure? Is that correct?

7 A. That's correct.

8 Q. Okay. What other causes might you be
9 looking at for purposes of your review of literature
10 with respect to childhood leukemia?

11 A. I think that's -- you know, in a general
12 sense, that's all there is. That's what I intended
13 to review, and that's what I've been pulling, you
14 know, the papers together to start the project.

15 Q. And when do you anticipate writing a
16 report on this project?

17 A. Well, I'm hoping that it goes into the
18 peer-reviewed literature, so that's the -- that's
19 what I'm going for, a manuscript that's accepted in
20 the literature. And I don't -- I can't honestly tell
21 you when it's going to be done. I hope to finish it
22 this summer.

23 Q. What other grants are you receiving from
24 the American Petroleum Institute?

25 A. That's the only one.

DAVID PYATT

1 Q. What about your partner?

2 A. Well, I don't think Sean is -- I'm
3 thinking. I don't he has any specifically from API.

4 Q. What about the Chemical Manufacturers
5 Association -- Manufacturers Association? Are you
6 receiving any grants from them?

7 A. We are. We are in collaboration with
8 other groups. And this is the benzene risk
9 assessment for children's exposure that will be
10 presented to EPA.

11 Q. And the -- tell me what that is, the
12 benzene risk assessment for children's exposure.

13 A. It's part of the VCCEP program, the
14 voluntary chemical children's exposure program. And
15 it's a risk assessment using standard default EPA
16 protocols and a exposure assessment of -- of any
17 chemical that children could be exposed to in their
18 -- in their environment. And then it's submitted to
19 TERA, Terra Toxicology Excellence In Research Assoc-
20 -- Research -- Risk Assessment. Sorry.
21 Toxicological Excellence in Risk Assessment. And
22 they are a subcontractor to EPA.

23 Q. Okay. And the Chemical Manufacturers
24 Association is one of the persons funding that study
25 or is the group funding that study?

DAVID PYATT

1 A. They are, yes.

2 Q. What is their relationship with TERA?

3 They're --

4 A. TERA is just a -- a -- an external
5 reviewer that once the risk assessment is completed,
6 then that is presented to TERA, which is a panel of
7 experts. And then their recommendations based on the
8 risk assessment is -- along with the risk assessment
9 is then submitted to EPA.

10 Q. What -- where are you analyzing for
11 potential exposure to benzene; e.g., in what
12 environment are you analyzing this?

13 A. I'm actually not doing that. There is
14 another group that is doing the exposure piece, and
15 that's not something that we -- we've been doing.

16 Q. What group is doing the exposure piece?

17 A. That is ChemRisk.

18 Q. And what is Chemrisk?

19 A. It's a consulting company that has
20 offices several places. And one individual in that
21 group is primarily doing the exposure piece on this
22 project.

23 Q. And who is that?

24 A. Julie Panko is her name.

25 Q. What are you doing -- what -- and where

DAVID PYATT

1 is your understanding that Chemrisk is going to be
2 analyzing the -- the exposure to benzene in children?

3 A. Well, I'm really not the right person to
4 be asking that question, because I'm not that good
5 with exposure assessments.

6 Q. You're not an expert in industrial
7 hygiene?

8 A. No, ma'am.

9 Q. Have you ever personally conducted any
10 type of exposure assessment to benzene?

11 A. No.

12 Q. And you've, therefore, made no
13 explanations of any of the exposures to benzene by
14 plaintiffs in this case, correct?

15 A. My -- my role in this case was a general
16 causation role to just look at the scientific
17 literature supporting an alleged association between
18 benzene exposure at really any concentration and the
19 development of these diseases. So with regard to
20 specific exposures of these two individuals, no, I --
21 I don't know what that is and didn't use it in my
22 analysis.

23 Q. Okay. So -- all right. So just to be
24 clear because I'm not there with you, you've made no
25 written calculations or calculations whatsoever as to

DAVID PYATT

1 any type of part per million exposures that either
2 Mr. Stubbs or Mr. Wilkinson has to benzene, correct?

3 A. Right. My job was just to look at the
4 scientific literature associating benzene exposure
5 and these three lymphoid malignancies.

6 Q. Okay. What is -- what is your role
7 going to be in the project that you have the Chemical
8 Manufacturers Association grant for? What is -- what
9 is your company's role going to be?

10 A. We are presenting the risk assessment
11 portion.

12 Q. So could you tell me what that means?
13 Because to me that would suggest that that's an
14 epidemiological analysis, so -- but I know you're a
15 toxicologist, so I'm trying to understand what you
16 mean by that.

17 A. Well, it's a -- it's a -- it's a risk
18 assessment. It's using the regulatory guidelines and
19 values set by U.S. EPA for cancer and noncancer
20 toxicity. And then you basically plug in the
21 exposure numbers and calculate hazard quotients and
22 risks associated with those exposure numbers.

23 Q. And have you been -- have you seen yet
24 any of the exposure numbers of benzene to children as
25 developed by Chemrisk?

DAVID PYATT

1 A. You know, they presented them at one
2 point, but I don't -- I didn't pay that much
3 attention to it, and it's very -- it's a very
4 detailed report, so I'm not going to be able to
5 answer specific questions about that.

6 Q. You -- you have a copy of their --
7 Chemrisk has already produced a report to you with
8 respect to the benzene exposures?

9 A. No, no.

10 Q. Well, you just referenced a very
11 detailed report. What were you referring to?

12 A. Oh, I was referring to ours, to the risk
13 assessment portion.

14 Q. Have you already written your risk
15 assessment report?

16 A. It's -- it's in -- it's in progress, and
17 that's -- Sean is really -- Mr. Hayes is doing more
18 of that than I am. I wrote the hazard assessment
19 portion of the risk assessment, and that really was
20 my -- was my job.

21 Q. Okay. And in terms of the hazard
22 assessment, did you conclude that there was or was
23 not a hazard to children and exposure to benzene?

24 A. Well, that -- can't really answer that
25 question, and that's not what a hazard assessment is.

DAVID PYATT

1 The hazard assessment portion of a risk assessment is
2 just a review of the literature and to -- to provide
3 an understanding of what the -- the toxicology is of
4 benzene. And the risk assessment, when it's
5 finished, is when the actual numbers will be
6 generated, and then there's interpretation of those
7 numbers and -- and what those numbers mean.

8 Q. And you don't recall as you sit here
9 today any of the numbers generated with respect to
10 what exposure levels of benzene that the children
11 had?

12 A. Right. The exposures were very low. I
13 do recall that.

14 Q. So the exposures that ChemRisk found as
15 to children and benzene were below the OSHA suggested
16 levels of exposures?

17 A. Oh, below the OSHA levels? Yes, way,
18 way below. These were background. This is
19 background exposures. They were, yes, far below.

20 Q. Okay. So what ChemRisk found is that
21 the benzene levels experienced by children were
22 essentially background levels of benzene, is that
23 correct?

24 A. Ms. Clancy, I'm going to have to defer
25 any more discussion on this. You really just need to

DAVID PYATT

1 speak with individuals at ChemRisk. This is all
2 going to be public when the whole thing is finished,
3 and then you can get a copy of it and get all the
4 information you want. But I just don't recall these
5 kinds of details.

6 Q. Who else are you getting funding from
7 now besides the Chemical Manufacturers Association
8 and the American Petroleum Institute?

9 A. I have a job with the Formaldehyde
10 Council.

11 Q. Okay. And what is your job for the
12 Formaldehyde Council? Well, let me back up. First
13 of all, what is the Formaldehyde --

14 A. I -- I knew you were going to ask that,
15 and I don't -- I don't honestly know. It's a group
16 that they have a -- a collective interest in
17 formaldehyde and the regulation of formaldehyde. But
18 I've only been to one meeting, and I talked about
19 what I was going to do and I left. So I don't really
20 know very much about it.

21 Q. Okay. Is the Formaldehyde Council, the
22 meeting that you went at, was it representatives from
23 companies who use or make formaldehyde?

24 A. The meeting that I was at had
25 representatives from all kinds of groups. It had

DAVID PYATT

1 representatives from companies that I don't know if
2 they make it, but they use it in their processes.
3 There was regulatory people from various regulatory
4 agencies, including the U.S. EPA and -- and European
5 groups. It was a pretty large group.

6 Q. Okay. And I guess what I'm asking is:
7 When you've met with just -- have you ever had a
8 meeting where you met with just the members of the
9 Formaldehyde Council?

10 A. Well, I think -- no. I mean, it was --
11 that was the Formaldehyde Council, but there were
12 other people that apparently came.

13 Q. That's what I'm saying is I'm trying to
14 understand who's in the Formaldehyde Council. So I'm
15 trying to understand if you've ever been to a meeting
16 of just the folks in the Formaldehyde Council as well
17 as --

18 A. No. And they have a web site, so
19 perhaps you can get that information from their web
20 site.

21 Q. What is their web site?

22 A. I don't know the address. It's called
23 the Formaldehyde Council.

24 Q. Okay. Who else are you receiving
25 funding from other than the Formaldehyde Council, the

DAVID PYATT

1 American --

2 A. Well, I have -- like I told you, I have
3 worked for a local pharmaceutical company where I
4 helped them with excipient level tox -- tox profiles
5 or basically just researching the toxicity associated
6 with the specific chemicals that they're using in
7 their processes. But I mean, that's a -- that's an
8 ongoing thing, and I do it, and they pay me, and
9 that's the end of it. So it's not a standing
10 project.

11 Q. And I'm sorry. It's the -- could you
12 repeat the name of the tox council? Could you repeat
13 the name of that? You just went out for a second.

14 A. It's called an excipient. An excipient
15 is a -- it's material that they use in the
16 manufacturing of a specific drug, but it is not the
17 active ingredient. So it is just the filler within
18 the tablet or whether it's dye that they use or
19 whatever is used in the formulation of that drug.
20 And generally, these are innocuous materials, but FDA
21 has protocols in order to use these in certain
22 levels. And if it's -- has not been evaluated
23 previously and FDA has established that it is okay to
24 do that, then companies have to write tox evaluations
25 of those -- of those chemicals of that material.

DAVID PYATT

1 Q. Okay. And -- and who is funding your
2 study of this?

3 MR. BUTHOD: Let me interrupt you there.
4 Doctor, I'll just tell you, if you're comfortable
5 answering this question about all your other clients,
6 you're welcomed to. You're welcomed to tell her
7 you're not going to tell her the name of your client
8 if it's something you're uncomfortable with. You've
9 identified the nature of the work and the industry it
10 was in. And if it's something within your own
11 business that you're uncomfortable about, I'm going
12 to tell you you don't have to answer that question.

13 THE WITNESS: Okay.

14 MR. BUTHOD: It's your call.

15 THE WITNESS: Thank you. I'm sorry, Ms.
16 Clancy. Would you repeat the question?

17 Q. BY MS. CLANCY: Yeah. That is a grant
18 that is funded by whom?

19 A. Well, it's not a grant. It's -- it's a
20 project that I do for -- well, I have done it for
21 several pharmaceutical companies.

22 Q. Okay. Oh, I think I understand what
23 you're saying. So it's -- it's a project that is,
24 for lack of a wetter -- better word, has a start --
25 start/stop time. It's a finite -- you've done the

DAVID PYATT

1 project for several different pharmaceutical
2 companies. But as you do each project, you conclude
3 it and then -- and then that's it, is that correct?

4 A. That's right.

5 Q. Okay. And the project is looking at the
6 excipients, which are materials that the
7 pharmaceutical companies use in manufacturing a
8 specific drug?

9 A. Right, right. And whether or not
10 there's going to be any adverse effect associated
11 with the use of that material.

12 Q. Okay. And do you publish reports for
13 the pharmaceutical companies once you review this?

14 A. I don't -- it doesn't get published to
15 my knowledge. They use it in their FDA approval
16 process.

17 Q. Oh, I see. They -- they could take your
18 report that you produce for the pharmaceutical
19 company and then submit that to the FDA upon their
20 request for approval for the drug?

21 A. Upon their request for approval for a
22 specific formulation, yes. That's -- that's my
23 understanding.

24 Q. Okay. And have you ever written a
25 report for a pharmaceutical company that one of the

DAVID PYATT

1 specific formulations of their drug is not going to
2 be safe?

3 MR. BUTHOD: I'm going to make the same
4 observation. I mean, Doctor, you can -- you can do
5 whatever you want with that question. I'll tell you
6 there's no court that's going to say you've got to
7 answer confidential work you're doing for the
8 pharmaceutical industry in a benzene case down in
9 Orange, Texas. If you want to answer a question, you
10 can. If you don't want to, you're entitled just to
11 tell her you can't get into that kind of confidential
12 information.

13 MS. CLANCY: Object to sidebar.

14 THE WITNESS: Well, truthfully, I was
15 being polite, and I -- and I was going along with
16 this, but I don't really see how this is relevant to
17 the project at hand. So I guess I'll leave it at
18 that.

19 Q. BY MS. CLANCY: Okay. So you're not --
20 you're not going to tell me as you sit here today if
21 you've ever written a report to a pharmaceutical
22 company saying that a specific formulation of a drug
23 is not safe.

24 A. Yes, I'm not going to -- I'm not going
25 to address that.

DAVID PYATT

1 Q. Okay. The -- but you have and,
2 obviously, you have written reports that have been
3 filed with the FDA that specific formulations of
4 pharmaceutical drugs are safe, correct?

5 A. Well, that's really just a different
6 form of the same question. And I don't know what
7 they've done with the reports. That's my
8 understanding.

9 Q. Okay. Who else are you getting funding
10 from?

11 A. That's all that I can think of.

12 Q. Okay. The peer-reviewed published
13 literature that you yourself have put into
14 publication, the last article I show was the one
15 entitled "Benzene and Hematopoietic Malignancies" in
16 2004 published in the Clinical Occupational
17 Environmental Medicine. Is that the last one? Is
18 that correct?

19 A. No. What do you mean? You need to
20 rephrase that because there have been -- I've been
21 authors on other papers that have been published
22 since that. So that is not the last one.

23 Q. Okay.. All right. Oh, I'm sorry. I had
24 an older -- okay. The -- your resume is -- what I
25 have, on the copy I have of your resume is 2005.

DAVID PYATT

1 "Are There Age-related Differences In Children's
2 Susceptibility For Developing Secondary Acute
3 Myelogenous Leukemia," Toxicological Sciences. Is
4 that correct?

5 MR. BUTHOD: Denyse, could I ask you to
6 slow down a little bit? I think our court reporter
7 is kind of struggling with your rapid speech.

8 MS. CLANCY: I'm sorry, Janice. I'll
9 slow it down.

10 Q. BY MS. CLANCY: Dr. Pyatt, the last
11 article that I have you having published is Pyatt
12 2005, "Are There Age-related Differences In
13 Children's Susceptibility For Developing Secondary
14 Acute Myelogenous Leukemia."

15 A. No, that is not the last one on my CV
16 that I'm looking at. That's not the most recent.

17 Q. Okay. Could you just tell me what page
18 of your CV you're looking on?

19 A. They're not numbered. I'm looking on
20 the group, the category of manuscripts, and then what
21 you were reading was off of abstracts. And there's
22 three, four more abstracts. So I don't -- I don't
23 know what copy of my CV you have.

24 Q. Okay. Is this under -- are you looking
25 under manuscripts?

DAVID PYATT

1 A. Yes.

2 Q. Okay.

3 A. And there was one in cell biology and
4 toxicology, 2005; one in cell preservation
5 technology, 2005; one in integrated environmental
6 assessment and management, 2006; one in critical
7 reviews and toxicology, 2006; and then I have two on
8 here that are -- have -- are submitted and are
9 undergoing peer review.

10 Q. Okay. I do not have that copy of your
11 resume. So let's go ahead and mark your resume as
12 Exhibit Number 16.

13 A. Okay. Sorry.

14 MR. BUTHOD: And Denyse, I'll just tell
15 you. We are happy to mark that, but the -- the copy
16 I e-mailed you is exactly the same one that Dr. Pyatt
17 has in front of him.

18 MS. CLANCY: Well, I'm just looking at
19 the copy that was produced in the response for
20 request for disclosure, so let me go ahead -- which I
21 assumed was the same as the e-mail. So let me go
22 ahead and pull the one that you e-mailed me. And
23 let's also mark that as --

24 THE WITNESS: Okay.

25 MS. CLANCY: -- Exhibit 16. I'm going

DAVID PYATT

1 to go off record for one second and pull the -- the
2 current copy of the resume.

3 THE WITNESS: Okay.

4 THE VIDEOGRAPHER: Off the record at
5 11:19.

6 (Recess taken from 11:19 a.m. to
7 11:25 a.m.)

8 (Exhibit No. 16 was marked for
9 identification by the court reporter.)

10 THE VIDEOGRAPHER: We're back on the
11 record at 11:25.

12 Q. BY MS. CLANCY: Dr. Pyatt, can we turn
13 to what's been marked as Exhibit 15 [sic], your
14 curriculum vitae?

15 A. Yes.

16 Q. Okay. Can you turn to the page titled
17 invited lectures and presentations?

18 A. Okay.

19 Q. Okay. One is labeled "Children's
20 Susceptibility To Benzene Leuko -- Leukemogenesis."

21 A. Leukemogenesis, yes.

22 Q. What was the subject of that talk? I
23 mean, what was the -- the theme of that talk?

24 A. The theme of that talk was a -- looking
25 at the -- the clinical literature associating the

DAVID PYATT

1 development of AML following alkylating agent or
2 chemotherapy treatment in different aged patients and
3 whether or not there was an age-related difference or
4 an age-specific difference in susceptibility to
5 developing secondary leukemia.

6 Q. After exposure to benzene?

7 A. No, no, after exposure to chemotherapy,
8 alkylating chemotherapy.

9 Q. Okay. The title says, "Children's
10 Susceptibility To Benzene Leukemogenesis." Is that
11 -- what did the paper have to do with benzene?

12 A. Well, it really didn't have anything to
13 do with benzene other than that I believe this is an
14 appropriate surrogate to understand if children were
15 going to have a different susceptibility to
16 developing benzene-induced leukemia. And since that
17 question cannot be answered directly, the clinical
18 literature does provide a good source of data on that
19 topic.

20 Q. And what was your conclusion whether --
21 with respect to whether children had a different
22 susceptibility?

23 A. Well, the literature does not support
24 that there is -- that there is an age-related
25 difference.

DAVID PYATT

1 Q. In other words, what you are stating in
2 that presentation was that the literature does not
3 support that children would be more susceptible to
4 benzene exposure than adults?

5 MR. BUTHOD: Form.

6 THE WITNESS: The -- the literature does
7 not support that there's an age-related difference
8 associated with chemotherapy-induced leukemia.

9 Q. BY MS. CLANCY: Okay. And you were
10 using -- you say that it's an acceptable surrogate to
11 study chemotherapy-induced leukemia that will give us
12 clues as to what benzene may do to induce leukemia,
13 is that correct?

14 A. The only purpose was to see if there was
15 an effect of age, if there was in the clinical
16 literature, if there was any indication that the age
17 of the patient at time of treatment, if there was any
18 change in the risk associated with that treatment.

19 Q. Okay. And you found no change
20 associated with the age of the patient, is that
21 correct?

22 A. That is correct, except for the
23 exception of older patients, and there, there did
24 seem to be difference. It wasn't totally clear,
25 however.

DAVID PYATT

1 Q. Okay. And then going back to the title
2 of the paper, "Children's Susceptibility To Benzene
3 Leukemogenesis," what you were saying then in essence
4 was that children are not more susceptible to benzene
5 leukemogenesis than folks who are older than them, is
6 that correct?

7 A. That would be the conclusion from the
8 literature, yes, on alkylating chemotherapy.

9 Q. Okay. Do you still have a copy of that
10 presentation?

11 A. I don't know the answer to that. I can
12 look. I don't have it with me today. And I think
13 more than anything, and I have to -- I think it was
14 just the -- discussing the approach and looking at
15 the -- how I was going to go about it and look at the
16 -- you know, what I basically described to you,
17 evaluate the literature.

18 Q. You also gave a talk on theories and
19 mechanisms of toxicity in asbestos carcinogenicity?
20 That's at the very top under invited lectures and
21 presentations.

22 A. Yes.

23 Q. What was the date of that?

24 A. Maybe fall of 2003.

25 Q. Do you also do research then on asbestos

DAVID PYATT

1 carcinogenicity?

2 A. No, no longer. I had one project.

3 Q. Okay. What was that project?

4 A. To look at molecular differences
5 associated with fiber type specificity.

6 Q. And you worked on that project while you
7 were -- that was in 2003 while you were at -- a
8 managing health scientist at ChemRisk?

9 A. That sounds right.

10 Q. Okay. And who funded that project?

11 A. I don't recall exactly who funded that.
12 The research was done. I don't -- who funded the
13 presentation or who funded me reviewing the
14 literature on that topic?

15 Q. You reviewing the literature on that
16 topic.

17 A. That was funded by a law firm in DC.

18 Q. Okay. And was that done in the context
19 of litigation for that? Were you working as an
20 expert for that law firm?

21 A. No.

22 Q. Was it -- was it done in the context of
23 litigation?

24 A. My job was just to evaluate the -- the
25 literature and describe differences that had been

DAVID PYATT

1 published based on fiber type.

2 Q. Okay. And was the law firm in DC hiring
3 you to work on behalf of the defendant in that case?

4 A. My job was just to evaluate the
5 literature and report the differences between these
6 fiber types.

7 Q. Right. But what I'm saying is: When
8 the law firm hired you, was it on behalf of the
9 defendant in the case that the law firm was working
10 on?

11 A. Don't fully know the answer to that. My
12 job was really just to what I described; was to
13 describe to them what the literature said about
14 different fiber types.

15 Q. How about your presentation; who funded
16 your presentation on this topic?

17 A. It was through ChemRisk, and I don't
18 remember who funded it. I mean, it wasn't much of a
19 funding. It was just basically me discussing the
20 molecular differences between these fibers.

21 Q. And so were the types of fibers, for
22 example, one of them was asbestos tiles?

23 A. Yes.

24 Q. Were you talking about which fibers
25 might be more toxic than other fibers in asbestos

DAVID PYATT

1 carcinogenicity?

2 A. Well, I was talking about differences in
3 molecular biology that people have reported
4 associated with in vitro exposure to those types of
5 fibers.

6 Q. Okay. And what was your opinion based
7 on that paper?

8 A. Well, it wasn't a paper, and I don't
9 believe I formulated any opinions. I simply
10 described differences between these -- these fiber
11 types and AP1 activation and NF capa B activation in
12 cellular regulation, differentiation. And you know,
13 any more specific than that, I'm going to have to go
14 back and review that information.

15 Q. Ultimately, were you determining which
16 asbestos fibers might be more toxic than the others?

17 A. No. I was just describing the
18 differences between them that have been described in
19 basically the molecular biology literature.

20 Q. Sorry. I asked you this earlier. Could
21 you refresh my memory? When was the last time you
22 did in vitro analytical analysis based on the
23 toxicological effects of -- of benzene?

24 MR. BUTHOD: Form.

25 THE WITNESS: Could you repeat? Are you

DAVID PYATT

1 asking me when was the last time that I was in the
2 lab doing research on benzene metabolites? Is that
3 your question?

4 MS. CLANCY: Yes, sir.

5 THE WITNESS: I -- I think I've answered
6 it, and I don't remember what I answered. But it
7 was, you know, sometime 2000, 2001.

8 Q. BY MS. CLANCY: Okay. No. You had
9 answered it. I just needed you to refresh my memory.
10 And that was while you were working for Dr. Irons?

11 MR. BUTHOD: Form.

12 THE WITNESS: Well, I think we've gone
13 over all this.

14 Q. BY MS. CLANCY: I just want to confirm
15 that was when you were working with Dr. Irons?

16 A. Well, Ms. Clancy, I really was hoping we
17 could talk about the literature associating benzene
18 exposure and these alleged diseases.

19 Q. Well, Dr. Pyatt, I understand that you
20 haven't given a deposition before, but I get to ask
21 whatever questions are -- I'm going to ask in this
22 case. So --

23 MR. BUTHOD: And you get to ask them
24 once. I think that's probably what the complaint is.

25 Q. BY MS. CLANCY: Okay. Well, are you

DAVID PYATT

1 saying that you won't refresh -- I'm just saying I
2 apologize, but I'm trying to -- my notes are unclear
3 on this point. I'm trying to now discuss your
4 laboratory work, benzene toxic metabolites, and I
5 wanted to know if that was the work that you were
6 doing with Dr. Irons.

7 A. I think I've answered that question.

8 Q. Are you refusing to answer it again?

9 MR. BUTHOD: Well, you're welcome to
10 answer the question, Doctor. I think your point's
11 made that she's rehashing old stuff, but just --

12 THE WITNESS: The -- the exact time --
13 the last time I used in the lab, I don't recall the
14 exact date. And at that point, I was no longer on
15 any grant support from Dr. Irons. So if that's the
16 question, then no, I was no longer working for him.
17 But yes. So I'll just leave it at that.

18 Q. BY MS. CLANCY: So who did you report to
19 when you were a senior toxicologist at Exponent?

20 A. Who did I report to?

21 Q. Uh-huh.

22 A. I don't remember reporting to anyone.

23 Q. Well, who --

24 A. I mean, I guess Brett Finley at the time
25 was the practice director, but I don't -- I never

DAVID PYATT

1 reported to him. I guess I don't know what you mean
2 by report to.

3 Q. Well, did you have a direct supervisor
4 when you worked as a senior toxicologist at Exponent?

5 A. No.

6 Q. When you worked as -- the studies that
7 you've done with respect to benzene toxic
8 metabolites, you testified that some of those studies
9 you did while working on a grant with Dr. Irons,
10 correct?

11 A. Yes.

12 Q. And then you said that you did further
13 research in the laboratory with respect to benzene
14 toxic metabolites that was outside of the grant
15 provided to Dr. Irons, is that right?

16 A. That's the developmental immunotoxicity
17 project that I described.

18 Q. Okay. And who was that grant funded by?

19 A. Ms. Clancy, we've gone through this.
20 That grant was funded by the seed grant department or
21 the seed grant money from my department in the School
22 of Pharmacy.

23 Q. Okay. So you've worked on -- with
24 respect to the toxic metabolites of benzene and
25 laboratory work that you've done, some of the work

DAVID PYATT

1 was under a grant provided by Dr. -- to Dr. Irons and
2 some of the work was from seed money provided by the
3 University of Colorado, is that correct?

4 A. Yes.

5 Q. The last time you remember doing such
6 lab work was in 2001, correct?

7 A. Correct.

8 Q. The paper, if you could pull out the
9 chapter that you wrote, "Benzene and Hematopoietic
10 Malignancies."

11 MR. BUTHOD: Here, Doctor, the stack is
12 here in order, so --

13 MS. CLANCY: And I'll tell you, I think
14 I can tell you what exhibit it is. It's Exhibit 14.

15 THE WITNESS: Okay. Yes. Thank you. I
16 have it.

17 Q. BY MS. CLANCY: Okay. What is a safe
18 level of exposure to benzene?

19 MR. BUTHOD: Form.

20 THE WITNESS: Well, based on what end
21 point and for how long? You need a little more
22 information before you can address that question.

23 Q. BY MS. CLANCY: Well, is there any safe
24 level of exposure to benzene?

25 MR. BUTHOD: Form.

DAVID PYATT

1 THE WITNESS: Well, I absolutely think
2 they are, but again, you need to know what -- what
3 the exposure duration is and what end point you are
4 specifically addressing.

5 Q. BY MS. CLANCY: What do you mean what
6 end point you're specifically addressing?

7 A. Well, what toxic end point? Are you
8 referring to a risk of developing aplastic anemia?

9 Q. I'm talking about any risk of damage to
10 the blood forming organs.

11 MR. BUTHOD: Object to the form then.

12 THE WITNESS: Well, then you need to
13 also specify how long you're talking about the
14 exposure lasting.

15 Q. BY MS. CLANCY: Okay. How long can you
16 be exposed to benzene and at what levels can you be
17 exposed to benzene that it is safe with respect to
18 damage to the blood forming organs?

19 MR. BUTHOD: Form.

20 THE WITNESS: Is there any other way you
21 can ask that question?

22 Q. BY MS. CLANCY: Well, you said that
23 there are three variables, as I understand it. One
24 is at what end point are you interested in.

25 A. Yes.

DAVID PYATT

1 Q. I said that is damage to the blood
2 forming organs. The other is duration, time, and the
3 third is intensity of exposure. Is that correct?

4 A. So what do you mean? What -- what's
5 your definition of damage? What's damage to the
6 blood forming organs? What does that entail?

7 Q. Any damage to the blood forming organs.

8 A. So you're referring to a subtle
9 cytopenia, subtle suppression in peripheral
10 lymphocytes, for example.

11 Q. Yes.

12 A. Okay. Well, I'm not sure that I would
13 consider that damage to the blood forming organs.

14 Q. Okay. What do you consider damage to
15 the blood forming organs?

16 A. Well, when there's significant toxicity
17 in the bone marrow, and I'm not sure that a subtle
18 suppression in lymphocytes would suffice for that.

19 Q. All right. Well, for what duration and
20 at what intensity can you be exposed to benzene and
21 not have significant toxicity to the bone marrow?

22 MR. BUTHOD: Form.

23 THE WITNESS: Well, if you look at
24 chronic, long-term exposure, like in an occupational
25 setting, I certainly think that the permissible

DAVID PYATT

1 exposure limit is -- would qualify as that.

2 Q. BY MS. CLANCY: So you're saying that at
3 one part per million over an eight-hour time-weighted
4 average?

5 A. I would --

6 Q. Is that what you're referring to?

7 A. I would consider that to be a safe -- a
8 safe exposure limit, yes.

9 Q. Okay. What about below one part per
10 million over an eight-hour time-weighted average? Is
11 that unsafe?

12 MR. BUTHOD: Form.

13 THE WITNESS: What about below?

14 MS. CLANCY: Yes.

15 THE WITNESS: Well, if one part per
16 million over an eight-hour time-weighted average is
17 safe, then concentrations below that are also going
18 to be safe.

19 Q. BY MS. CLANCY: Okay. So at what level
20 does it start to become unsafe? That's my question.

21 MR. BUTHOD: Form.

22 THE WITNESS: Well, again, you need to
23 specify which end point you're referring to. If
24 you're looking -- if you're talking about an
25 increased risk of developing AML, that's one

DAVID PYATT

1 discussion. So which end point are you referring to?

2 Q. BY MS. CLANCY: Thank you for
3 clarifying. I'm talking about the end point of
4 significant toxicity to the blood and blood forming
5 organs.

6 A. Well, I'm still not exactly clear on
7 what that would entail. If you're referring to
8 aplastic anemia, you're not going to get aplastic
9 anemia being exposed at one part per million for any
10 length of time. Those are extremely high doses of
11 benzene that are associated with frank damage to the
12 bone marrow and aplastic anemia; hundreds of ppm.

13 Q. Okay. Well, let's back up. You admit,
14 do you not, that -- that B cells are a target
15 population for benzene toxicity, correct?

16 MR. BUTHOD: Form.

17 THE WITNESS: At certain exposure --
18 under certain exposure conditions, there are studies
19 in the literature that suggest that lymphocytes are
20 the most sensitive end point. Rothman study in '96
21 is the study upon which EPA bases their reference
22 concentration or their noncancer end point. And in
23 that particular study, lymphocytes were the most
24 sensitive end point. And there was a suppression of
25 lymphocytes in that study at 7.6 parts per million

DAVID PYATT

1 with the time-weighted average and duration of six
2 years. So based on -- or 6.7 years.

3 So based on that study, that's where
4 they saw a subtle decrease in lymphocytes.

5 Q. BY MS. CLANCY: Okay. Well, so is it
6 your opinion then that above 7.6 parts per million
7 over a time-weighted average that that is going to
8 start being unsafe levels of exposures to benzene in
9 terms of causing toxicity to the lymphocytes?

10 MR. BUTHOD: Form.

11 THE WITNESS: Well, the only way to
12 answer is that is to rely upon the published
13 literature on this subject. And in that one study
14 there was subtle decreases in peripheral blood counts
15 at that low level. There are other studies that
16 suggest that you've got to have higher levels of
17 benzene exposure before you start to see any
18 cytopenias. Some of those as high as 25, even
19 higher, ppm. So that is the study that EPA uses to
20 base their noncancer end point. So that's the one
21 that I mentioned.

22 THE VIDEOGRAPHER: Counselor, five
23 minutes to tape change.

24 MS. CLANCY: Thank you.

25 Q. BY MS. CLANCY: Well, Dr. Pyatt, what is

DAVID PYATT

1 your opinion as an expert in toxicology as to what
2 the safe level of exposure to benzene such that it
3 would not cause toxicity to B cells?

4 MR. BUTHOD: Form.

5 THE WITNESS: Well, I think we just
6 addressed that question, and I would certainly
7 consider one ppm time-weighted average or the OSHA
8 pell to be that level. And in fact, studies showed
9 that you could be exposed to higher levels than that
10 and not have any adverse effect on peripheral
11 cytopenias.

12 Q. BY MS. CLANCY: Okay. And the -- the
13 study that you referenced said that -- you said
14 earlier that it was 7.6 part per million over a
15 time-weighted average at which there were toxicity to
16 the B cells, is that correct?

17 MR. BUTHOD: Form.

18 THE WITNESS: I'm not sure that they
19 looked specifically at B cells. It was absolute
20 lymphocyte count in that study. And in the -- in the
21 lowest exposed group that they talked about, the mean
22 concentration was 7.6, and that is where they saw a
23 subtle decrease in ALC, absolute lymphocyte count,
24 and that is the level upon which EPA bases their
25 reference concentration.

DAVID PYATT

1 Q. BY MS. CLANCY: Okay. So at 7.6 parts
2 per million the lymphocyte count was altered,
3 correct?

4 A. In that one particular study, but there
5 are many, many studies on cytopenias and some studies
6 suggest that you can have exposures considerably
7 higher than that with no effect on peripheral blood
8 cells.

9 Q. Well, what is your opinion as an expert
10 toxicologist as to what an unsafe level of exposure
11 would be with respect to exposure to benzene and
12 effect on the B cells?

13 MR. BUTHOD: Form.

14 THE WITNESS: Well, the only way that I
15 can answer that question is to answer it with the
16 published scientific literature, and that's what
17 we're referring to. And this requires chronic
18 exposures. Short-term exposures are not going to
19 have the same effect, and the levels could be
20 considerably higher without having an effect on
21 peripheral cytopenias.

22 Q. BY MS. CLANCY: Well, the only -- the
23 only literature that you've cited to me, as we sit
24 here today, is the one showing that 7.6 part per
25 million there is an effect on the -- on the

DAVID PYATT

1 lymphocytes, correct?

2 MR. BUTHOD: Form.

3 THE WITNESS: The only literature color
4 that I have cited today based on cytopenias? But
5 there's many other studies that are out there;
6 Townsend, Ward, Kippen. There are many studies that
7 have looked at this same effect, and they report
8 higher levels of exposure with no effects on
9 peripheral blood.

10 Q. BY MS. CLANCY: Okay. And what are
11 those levels of exposure?

12 A. It varies depending on the study; 25
13 ppm, 10 ppm. Some are higher. Depends on the study.

14 THE VIDEOGRAPHER: Counselor, may we go
15 off the record?

16 MS. CLANCY: Yes.

17 THE VIDEOGRAHPER: We're going off the
18 record at 11:50. This is the end of tape two.

19 (Recess taken from 11:50 a.m. to
20 12:30 p.m.)

21 THE VIDEOGRAPHER: We're back on the
22 record at 12:30. This is tape three.

23 Q. BY MS. CLANCY: Dr. Pyatt, what
24 attorneys have you spoken to in context of providing
25 your opinions in this case?

DAVID PYATT

1 A. Ty Buthod, who's here today, and Brett
2 Young with Fulbright and Jaworski.

3 Q. Anybody else?

4 A. Steve Dillard, who's in Mr. Young's
5 firm, just briefly.

6 Q. What did you talk to Steve Dillard
7 about?

8 A. Just the nature of my opinions and the
9 literature that I used to rely upon to form those
10 opinions.

11 Q. Okay. And the nature of the literature
12 that you relied on was the epidemiological literature
13 that we've attached as exhibits to the deposition
14 today, is that correct?

15 A. That's correct.

16 Q. Okay. So essentially what you did is
17 you reviewed the epidemiological literature that are
18 attached -- well, let me back up.

19 Essentially what you did in formulating
20 your opinions for purposes of providing testimony in
21 this case is you have reviewed all of the
22 epidemiological literature attached to the deposition
23 here today, is that correct?

24 MR. BUTHOD: Form.

25 THE WITNESS: That was a pretty long

DAVID PYATT

1 question. The basis --

2 Q. BY MS. CLANCY: I can restate it, if you
3 would like.

4 A. The basis of my opinion is my experience
5 as a research toxicologist looking specifically at
6 this issue, as well as the animal data, the bulk of
7 the -- the evidence, epidemiologic or otherwise,
8 associated with benzene hematopoietic effects.

9 Q. Okay. And what we've -- you haven't --
10 did you bring animal data with you today?

11 A. No.

12 Q. Okay.

13 A. I don't believe that the animal data has
14 any relevance to this issue, but I have reviewed it
15 in the past, and I have looked at it and thought
16 about it, but I don't believe it's relevant to human
17 hematopoietic malignancies associated with benzene
18 exposure.

19 Q. Okay. So you did not bring -- you're
20 not relying, therefore, on animal data for purposes
21 of providing your opinion in this case, correct?

22 A. Only in the general sense that I'm
23 familiar with that literature, and I have reviewed
24 that literature and thought about that literature.

25 Q. Well, except that you're saying that the

DAVID PYATT

1 animal literature is not relevant with respect to
2 benzene in humans, correct?

3 A. No. The literature -- the animal
4 studies, the long-term, chronic animal studies with
5 benzene exposure are not appropriate models for the
6 induction of -- of acute myeloid leukemia in humans.
7 There is not a good model there nor is there a
8 precise analogy in humans to the types of
9 malignancies that you see in these animal bioassays.

10 That's not to say that there is not
11 anything that we can learn from the animal toxicity
12 data. So I have reviewed that literature
13 extensively, and I -- it is part and parcel of, you
14 know, my experience as a toxicologist with regard to
15 benzene.

16 Q. Okay. Let me back up. What literature
17 did you review for purposes of providing your
18 opinions in this case today?

19 A. The literature that I reviewed for
20 purposes of providing an opinion in this case is the
21 literature that we discussed when we first started
22 this deposition; that is, the literature that I
23 brought here with me in these binders.

24 Q. Okay. And is it that literature that
25 you will be relying on for purposes of providing your

DAVID PYATT

1 opinions in this case?

2 A. Yes.

3 Q. And the literature that you brought with
4 you today is epidemiological literature, correct?

5 A. Yes, the literature that I brought today
6 is epidemiological literature. There are others, but
7 the book chapter's got other kinds of things in it.
8 But yes, predominantly, this is human data. This is
9 data that people have specifically been addressing
10 the questions that we are interested in and that
11 falls into the epidemiological literature.

12 Q. Okay. And you -- you do not hold an
13 advanced degree in epidemiology, correct?

14 MR. BUTHOD: Form.

15 THE WITNESS: That is correct.

16 Q. BY MS. CLANCY: Okay. And you've never
17 worked as an epidemiologist for OSHA, correct?

18 A. I have not worked as an epidemiologist
19 for OSHA, no, but I use epidemiological data as a
20 toxicologist all the time.

21 Q. Okay. Object as nonresponsive to
22 everything after "no."

23 You've never served as the director of
24 Office of Standards Review for OSHA, correct? That
25 is a position you have not held, correct?

1 A. I have never worked for OSHA in any
2 capacity.

3 Q. Okay. And you've never worked as an
4 epidemiologist for NIOSH, correct?

5 A. I have never worked for NIOSH in any
6 capacity.

7 Q. Okay. You've never been an
8 epidemiologist for NIOSH, correct?

9 A. That's correct, I have not been an
10 epidemiologist nor any other occupation for NIOSH.

11 Q. Okay. And you've never formulated the
12 protocol for an epidemiological study, correct?

13 A. I have not conducted epidemiological
14 research, that is correct.

15 Q. You've never designed the protocol for
16 purposes of planning or implementing an
17 epidemiological study, correct?

18 A. That is correct.

19 Q. And you've never collected data in any
20 capacity for purposes of an epidemiological study,
21 correct?

22 A. No. I am a toxicologist, and the
23 research that I have done in this area is from a
24 toxicological viewpoint.

25 Q. Okay. Object to everything after "no"

DAVID PYATT

1 as non-responsive.

2 You've never given -- you've never had a
3 published paper in a peer-reviewed literature on the
4 subject of epidemiology, correct?

5 A. Well, as I recall, we discussed that
6 this morning, and I believe the publication from '97
7 in Carcinogenesis is that's as close as it gets with
8 my publications.

9 Q. But the publication in Carcinogenesis
10 was not an epidemiological study, correct?

11 A. Well, I've reviewed and critiqued the
12 epidemiological evidence for that specific
13 relationship.

14 Q. It was a review of other epidemiology
15 studies?

16 A. It was a review and a synthesis of the
17 data. We reanalyzed the data that was in these other
18 studies and published the findings.

19 Q. You published the findings after
20 reanalyzing the data in other epidemiological
21 studies?

22 A. That's correct.

23 Q. Okay. And that -- but you've never
24 published an original epidemiological study, correct?

25 A. No, ma'am.

DAVID PYATT

1 Q. Okay. And you've never -- you've never
2 served as a member of the National Academy of
3 Sciences, have you?

4 A. I have not been a member of the National
5 Academy of Sciences.

6 Q. Okay. And have you ever consulted with
7 the World Health Organization with respect to issues
8 of epidemiology?

9 A. No, I have not consulted with the World
10 Health Organization.

11 Q. Okay. And so you've never been a member
12 of the task group on environmental health criteria
13 for the World Health Organization, correct?

14 A. Right. That would follow logically from
15 my previous answer.

16 Q. And you never served on the Cleaning
17 Committee For Conference On Risk for the National
18 Safety Council, correct?

19 A. I have never even heard of that before
20 right then.

21 Q. Okay. And you've never worked on the --
22 never worked for The World Health Organization on the
23 -- as a member of the Expert Committee on the
24 Evaluation of Carcinogenic Risk of Chemicals to
25 Humans, correct?

1 A. No, I have not done any consulting work
2 for the World Health Organization.

3 Q. Okay. And you've not worked for the
4 National Academy of Science with respect to the
5 issues of exposure guidance levels for benzene,
6 correct?

7 A. That's correct.

8 Q. And you are not a member of the American
9 College of Epidemiology, correct?

10 A. I'm sorry. I didn't get that question.

11 Q. You're not a fellow of the American
12 College of Epidemiology, correct?

13 A. No.

14 Q. Okay. You agree with this statement, do
15 you not, that B cells exhibit increased
16 susceptibility to benzene-induced immunosuppression
17 and represent a sensitive target population for
18 benzene toxicity? You agree with that, correct?

19 MR. BUTHOD: Form.

20 THE WITNESS: You need to read it again
21 slower. And where did it come?

22 Q. BY MS. CLANCY: It came from a paper
23 that you published in the year 2000.

24 A. Okay.

25 Q. And the sentence that you wrote is: "B

DAVID PYATT

1 cells exhibit increased susceptibility to
2 benzene-induced immunosuppression and represent a
3 sensitive target population for benzene toxicity."

4 My question is: Do you agree with that
5 statement that you wrote?

6 A. As we discussed earlier in the Rothman
7 study, that seems to be -- seems to be the case; that
8 subtle changes in peripheral B cell numbers was the
9 most sensitive end point in that population.

10 Q. Okay. And that B cells are a sensitive
11 target population for benzene toxicity, correct?

12 A. As far as the peripheral cytopenia goes,
13 that does appear to be the case in that one study, in
14 Rothman. There are other studies that do not
15 indicate that lymphocytes are any more sensitive to
16 any other cell -- cell type.

17 And this is not a general statement that
18 all forms of B cell damage are -- or B cell toxicity
19 could be associated with benzene. This is just the
20 numbers. The peripheral cytopenia's based on, you
21 know, that and that study.

22 Q. Okay. Object as nonresponsive.

23 I'm just -- I'm just reading you a
24 sentence that you wrote in your paper that you
25 published in 2000. I'm asking if you still stand by

DAVID PYATT

1 that sentence or if you're retracting that sentence.

2 MR. BUTHOD: He just answered that
3 question, Denyse.

4 Q. BY MS. CLANCY: And so my question is:
5 Do you agree with this sentence, yes or no, these
6 findings indicate that B cells exhibit increased
7 susceptibility to benzene-induced immunosuppression
8 and represent a sensitive target population for
9 benzene toxicity?

10 MR. BUTHOD: Object to the form.

11 THE WITNESS: I would -- yes, I still
12 agree with that. I still agree with that study based
13 on, you know, the evidence that I've described with
14 the Rothman study as well as some of my own research
15 in the lab. You know, you -- B cells do -- they are
16 susceptible to some types of -- of toxic effects from
17 benzene exposure or hydroquinone exposure. But that
18 is only with regard to specific molecular end points
19 that I was describing in that paper or in subtle
20 alterations in the peripheral blood, as Rothman
21 described in his study.

22 Q. BY MS. CLANCY: Okay. And hydroquinone
23 is a metabolite of benzene, correct?

24 A. Hydroquinone is -- is one of many
25 metabolites of benzene.

DAVID PYATT

1 Q. You wrote in your -- in your paper on
2 benzene and hematopoietic malignancies, which is
3 Exhibit 14 to this deposition.

4 A. Okay.

5 Q. Would you pull that out for me?

6 A. I have it.

7 Q. If you look at -- if you look at page
8 538.

9 A. Okay.

10 Q. I gave you the wrong page reference.
11 Hold on just one second. Sorry. I want to find the
12 specific reference so I don't refer to it in the
13 abstract. Okay. And I'm sorry. It was page 531.

14 A. Okay.

15 Q. First of all, let me back up. Was this
16 paper that you wrote, "Benzene and Hematopoietic
17 Malignancies," this paper was based on a review of
18 other literature sources, is that correct?

19 A. As opposed to what?

20 Q. Original research.

21 A. Well, this is a review paper.

22 Q. Okay. So what -- what does that mean, a
23 review paper? You're reviewing other literature with
24 respect to the topics?

25 A. Right. This was -- this was a review

DAVID PYATT

1 paper. This was discussing in a fairly superficial
2 fashion all of the literature in existence on benzene
3 toxicology.

4 Q. Okay. And on page 531 you say, "In
5 fact, cigarette smoking often results in exposure to
6 benzene that exceeds even those likely found in an
7 occupational." That's starting at the bottom of page
8 531.

9 A. Uh-huh.

10 Q. Okay. Is it your opinion that cigarette
11 smoking exceeds levels of benzene found in
12 occupational settings, such as petroleum -- working
13 as -- at petroleum refining and petro chemical
14 companies?

15 MR. BUTHOD: Form.

16 THE WITNESS: Well, I'm not able to
17 answer that because I don't know what specific
18 occupational levels you're referring to in a
19 refinery. But if someone smokes, has a very large
20 smoking history, the levels of benzene, you know, are
21 measurable. They can be significant.

22 Q. BY MS. CLANCY: All right. What are --
23 what are the levels benzene from -- what would you
24 consider the levels of benzene to be from a
25 significant smoking history?

DAVID PYATT

1 A. Well, I'd have to review the literature,
2 because that's not something that I reviewed in
3 preparation for today's deposition.

4 Q. Do you think -- is it your opinion that
5 smoking had anything to do with the diseases at issue
6 in this case?

7 A. Well, I don't believe that benzene
8 exposure from any source, whether it's cigarettes or
9 occupational exposure or any others, has any
10 relationship to the development of Hodgkin's disease,
11 non-Hodgkin's lymphoma, or chronic lymphocytic
12 leukemia. So no, I don't believe that, at least as
13 far as the benzene levels in cigarette smoking goes,
14 I would not consider that to be a -- a significant
15 risk factor in either one of these individual's
16 disease.

17 Q. Okay. You agree that benzene can --
18 exposure to benzene can occur both dermally and by
19 means of inhalation, correct?

20 A. Well, without -- there is a very big
21 difference, I believe, in the relative absorption
22 properties through those two medium.

23 Q. Well, my question is not the relative
24 absorption properties. My question is: Exposure to
25 benzene can occur, be it, oral, dermal, or inhalation

DAVID PYATT

1 group, correct?

2 MR. BUTHOD: Form.

3 THE WITNESS: But the inhalation is
4 going to dwarf particularly the dermal route. Very
5 little benzene from a permeability basis is going to
6 get through the skin. I mean, theoretically, can a
7 molecule or two or some very low level of benzene is
8 it absorbed dermally, I think the answer to that is
9 probably yes. But from a toxicological point of
10 view, that pathway is generally considered
11 insignificant.

12 Q. BY MS. CLANCY: Okay. My question is:
13 Is that -- can exposure to benzene occur via both the
14 dermal and inhalation group?

15 A. Well, I believe I answered that.

16 Q. Is the answer yes?

17 MR. BUTHOD: Form.

18 THE WITNESS: The answer is they have
19 very different amounts of how much can get in, and
20 from a toxicological point of view, the inhalation
21 route is considered by far the most important and the
22 most predominant.

23 Q. BY MS. CLANCY: Okay. Object as
24 nonresponsive.

25 Could you turn to page 533 of your

DAVID PYATT

1 review article?

2 A. Yes. 533, I'm there.

3 Q. Okay. Reading under the sentence,
4 "Benzene toxicokinetics and metabolism," first
5 sentence, do you see where you wrote: "Exposure to
6 benzene can occur via the oral, dermal, or inhalation
7 group"? Do you see where you wrote that?

8 A. Yes.

9 Q. Okay. Do you still agree with that
10 sentence?

11 A. I agree with the sentence as it's
12 written, but I still believe that the inhalation
13 route is by far and away the predominant pathway.

14 Q. Okay. And I recognize you have opinions
15 as to what the predominant pathway is, and I'm not
16 asking you that. I'm asking you only this: Can
17 exposure to benzene occur via both the dermal and
18 inhalation route?

19 MR. BUTHOD: Form. That's the fourth
20 time, Denyse.

21 MS. CLANCY: Well, I'm asking. I'm
22 having to ask it. I just want to know yes or no.

23 Q. BY MS. CLANCY: Can exposure to benzene
24 occur via the dermal or inhalation route?

25 MR. BUTHOD: No. Denyse, he's answered

DAVID PYATT

1 your question three full times. And if he doesn't
2 want to give it as a yes or no, he doesn't have to.
3 You know better.

4 Q. BY MS. CLANCY: Dr. -- Dr. Pyatt, can
5 exposure to benzene occur via both the dermal and
6 inhalation route?

7 MR. BUTHOD: Objection to number five
8 question.

9 THE WITNESS: Inhalation is by far the
10 predominant route. But as I mentioned earlier, I --
11 you cannot rule out -- dermal absorption to benzene
12 does occur, but it occurs to a much lower degree than
13 inhalation. And from a toxicological point of view,
14 it is generally considered insignificant.

15 Q. BY MS. CLANCY: Does dermal -- can
16 dermal exposure to benzene occur?

17 A. That is going to depend on the
18 circumstances around that type of exposure.

19 Q. What circumstances wouldn't -- would
20 dictate whether or not dermal exposure to benzene
21 occurred?

22 A. Well, the concentration of benzene that
23 they're exposed to, the length -- the length of time
24 that the skin is exposed to it. You know, all those
25 kinds of factors.

1 Q. At what concentration would you have to
2 be exposed and at what length for there to be dermal
3 absorption?

4 MR. BUTHOD: Form.

5 THE WITNESS: I'm not able to answer
6 that question.

7 Q. BY MS. CLANCY: Are you an expert in
8 that area or not?

9 A. Expert in what area?

10 Q. Are you able to opine today on whether
11 -- at what levels dermal absorption can occur with
12 respect to benzene?

13 A. There is a fairly robust literature on
14 the permeability of human skin to benzene, and I have
15 reviewed that literature, but not recently and not
16 specifically in regard to this case. As I told you,
17 specifically in regard to this case, exposure was not
18 part of what I was asked to opine on. My job in this
19 particular matter was the scientific literature
20 associating benzene with these various hematopoietic
21 malignancies; Hodgkin's, non-Hodgkin's, and chronic
22 lymphocytic leukemia.

23 And I reviewed that literature and do
24 not find a consistent, reliable association between
25 benzene irrespective of whether it's dermal, oral, or

DAVID PYATT

1 inhalation. The benzene exposure, however you get
2 it, is not related to the development of these
3 diseases in my view based on this literature.

4 Q. BY MS. CLANCY: Object as
5 non-responsive.

6 Dr. Pyatt, did you review any literature
7 -- retract that.

8 All of the literature that you brought
9 today was not written by yourself, correct?

10 A. All the literature that I brought today
11 was not written by me, no.

12 Q. Okay. So you reviewed literature
13 written by other people to provide your opinions in
14 this case, correct?

15 A. I reviewed the literature, yes. Other
16 people, yes, yes.

17 Q. I want you to turn page 537 of your
18 article.

19 A. Okay.

20 Q. The article discusses that originally it
21 was considered outside the scientific pail that
22 benzene causes acute myelogenous leukemia, correct?

23 A. That's what my article discusses, that's
24 correct, briefly.

25 Q. Okay. So originally, people did not

1 consider benzene -- or was considered outside the
2 scientific pail that benzene could cause acute
3 myelogenous leukemia, correct?

4 A. That is my understanding of the historic
5 literature, yes.

6 Q. Okay. Also, you write on page 537 that
7 many of the early studies -- and this is under the
8 section entitled "Acute Myelogenous Leukemia."

9 A. Uh-huh.

10 Q. After reference 87 or footnote 87, it
11 says, "Taken in isolation, many of these early
12 studies possess significant methologic --
13 methodologic flaws or omissions, including the lack
14 of reliable exposure estimates, questionable
15 selection of control populations and confusing or
16 archaic disease classification."

17 Do you see where it writes -- where you
18 write that?

19 A. Yes.

20 Q. Okay. Why is it important to have
21 reliable exposure estimates when performing a study
22 of the effects of benzene on a human being?

23 A. Why is it important to have reliable
24 exposure information?

25 Q. Yes.

DAVID PYATT

1 A. Well, if you're trying to establish a
2 link between a given exposure and a given disease,
3 one of the questions that toxicologists are going to
4 be very interested in is what level of exposure is
5 required before you can increase the risk of that
6 disease.

7 Q. Okay. So, for example, in a cohort
8 group, would you need to have reliable -- let's say
9 the study is with respect to benzene. In the cohort
10 group at issue, would you need to have reliable
11 information with respect to the exposure levels of
12 the benzene that the cohort group experienced?

13 A. Well, that depends on what exactly the
14 analogy is that you're -- or the answer that you're
15 trying to -- the question that you're trying to
16 answer by studying that cohort.

17 Q. Well, what if you're trying to answer
18 the question what is the effect of benzene on a given
19 subpopulation? Wouldn't you want the cohort group --
20 would you -- would you need reliable exposure
21 estimates of benzene to that cohort group?

22 A. Well, seeing a dose response
23 relationship in the cohort, which you're only going
24 to be able to do with quantifiable exposure levels,
25 is certainly going to strengthen your opinion that

DAVID PYATT

1 what you're looking at is -- is related to the
2 exposures. So I'm still not quite clear on whether
3 -- on your question. But the more data you have on
4 exposure, then the more reliable the study's going to
5 be to establish a cause and effect relationship.

6 Q. Well, in the study of a given cohort
7 group, if the question is: Is that cohort group
8 going to suffer an increased risk of a disease as a
9 result of exposure to benzene, would you want at a
10 minimum to confirm that the folks in the cohort group
11 have been exposed to benzene?

12 A. Well, I think if the -- if what you're
13 trying to do is establish that a given exposure
14 within that cohort was related to the disease that
15 you were interested in studying, then you're going to
16 have to have some measure of the exposure.

17 Q. So for that cohort group, if you're
18 studying the effect of exposure to benzene you will
19 have to have some number as to the levels of exposure
20 to benzene that each individual in the cohort group
21 experienced, is that correct?

22 A. Well, I don't think you can actually
23 establish a number that each individual -- I mean,
24 there are -- there are limitations to what
25 epidemiologists can do with this data. But again,

DAVID PYATT

1 the more quantitative exposure information you have
2 in a study, then the more reliable that study is
3 going to be, if you were trying to establish that the
4 disease incidence in question is related to the
5 exposure.

6 Q. Okay. And at a minimum then, you would
7 need to show that -- if the question is: What is the
8 effect of benzene on a population, i.e., does benzene
9 cause any increased risk of disease, you have to make
10 sure that the members of the population you're
11 studying, the cohort group, had at least some
12 exposure to benzene, correct?

13 A. Well, if there was no exposure to
14 benzene that you could measure or detect or report in
15 the study, there's no way you're going to be able to
16 address the question that you define. There's no way
17 that you're going to be able to answer the question
18 was any particular disease caused by their exposure.

19 Q. Okay. So in other words, what you need
20 to -- to answer my question then, which I think
21 you've answered the reverse of it, which is that you
22 said if you don't have exposure to benzene in the
23 cohort group, it's not going to enable you to answer
24 the question at issue. Is that what you said?

25 A. Well, you've lost me.

DAVID PYATT

1 Q. Okay. The question at issue is this:
2 Does exposure to benzene by a -- to a certain group
3 cause that group to have an increased risk for
4 disease?

5 A. And my answer to that is: The more
6 information you have about this quote, quote,
7 exposure to benzene, then the better you're going to
8 be able to answer that question and the more reliable
9 the study is going to be. And presumably or
10 hopefully, that level of benzene is going to be
11 quantitative so that there are people that are low
12 exposed and you know what those numbers are. You
13 have medium exposed individuals, and you know what
14 those numbers are.

15 And you should see a rational response
16 in the disease rate associated with those increases
17 in exposure. If you don't see a rational response,
18 you know, from this natural experiment or this
19 biological gradient or dose response, then you have
20 to question if what you're looking at is really
21 related to the exposure.

22 Q. Okay. And my question then is: Is the
23 study valid if you have members of the cohort group
24 who are -- have never been -- you don't even know if
25 they're exposed to benzene?

1 MR. BUTHOD: Form.

2 THE WITNESS: Is the -- is the study
3 valid if you have members in -- I don't -- I don't
4 understand the question. If there were no exposure
5 to benzene and you knew that they were not exposed to
6 benzene, then they would probably go into the control
7 group that you would be comparing it to. If you have
8 no idea what anyone in the cohort is exposed to,
9 you're not going to be able to design a study in that
10 cohort to address the question is benzene going to be
11 causing a specific disease.

12 Q. BY MS. CLANCY: All right. So if you
13 have no quantifiable data as to what the -- what
14 benzene levels the expose -- the cohort group was
15 exposed to, then you're not going to be able to study
16 the effect of benzene with respect to disease on that
17 cohort group, is that correct?

18 A. That's not what I said. I said was the
19 more quantitative exposure information you have in
20 that particular study, the stronger the study is
21 going to be. And the stronger the study is, then the
22 more reliable it's going to be if someone is going to
23 use that to try to establish a specific relationship
24 between exposure to a chemical, benzene, and an
25 outcome, a specific disease.

1 If it's -- well, I'll just stop there.

2 Q. Okay. And just so this isn't confusing,
3 I'm going to go back. And the question at issue is:
4 If you expose a certain subpopulation to benzene, is
5 that population at increased risk of disease? Okay?
6 Are you with me there? I'm just telling you what the
7 -- what the question at issue to study is.

8 A. Where you have individuals that are
9 exposed to benzene and you know that and you know
10 what those benzene levels are.

11 Q. No, that's not it. No. I'm just saying
12 you take a certain subpopulation and you want to
13 study what the effect, if any, of exposure to benzene
14 on that subpopulation would be in terms of causing
15 disease.

16 A. Well, I think if you don't have
17 quantitative exposure information, then it's going to
18 be more difficult to make a -- establish a link
19 between benzene, the chemical of interest in this
20 case, and the specific disease. I'm not saying that
21 it's impossible, but the study is going to be weaker.
22 There's going to be potential confounders and other
23 issues that you can't address without that
24 quantitative exposure data.

25 So that is definitely going to be the

DAVID PYATT

1 better study, the more reliable study, if you have
2 quantitative exposure information.

3 Q. Okay. And then backing away from the
4 quantitative part, do you -- should you at the most
5 basic level confirm that each of the members of the
6 cohort group in question have at least been exposed
7 to benzene?

8 MR. BUTHOD: Form.

9 Q. BY MS. CLANCY: At any level?

10 A. Well, Ms. Clancy, if you -- if you are
11 looking at a population of workers and you have no
12 idea whether they've been exposed to benzene or not
13 and you have no idea what those exposures could have
14 possibly been, then that really is not a very good
15 cohort to try to answer the question does benzene
16 exposure cause a specific disease.

17 So I guess I'm not following your
18 question. But that's -- really, that would be a poor
19 choice if you want to try to figure out is benzene
20 causing a specific disease.

21 Q. Okay. So in forming -- in deciding what
22 your cohort group would be in terms of -- or let me
23 back -- retract that.

24 In doing a study as to whether or not
25 benzene causes a specific disease, you should at

DAVID PYATT

1 least have some idea that the group in question was
2 at a minimum exposed to benzene, correct?

3 A. Well, if you have no idea -- again, if
4 you have no idea that anyone in the cohort was
5 exposed to benzene or what those levels could have
6 possibly been, then you're not going to be able to
7 use any study that you conduct on that population to
8 answer a meaningful question. You've got to know
9 that there is exposure, and you have to have a
10 control population that you're sure is not exposed so
11 that you can compare the relative rates between those
12 two.

13 If you have no idea that anyone is
14 exposed to benzene in a cohort, that's going to be a
15 poor choice to study.

16 Q. Okay. And -- and what you're saying is
17 ideally, too, the study becomes more reliable if you
18 not only know that the cohort group has been exposed
19 to benzene, but you have some quantifiable
20 information with respect to the levels of benzene
21 exposure that they've been exposed to, correct?

22 A. The more quantitative information you
23 have for a specific study regarding exposures --
24 quantitative exposure to benzene, yes, then that
25 study is going to be better and more reliable and

1 stronger.

2 Q. Okay. So -- and in fact, you criticize
3 studies in your review paper because you said that
4 they lack reliable exposure estimates for benzene.
5 That was a criticism that you had, correct?

6 A. Well, I'm not saying really anything
7 different now.

8 Q. Okay. Right, but I mean, in your paper
9 that's -- that's what you -- it was one of the areas
10 of criticism that you had for the early studies is
11 that they -- on benzene is that they lack reliable
12 exposure estimates as to what the cohort group had
13 been exposed to with respect to benzene, correct?

14 A. Well, I'm not sure they were all cohort
15 groups that you're referring to, as some of these
16 were case reports and case series. But again, the
17 stronger study is going to be where you have
18 quantitative exposure information. Had that been
19 present in some of these earlier studies, then they
20 would have been stronger studies.

21 Q. Okay.

22 A. I think we're saying the -- I'm not
23 saying anything different than what I wrote in my
24 paper.

25 Q. Have you reviewed for purposes of your

1 testimony in this case the Shell Historic Exposure
2 Assessment Study?

3 A. I have not.

4 Q. Heard of that?

5 A. I'm sorry?

6 Q. Do you know what that is?

7 A. Say it again.

8 Q. The Shell Historic Exposure Assessment.

9 A. No, I have not reviewed that. My role
10 was more on a general causation basis looking at the
11 scientific literature supporting or not supporting
12 benzene and the development of -- of these diseases.
13 So again, to some degree, that was independent of
14 what specific exposures were.

15 Would you mind if we stopped just for
16 one quick second? I'm sorry. I realize we just got
17 back from lunch, but can we just take a quick break?

18 Q. No problem.

19 A. Thank you.

20 THE VIDEOGRAPHER: Off the record at
21 1:07.

22 (Recess taken from 1:07 p.m. to
23 1:19 p.m.)

24 THE VIDEOGRAPHER: Back on the record at
25 1:19.

DAVID PYATT

1 Q. BY MS. CLANCY: Dr. Pyatt, what do you
2 know of the Shell Historical Exposure Assessment
3 Study?

4 A. I don't know anything of that.

5 Q. Have you ever heard of it before I
6 referenced it today?

7 A. No, I have not.

8 Q. Well, do you know -- do you know of any
9 historical exposure assessment performed by Shell in
10 the 1980s?

11 A. I do not know of any of that, no.

12 Q. All right. And did any attorney in this
13 case talk to you about any historical exposure
14 assessment performed by Shell in the 1980s?

15 A. No, ma'am. My -- my opinion was in the
16 area of general causation on benzene exposure and the
17 lack of an association with these lymphoid
18 malignancies. And as I've told you before, that is
19 somewhat independent of any type of specific exposure
20 information.

21 Q. Okay. So you're not going to testify in
22 this case as to any specific exposure information
23 with respect to Mr. Wilkinson and Mr. Stubbs,
24 correct?

25 A. That is not -- I do not have any

DAVID PYATT

1 information regarding their specific exposures. And
2 again, my opinion is going to be more of a causation,
3 general causation regarding benzene exposure and
4 these lymphoid malignancies.

5 Q. I'm looking at your designation in this
6 case, and it says, "Dr. Pyatt may testify regarding
7 toxicology, hematology, and the scientific literature
8 regarding benzene and other chemicals which may be
9 alleged to be relevant in this case."

10 My question is this: What are the other
11 chemicals that are relevant in this case?

12 MR. BUTHOD: Do me a favor. Give me a
13 second. I have a copy of that. I'm going to show
14 that to the witness, okay?

15 MS. CLANCY: Okay. This is United
16 States Steel's First Supplemental Disclosures in the
17 consolidated matter of Wilkinson and Stubbs.

18 MR. BUTHOD: Well, I tell you what. I
19 don't have that in front of me. I'll show you the
20 ones that -- that my client filed, and they're
21 roughly similar. But anyway, that may facilitate
22 your asking these questions.

23 MS. CLANCY: Yeah. I think yours is the
24 same as U.S. Steel's.

25 THE WITNESS: Okay. I -- I read it, so

DAVID PYATT

1 what was your question?

2 Q. BY MS. CLANCY: What are the other
3 chemicals which may be alleged to be relevant in this
4 case?

5 A. Well, I don't believe they are relevant,
6 but I have seen Dr. Infante and Dr. Mehlman both
7 bring up this kind of fuzzy classification of organic
8 solvents and the potential relationship that that
9 might have. And I have reviewed that literature as
10 well, and I'm prepared to render an opinion on that.
11 So if that counts as other chemicals, then that would
12 be it.

13 Q. Okay. So the only other chemicals that
14 that sentence would refer to would be organic
15 solvents, and as you just testified, you don't
16 believe that organic solvents are relevant to the
17 diseases at issue in this case, is that correct?

18 A. Well, we have to have a discussion on
19 organic solvents, which I'm willing to do at any
20 point, so --

21 Q. Well, my question for you is: Did you
22 -- did you just testify that you don't believe that
23 the organic solvents are relevant to the diseases at
24 issue in this case?

25 A. I don't believe that the organic solvent

DAVID PYATT

1 literature is sufficiently robust to specifically
2 link it with any disease in question. And then the
3 organic solvent literature has its own attendant
4 problems, which we have not discussed, that being
5 it's a very broad class of chemicals, and there's
6 very poor exposure information in these studies. So
7 it's virtually impossible to understand what
8 chemicals people were exposed to in these studies and
9 the potential relationship that those chemicals would
10 have to any other individual. So --

11 Q. Okay. And what other chem -- are there
12 any other chemicals that that sentence would refer to
13 that may be alleged to be relevant in this case?

14 A. No other chemicals, no.

15 Q. You're not going to offer your opinion,
16 expert opinion testimony as to any other chemicals
17 that may allege to be relevant in this case other
18 than organic solvents, correct?

19 MR. BUTHOD: Well, object to the form.

20 THE WITNESS: Well, I mean, the -- the
21 predominant focus of my analysis in this case was
22 benzene. So that is certainly one chemical that I'm
23 prepared to offer an opinion on. Organic solvent
24 literature, if that comes up, that is something that
25 I'm prepared to offer opinions on.

1 Q. BY MS. CLANCY: Is there any other
2 chemical besides benzene and organic solvents that
3 you are prepared to offer an opinion on in this case?

4 A. No. For this specific case, those are
5 the only ones that I addressed in the literature
6 regarding a general causation analysis with the
7 development of these three diseases.

8 Q. The -- the other thing that this says is
9 that you will address the levels and duration of
10 exposure which have been associated with those
11 diseases. What is the level and duration of exposure
12 to benzene that has been associated with the diseases
13 at issue in this case?

14 A. There is not one. I mean, all I can do
15 is point out the epidemiological evidence in
16 existence where they have quantitative benzene
17 exposure, and some of those exposures are very high.
18 And there is no evidence that these diseases are
19 caused by that exposure. So I do not believe there
20 is a concentration or exposure level of benzene that
21 is linked to the development of non-Hodgkin's
22 lymphoma, Hodgkin's lymphoma, or chronic lymphocytic
23 leukemia.

24 Q. Well, you admit, do you not, that there
25 are epidemiological studies which do show an

DAVID PYATT

1 increased risk of non-Hodgkin's lymphoma after
2 exposure to benzene? Those studies, whether or not
3 you agree with them, they exist, correct?

4 A. I would disagree with that assessment.
5 And if you would like to talk about a specific study,
6 let's -- let's do that.

7 Q. Well, I'm just asking you. You admit
8 that there is epidemiological literature, whether or
9 not you agree with it, that shows that a increased
10 risk of non-Hodgkin's lymphoma may arise from
11 exposure to benzene.

12 MR. BUTHOD: Well, he just answered
13 that. Object to the form.

14 THE WITNESS: I -- I will be happy to
15 discuss any particular study that you would like to
16 discuss.

17 Q. BY MS. CLANCY: Well, what I'm asking
18 you is: Are you saying that there is no
19 epidemiological study that shows an increased risk of
20 non-Hodgkin's lymphoma on a population that has been
21 exposed to benzene?

22 MR. BUTHOD: Form.

23 THE WITNESS: There is no reliable
24 evidence in my view looking at the overall weight of
25 the literature that supports that association. Now,

DAVID PYATT

1 if there is a specific study that you would like to
2 address, I will be happy to do that.

3 Q. BY MS. CLANCY: Okay. My question is:
4 There has been opinion in the literature supporting a
5 link between benzene exposure and non-Hodgkin's
6 lymphoma.

7 MR. BUTHOD: Form.

8 THE WITNESS: There have been authors of
9 some studies that have suggested that such an
10 association might exist, but their own data does not
11 support that link.

12 Q. BY MS. CLANCY: And that's based on your
13 opinion of the data?

14 A. That's based on their opinion of the
15 data.

16 Q. So you're saying that no epidemiologist
17 -- no epidemiologist who has published a study that
18 you reviewed has an opinion that exposure to benzene
19 can lead to increased risk of -- of non-Hodgkin's
20 lymphoma?

21 MR. BUTHOD: Form.

22 THE WITNESS: I cannot think of any
23 publication that I have read where the authors
24 definitively state that exposure to benzene caused an
25 increased risk of development of non-Hodgkin's

1 lymphoma. There are studies where the authors have
2 suggested that it might.

3 Q. BY MS. CLANCY: Okay. And so the
4 authors who suggest -- the authors who suggest that
5 exposure to benzene might cause non-Hodgkin's
6 lymphoma, might cause a risk for non-Hodgkin's
7 lymphoma, you disagree with those authors, correct?

8 MR. BUTHOD: Form.

9 THE WITNESS: Well, it's my opinion that
10 the overall weight of the literature clearly does not
11 support an association between benzene exposure at
12 any concentration and the development of
13 non-Hodgkin's lymphoma. So that is my opinion based
14 on the scientific literature, and it is supported by
15 the conclusions of the authors themselves.

16 Q. BY MS. CLANCY: Well, but my question
17 was with respect to authors who suggest that exposure
18 to benzene might cause an increased risk of
19 non-Hodgkin's lymphoma.

20 A. Well, which authors are you referring
21 to, Ms. Clancy? And let's get the study out and --
22 and talk about the data.

23 Q. Well, my question, Dr. Pyatt, is with
24 respect to the literature that you reviewed for
25 purposes of providing your opinions today in the

1 case, because that is what you did to provide your
2 opinions is that you reviewed the available
3 literature, correct?

4 A. My opinion was based on my understanding
5 of the literature as well as my experience as a
6 research toxicologist in this field --

7 Q. Okay.

8 A. -- as I've alluded to.

9 Q. What -- what -- how did your experience
10 as a research toxicologist in this field influence
11 your -- the opinions that you are providing in the
12 case today?

13 A. I can't specifically point to a way that
14 it has influenced it other than just increasing my
15 general understanding of what benzene does, how it's
16 metabolized, the effects that it could have, and the
17 development and relationship to these diseases.

18 Q. What research have you done in the field
19 as a research toxicologist in the field with respect
20 to the effect of benzene specifically on humans?

21 A. Well, almost everything that I did and
22 published with regard to active, reactive metabolites
23 of benzene were on human cells, and these were CD34
24 positive bone marrow progenitor cells. These were
25 lymphoid T and B lymphocytes from peripheral

1 circulation as -- as we've discussed.

2 Q. Okay. And based on your research that
3 you did on those human cells, what conclusions did
4 you draw that are relevant with respect to the
5 opinions that you're providing in the case at issue?

6 A. Well, again, you're asking me for a
7 specific thing that that research has provided, and I
8 can't point to one other than just my general
9 understanding of this literature and this science.

10 Q. Well, what liter -- what literature?
11 I'm talking specifically about -- as I understand it,
12 you said your opinion today is based on the
13 literature that you reviewed and also your experience
14 as a research toxicologist in the field. Is that
15 correct?

16 A. That's correct.

17 Q. I'm trying to understand what -- what
18 from your research and as a toxicologist in the field
19 what about that is providing you with information for
20 purposes of the opinions that you're going to provide
21 today?

22 MR. BUTHOD: Object to the form.

23 THE WITNESS: It's my general
24 understanding of benzene toxicology and how it is
25 metabolized has -- it's just my general experience as

DAVID PYATT

1 a research toxicologist with benzene. I don't know
2 what else to tell you.

3 Q. BY MS. CLANCY: Well, what is your
4 general understanding from how toxic metabolites of
5 benzene are metabolized, how does that influence your
6 opinion as to whether or not there is general
7 causation in this case?

8 A. You've asked me that question before,
9 and I feel like I've answered it. There is not a
10 specific thing that I can point to and say this --
11 this is it. This is the one that I have -- that I
12 have determined in the lab, and that's the reason why
13 I have the opinion that I have. My research on
14 benzene and my understanding of the literature and
15 benzene toxicology is all encompassed in my opinion.

16 Q. Well, I want to talk about the research
17 that you did as a toxicologist in the field, and I'd
18 like to know what about that research -- well, for
19 example, what about the research that you did as a
20 toxicologist in the field what did you derive from
21 that that enables you to offer an opinion as to
22 whether or not benzene causes non-Hodgkin's lymphoma?

23 MR. BUTHOD: Object to the form of the
24 question.

25 THE WITNESS: My opinion on whether or

DAVID PYATT

1 not benzene causes non-Hodgkin's lymphoma is based on
2 the scientific literature. It is based on this
3 collective weight of all of these studies that have
4 specifically looked at that question.

5 Q. BY MS. CLANCY: Okay. And so what from,
6 for example, all the laboratory work that you did
7 affects your opinion with respect to whether or not
8 benzene causes non-Hodgkin's lymphoma?

9 A. The -- the research that I did looking
10 at bone marrow toxicity and B cell lymphopoiesis and
11 B cell effects have just provided me with an
12 understanding of benzene toxicology in these specific
13 cell types. But as far as the actual, hardcore
14 evidence that benzene is not linked to the
15 development of these diseases, that evidence comes
16 from the epidemiological literature.

17 Q. Okay. All right. And you wrote on page
18 144 of Exhibit 14.

19 A. I'm sorry?

20 Q. If we pull out Exhibit 14, which is your
21 chapter that you wrote, your review chapter.

22 A. Okay. I have the chapter, but I didn't
23 hear the page number you referred to.

24 Q. 544.

25 A. Okay.

DAVID PYATT

1 Q. Okay. You wrote, "Study of China" -- on
2 the bottom of page 544 -- "was not surprisingly
3 benzene has been implicated as a potential etiologic
4 agent in the search for environmental and
5 occupational causes of NHL."

6 Do you see where you wrote that?

7 A. Yes.

8 Q. Okay. So what you reported in your
9 review paper is that someone, not you, implicated
10 benzene as a potential etiologic agent in the search
11 for environmental and occupational causes of NHL,
12 correct?

13 A. Well, I think that question has existed
14 in many individual's minds, which is why they have
15 conducted this vast amount of literature that we --
16 well, that I've got in this binder. I mean, that
17 study has been asked -- that question has been asked
18 many, many times. Is benzene related to the
19 development of these diseases? And the literature is
20 negative.

21 Q. Well, at least a study, according to
22 what you wrote, a study of Chinese workers exposed to
23 benzene did report a statistically significant
24 increase in NHL associated with duration of exposure,
25 but not with modeled benzene air concentrations. Do

DAVID PYATT

1 you see where you wrote that?

2 A. I'm very familiar with the Hayes '97
3 study.

4 Q. Okay. And -- and my question is
5 actually much simpler than that. Do you see on your
6 paper where you wrote, "A study of Chinese workers
7 exposed to benzene reported a statistically
8 significant increase in NHL associated with duration
9 of exposure, but not with modeled benzene air
10 concentration"?

11 A. That's correct, with duration of
12 exposure.

13 Q. Okay. So a study has reported a
14 statistically significant increase in NHL associated
15 with duration of exposure, correct?

16 A. The Hayes 1997 study, the overall
17 conclusions of that author and those authors -- well,
18 the overall statistical risk -- the overall risk of
19 non-Hodgkin's lymphoma is not statistically
20 significant in that study. And the authors
21 themselves in the conclusions, the best, the
22 strongest language that they come up with that they
23 put, appropriately so, is that it's possible and that
24 it suggests a potential association.

25 In that study, they measured

DAVID PYATT

1 quantitative benzene levels. There are cumulative
2 exposures to benzene within that study. There was no
3 dose response relationship with non-Hodgkin's
4 lymphoma associated with any cumulative dose nor
5 would -- was there a meaningful dose response.

6 So there is a apparent duration of
7 exposure association in that study, but right beside
8 that in that column in that table there is not an
9 association with cumulative exposure to benzene. So
10 I'm not sure what it is in that study that may or may
11 not have increased the risk based on duration, but it
12 was apparently not benzene because it was not linked
13 with cumulative exposures to benzene.

14 Now, this was a superficial, almost
15 Readers Digest, type review. I was not going to get
16 into the subtleties of the literature in this book
17 chapter. If you'd like to discuss the subtleties of
18 the literature, let's get out the Hayes study and
19 talk about the Hayes study, not what I put in a book
20 chapter where I only had a very limited amount of
21 space and a set number of references.

22 Q. Dr. Pyatt, are you -- are you saying
23 that what you wrote in the book chapter is not right?

24 A. I'm not saying that at all. What I'm
25 saying is that it's more complicated than that, and

1 this was a superficial treatise or superficial
2 handling of that issue. And if we're going to
3 discuss the Hayes '97 study in any detail, we
4 shouldn't rely on this superficial book chapter.
5 Let's get out the Hayes '97 study.

6 Q. Do you, sir -- you're -- you're calling
7 your book chapter superficial, is that right?

8 A. Well, this book chapter had -- I had a
9 limited amount of space. I had a limited number of
10 references that I could put in it. And yes, this is
11 not a full-blown, exhaustive literature search on
12 every single one of these topics. This is a topical
13 review, the kind that is easy to read and fit into
14 the -- the criteria that the editors asked me to
15 provide this chapter for.

16 But the -- the real study, the Hayes '97
17 study, is one foot away from me. So if we're going
18 to discuss this specific study, let's get it out and
19 talk about the data.

20 Q. I was merely asking about what you wrote
21 in your book chapter, sir.

22 A. Well, I think I've answered --

23 MR. BUTHOD: There's no question.

24 THE WITNESS: -- the question.

25 MR. BUTHOD: There's no question

DAVID PYATT

1 pending. Make her ask you a question.

2 Q. BY MS. CLANCY: The -- your -- your
3 designation in this case says you may also testify
4 regarding issues of causation and the mechanisms of
5 carcinogenicity. What is your opinion today, sir,
6 about the mechanisms of carcinogenicity?

7 A. The mechanisms of carcinogenicity with
8 regard to non-Hodgkin's lymphoma, which --

9 Q. I'm just reading the sentence here. It
10 says, "Dr. Pyatt may testify regarding issues of
11 causation and the mechanisms of carcinogenicity."
12 What are your opinions with respect to the mechanisms
13 of carcinogenicity?

14 A. My opinions is that we don't honestly
15 know exactly how benzene is causing the malignancies
16 that it's known to cause, which is a -- acute myeloid
17 leukemia. We -- we have some ideas, but it is not
18 fully established which of those pathways and which
19 of those mechanisms are important in the development
20 of myeloid leukemia. Those pathways do not seem to
21 be active in the lymphoid system. That's a very
22 different system. It's different cell types.

23 The non-Hodgkin's lymphoma are primarily
24 solid tumors, not disseminated blood cancers, et
25 cetera. So I don't have specific opinions that this

DAVID PYATT

1 is exactly how benzene does it or benzene doesn't do
2 it. But the scientific literature, in my view,
3 clearly supports that benzene is not associated with
4 the development of a lymphoid malignancy.

5 Q. Well, I'm asking more about the
6 mechanisms of carcinogenicity, which I believe refers
7 to the mechanistic toxicity of benzene as opposed to
8 epidemiological literature. So I'm asking you: Is
9 there anything -- do you have any opinion one way or
10 the other at the present time as to what are the
11 mechanisms by which benzene is carcinogenic in the
12 human system?

13 A. Well --

14 MR. BUTHOD: Form. Go ahead.

15 THE WITNESS: -- I mean, we could spend
16 a lot of time on that. There's a great deal of
17 literature out there regarding the effects of benzene
18 on growth factor production, growth factor
19 regulation, hematopoietic cell differentiation, the
20 way the cells signal, alterations of signal
21 transductions, phenotypic analysis, clonogenic
22 response. I mean, we could go on and on.
23 Cytogenetic abnormalities. But we don't know
24 specifically which of those play a role in the
25 development of AML.

DAVID PYATT

1 Therefore, we don't know why those same
2 mechanisms -- well, we don't know exactly why benzene
3 causes AML. So with regard to the lymphoid
4 malignancies, the only place that we can go to
5 establish a cause and effect relationship is the
6 human data, the epidemiological data, which does not
7 support it.

8 MS. CLANCY: Okay.

9 THE WITNESS: I don't -- I don't know
10 what else to tell you besides that.

11 Q. BY MS. CLANCY: Okay. So do the
12 mechanisms of carcinogenicity looking at it in the
13 toxicological field studies that you've done, does
14 any -- do any of your studies say that it is
15 impossible for benzene toxic metabolites to cause
16 cancer of the lymph nodes?

17 MR. BUTHOD: Form.

18 THE WITNESS: The studies that I did in
19 the lab did not address the production of a lymphoid
20 malignancy. I was interested in signal transduction
21 pathways and alterations within B cells and T cells
22 and how they function. I was not looking at the
23 actual production of a -- a lymphoid malignancy.

24 Q. BY MS. CLANCY: Okay. So -- so then --
25 so either I will go down this -- I'm asking this

1 question to see whether I'm going to spend a lot of
2 time exhausting this subject or not. So to clarify,
3 you have not done independent toxicological research
4 in the field with respect to the possibility that
5 benzene toxic metabolites could cause lymphoid
6 malignancies, is that correct?

7 MR. BUTHOD: Form.

8 THE WITNESS: As I told you, the
9 research that I conducted on human lymphocytes with
10 hydroquinone were not specifically looking at whether
11 or not you could cause a lymphoid malignancy. I was
12 more concerned -- I was interested in the signal
13 transduction alterations that occurred in these cells
14 following treatment with -- with hydroquinone,
15 specifically with a transcription factor NF capa B
16 that I happen to believe was important in T cell
17 functioning and B cell functioning. So that is
18 specifically what I was addressing.

19 With regard to your question, the only
20 body of scientific information that I am aware of
21 that is reliable and consistent is the
22 epidemiological evidence, and that evidence is
23 consistent in its lack of an association between
24 benzene and these diseases.

25 Q. BY MS. CLANCY: Okay. Objection

DAVID PYATT

1 nonresponsive portion of that.

2 What is your opinion --

3 MR. BUTHOD: Sorry, Denyse. We just had
4 a -- some clanging plates back behind us. We got odd
5 sound effects in here. Sorry.

6 Q. BY MS. CLANCY: Okay. What is your
7 opinion, Dr. Pyatt, with respect to the opinions
8 offered by plaintiffs' expert in this case?

9 MR. BUTHOD: Form.

10 THE WITNESS: Well, which -- which --
11 which plaintiff expert are you referring to?

12 Q. BY MS. CLANCY: Well, which plaintiff
13 experts do you have an opinion on? Because I'm not
14 -- I don't know which ones that you studied and are
15 coming here to offer an opinion on.

16 A. Well, I read the depositions of Dr.
17 Infante and Dr. Mehlman.

18 Q. Okay. So are those the two experts in
19 this case upon which you are prepared and are going
20 to offer an opinion?

21 A. I have read their depositions, and I am
22 prepared to address their opinions to the extent that
23 I understand them.

24 Q. Okay. And any other expert in this case
25 that you're -- as to what you're going to offer an

DAVID PYATT

1 opinion with respect to their testimony in this case?

2 A. Plaintiff experts?

3 Q. Yes.

4 A. No. I don't -- no.

5 Q. Okay. I have -- let's see. The notes
6 that you did in this case are, I believe -- I'm just
7 looking for what exhibit. I think they're Exhibit
8 15. Is that right? Or is that your CV?

9 MR. BUTHOD: 15 are the notes, Denyse.

10 THE WITNESS: These are handwritten
11 notes, yes.

12 MS. CLANCY: Is 16 the current copy of
13 the CV?

14 MR. BUTHOD: Should be, yeah.

15 THE WITNESS: Yes.

16 Q. BY MS. CLANCY: Okay. The notes, do you
17 have those in front of you, Dr. Pyatt?

18 A. Yes.

19 Q. Okay. The notes show -- the first page
20 that I have starts with page 55, NHL risk. Do you
21 see where it says that?

22 A. Uh-huh. Yes.

23 Q. The first page as well?

24 A. Yes.

25 Q. Okay. And I just want to identify

DAVID PYATT

1 these. Are these notes starting with page 55 notes
2 with -- your notes with respect to Dr. Infante's
3 deposition?

4 A. That's right. When I was reading Dr.
5 Infante's deposition, I jotted these notes down as I
6 was going through it.

7 Q. Okay. And then if you turn -- let's see
8 -- one, two, three. If you turn to page five of your
9 notes, indication it says part two.

10 MR. BUTHOD: And Denyse, I'm sorry to
11 interrupt you, but for a second you cut out, so you
12 may want to rephrase that question.

13 Q. BY MS. CLANCY: Okay. As you turn in
14 five pages, there's a notation that says part two?

15 A. Yes.

16 Q. Exhibit --

17 A. I found it, yes.

18 Q. Okay. Is part two your notes and
19 opinions with respect to part two of Dr. Infante's
20 deposition?

21 A. That's correct. And I didn't get all
22 the way through it. It was pretty long.

23 Q. Okay. So up to -- it says up to page
24 330, if we turn to the second page, is that where you
25 got through in Dr. Infante's deposition?

DAVID PYATT

1 A. I'm sorry?

2 Q. Well, if I turn the page, it appears
3 that you got through page --

4 A. You're cutting in and out. Oh, I guess
5 I'm cutting you in and out. I'm sorry. Could you
6 ask it again? And I'll quit wiggling the papers.

7 Q. Okay. If you turn the page to page 330,
8 it appears that you got through page 330 of Dr.
9 Infante's deposition, is that right?

10 A. You know, that's what I wrote on this
11 piece of paper. I don't -- I'd have to look at the
12 deposition, and I'm not even sure if those are going
13 to correlate because I was reading it off -- off my
14 computer, so I'd have to look at what he wrote to see
15 if that fits.

16 Q. Well, at any rate, the line -- because
17 I'm just trying to differentiate in my notes where
18 you stopped Dr. Infante's and were you Dr. Mehlman's?

19 A. I -- Dr. Mehlman's has a notation at the
20 top of the page.

21 Q. Okay. So the last notes on doc -- your
22 opinions of Dr. Infante's deposition starts --

23 THE VIDEOGRAPHER: Could you repeat that
24 question?

25 Q. BY MS. CLANCY: Yeah. I'm just trying

DAVID PYATT

1 to confirm for the clarity of the exhibit that Dr.
2 Pyatt's last note with respect to Dr. Infante's
3 deposition ends with the notation page 330.

4 A. I understand now. Yes, that does appear
5 to be the case.

6 Q. And then if you turn the page of this
7 exhibit, your notes with respect to Dr. Mehlman's
8 deposition start with the word Mehlman at the top,
9 correct?

10 A. That's right.

11 Q. Okay. And the remainder of your notes
12 in this exhibit then are with respect to Dr.
13 Mehlman's deposition, is that correct?

14 A. Yes.

15 Q. What are your opinions with respect to
16 -- offered by Dr. Infante in this case?

17 A. You're -- you're still kind of cutting
18 in and out.

19 Q. Okay. What -- what are your opinions
20 with respect to the opinions offered by Dr. Infante
21 in this case?

22 MR. BUTHOD: Form.

23 THE WITNESS: Well, that's a -- that's a
24 pretty broad question. As a -- as a general matter,
25 I disagree with his assessment of the literature, and

1 I disagree with the conclusions that he has drawn
2 from -- from his -- his review of the literature.

3 THE VIDEOGRAPHER: Counselor, five
4 minutes to tape change.

5 THE WITNESS: So that's probably the --
6 the biggest difference is that I do not believe that
7 there is literature support for a relationship
8 between benzene or benzene exposure and these
9 specific hematopoietic diseases. But as far as these
10 notes, I need to go through and actually look at what
11 he was saying and in response to what I jotted down
12 on this page.

13 MS. CLANCY: Okay.

14 THE WITNESS: So would you like to do
15 that?

16 Q. BY MS. CLANCY: Yeah, if you could just
17 tell me if looking at the notes refreshes your memory
18 as to what your opinions are.

19 A. Well, I'm going to get his -- get his
20 deposition out as well. The -- the first issue where
21 I differ from Dr. Infante is this -- this notion that
22 treatment of Hodgkin's disease does not have any
23 bearing on this -- the development of non-Hodgkin's
24 lymphoma later on where there is clear scientific
25 evidence to the contrary.

DAVID PYATT

1 And in fact, the study Saveredlow when
2 the individual had lymphocyte predominant Hodgkin's
3 disease, which was treated for -- which was treated
4 with chemo and radiation, as I recall, but the
5 relative risk of developing a secondary non-Hodgkin's
6 lymphoma was over 55, which is a huge increased risk.
7 So I -- I disagree with -- that the treatment of his
8 primary disease, Mr. Wilkinson's primary disease, I
9 don't think you can rule that out if you're trying to
10 understand what could have caused his non-Hodgkin's
11 lymphoma.

12 I also disagree with Dr. Infante's view
13 that when you look at the literature on the subject,
14 which is vast, that his explanation for this
15 increased risk of non-Hodgkin's lymphoma were that
16 all of these Hodgkin's disease patients in these
17 studies were misdiagnosed, and they in fact had
18 non-Hodgkin's lymphoma that just came back. And that
19 to me is unsupportable.

20 So that's -- that's the first opinion.

21 Q. Okay.

22 THE VIDEOGRAPHER: Counselor, may we go
23 off the record?

24 MS. CLANCY: Yes.

25 THE VIDEOGRAPHER: Going off the record

DAVID PYATT

1 at 1:55. This is the end of tape three.

2 (Recess taken from 1:53 p.m. to
3 2:01 p.m.)

4 THE VIDEOGRAPHER: We're back on the
5 record at 2:01. This is tape four.

6 Q. BY MS. CLANCY: Dr. Pyatt, I forgot to
7 ask you something. Have you ever been to the Exxon
8 Bay Town facility?

9 A. I -- I have not visited that refinery,
10 no.

11 Q. And have you ever visited the Shell Near
12 Park refinery?

13 A. I have not, no.

14 Q. Have you ever visited the Union Carbide
15 facility in Texas City?

16 A. No. These -- visiting these refineries
17 was not part of what I needed to do to render my
18 opinion on general causation associated with benzene
19 exposure.

20 Q. Have you ever been on the grounds of a
21 petroleum refining or petro chemical facility?

22 A. I have been to one refinery, yes.

23 Q. Where?

24 A. It was a Shell refinery in, I think it
25 was Long Beach, California.

DAVID PYATT

1 Q. Okay.

2 A. I'm not positive about the location.

3 Q. What was your purpose of going there?

4 A. I just toured the laboratory.

5 Q. Toured the laboratory?

6 A. The laboratory, yes, where they
7 conducted quality control experiments on their
8 products, and I just toured the facility.

9 Q. Was that -- were you as part of a job
10 that you were hired to do or were you just on a tour?

11 A. It was part of a job that I was hired to
12 do.

13 Q. And the job encompassed touring the
14 laboratory at the Shell Long Beach facility, is that
15 correct?

16 A. Yes.

17 Q. Any other areas of the Shell Long Beach
18 facility that you toured in addition to the
19 laboratory?

20 A. No, not really. Just the general
21 grounds we drove around on for a few minutes and then
22 the main kind of visitor's center, administrative,
23 whatever they called it.

24 Q. Okay. Are you a member of -- well, what
25 toxicology -- let me back up.

DAVID PYATT

1 Are you a member of the American College
2 of Toxicology?

3 A. I'm a member of the Society of
4 Toxicology. I'm a full member of SOT. I'm not
5 exactly sure what the American College of Toxicology
6 is. I know I've seen it out there, but they don't
7 have meetings, per se, that I'm familiar with.

8 Q. Okay. So you're not a member of the
9 American College of Toxicology then, correct?

10 A. No. I'm a member of -- a full member of
11 the Society of Toxicology.

12 Q. Objection as nonresponsive to everything
13 after "no."

14 Are you a member of the American
15 Industrial Hygienist Association?

16 A. I am not an industrial hygienist, and I
17 have no affiliation with any industrial hygienist
18 organization.

19 Q. Are you a member of the International
20 Society of Occupational Medicine and Toxicology?

21 A. I am a member of the International
22 Society of Experimental Hematology, but I'm not a
23 member of the -- the organization that you mentioned.

24 Q. Okay. So you're not a member of the
25 International Society of Occupational Medicine and

DAVID PYATT

1 Toxicology?

2 A. No.

3 Q. Are you a fellow of the Academy of
4 Toxicological Sciences?

5 A. I'm not, no.

6 Q. Okay. What -- do you hold any editorial
7 positions on any journals?

8 A. I serve as an ad hoc reviewer for
9 several journals, but I don't hold established
10 positions on the editorial board.

11 Q. So you're not an associate editor or
12 editor or managing editor of any scientific journals,
13 is that correct?

14 A. No. Just on ad hoc basis.

15 Q. What does ad hoc mean?

16 A. Means someone submits a paper that the
17 editors feel like I have expertise in. They will
18 send the paper to me as an outside peer review.

19 Q. So you're an outside -- to the extent
20 that you're involved with the journals, you're an
21 outside peer reviewer. You're not an editor or an
22 associate editor at any scientific journal, correct?

23 A. That's correct. I might have misspoke.

24 Q. Have you ever served on the Committee to
25 Coordinate Toxicology and related programs for the

DAVID PYATT

1 Department of Health, Education, and Welfare?

2 A. No, I have not.

3 Q. Have you ever consulted for the U.S.

4 Department of Health, Education, and Welfare?

5 A. That's a big organization. I'm trying
6 to think if they have any -- I think the answer to
7 that is no.

8 Q. Okay. By the way, do you think that the
9 Environmental Protection -- Protection Agency, the
10 EPA, publishes authoritative information with respect
11 to risks associated with respect to exposure to
12 benzene?

13 MR. BUTHOD: Object to the form of the
14 question.

15 THE WITNESS: I'm not following that
16 question.

17 Q. BY MS. CLANCY: Okay. Is the --

18 A. Which --

19 Q. -- EPA source that you would go to to
20 look to -- well, scratch that.

21 Is the EPA a source that you would go to
22 in trying to understand what risks might arise to
23 humans upon exposure to benzene?

24 MR. BUTHOD: Form.

25 THE WITNESS: The -- the only thing that

DAVID PYATT

1 I would use an EPA document for is to find out the
2 studies that they relied upon for the establishment
3 of their regulatory limits. And so I would go to
4 Iris to see what the regulatory limits for a
5 particular chemical are, including benzene, and then
6 what studies they used in order to derive those
7 regulatory values.

8 Q. BY MS. CLANCY: Okay. So to the extent
9 that the EPA is associating -- well, let me back up.

10 When you say deriving regulatory limits,
11 are you talking about -- what I'm asking about is
12 with respect to a specific disease. So, for example,
13 if the EPA determined that exposure to benzene would
14 cause risk to developing a certain disease, is that a
15 source that you might find credible or reliable?

16 MR. BUTHOD: Form.

17 THE WITNESS: I would not rely on EPA to
18 formulate my opinion without reviewing the science
19 and reviewing the studies that they have used in
20 their derivation. And with -- with specifically
21 regarding benzene, they have based their cancer
22 potency factor for benzene on the pliofilm cohort in
23 which there is only an increased risk of acute
24 myeloid leukemia, specifically no increase in any
25 lymphoid malignancy.

DAVID PYATT

1 So with regard to benzene, I believe
2 they are regulating based on the -- the confines of
3 the way EPA does that type of thing for acute myeloid
4 leukemia specifically.

5 Q. BY MS. CLANCY: Okay. And I didn't
6 understand what your last sentence just meant. You
7 said that EPA is regulating for benzene in the way
8 that EPA does that same for acute myeloid leukemia
9 specifically, and I don't understand what you just
10 meant by that.

11 A. Okay. What I meant by that is EPA
12 establishes a cancer potency factor, which is a
13 mathematical derivation of the slow factor of the
14 dose response for a particular study for a particular
15 end point. And the study that they used is the
16 quantitative exposure estimates that have been
17 calculated for the pliofilm cohort. And in that
18 cohort, the only malignancy that showed an increased
19 risk was acute myeloid -- was acute myeloid leukemia.

20 Q. Okay. So do you use then the EPA as a
21 source when you went out and looked at all the
22 literature and who has opined with respect to the
23 risk hazards of benzene, would you include the EPA as
24 a source of reliable information?

25 MR. BUTHOD: Form.

DAVID PYATT

1 THE WITNESS: The EPA is not a source of
2 information. They did not conduct original research.
3 I went to the open literature and looked at the
4 actual studies that had addressed this question.

5 Q. BY MS. CLANCY: Okay. So it's not
6 whether or not what the EPA says about it. You're
7 looking at the underlying studies that the EPA relies
8 on, is that correct?

9 A. Right. I'm looking at the underlying
10 epidemiological evidence in existence.

11 Q. Okay. Have you ever worked as a
12 toxicologist, the head of a toxicology program at a
13 -- at a corporation?

14 A. No.

15 Q. Never worked as a head of a toxicology
16 program at a petroleum refining or petro chemical
17 facility, correct?

18 A. No.

19 Q. And you've never worked as a director of
20 environmental health for a petroleum refining or
21 petro chemical company, correct?

22 A. I have not.

23 Q. All right. What else are your opinions
24 with respect to Dr. Infante?

25 MR. BUTHOD: Form.

DAVID PYATT

1 THE WITNESS: Where we started on page
2 55, the first -- so I think I discussed that one.

3 MS. CLANCY: Okay.

4 MR. BUTHOD: What was the subject
5 matter? I candidly don't remember. What was the
6 subject matter on page 55?

7 THE WITNESS: The subject matter on 55
8 was Dr. Infante's position that having a preceding
9 hematopoietic malignancy or a treated -- treatment of
10 Hodgkin's disease was unrelated to any increased risk
11 of developing non-Hodgkin's lymphoma and --

12 MR. BUTHOD: I think you guys have that,
13 right, Denyse? He has talked about that, right?

14 MS. CLANCY: I think he was cut off
15 right there.

16 THE WITNESS: Oh, okay. So I do agree
17 -- I do disagree with that position. I think the
18 literature is very consistent in that regard.

19 Then I also disagree with Dr. Infante's
20 assertion that whatever risk of secondary
21 non-Hodgkin's lymphoma is present in the
22 epidemiological literature associating Hodgkin's
23 disease and treatment, it is because -- potentially
24 because the Hodgkin's disease patients were
25 misdiagnosed and treated improperly. And I just

DAVID PYATT

1 don't know the basis for that opinion.

2 Hodgkin's disease is in most cases not
3 difficult to diagnose. It's been a clinical entity
4 for 400 years, I think, or more. So I just -- I just
5 find it difficult to believe that study after study
6 after study of patients in reputable health care
7 universities and health care systems were
8 misdiagnosed for their Hodgkin's disease and that is
9 in fact why they developed non-Hodgkin's lymphoma.

10 So that was -- that was the first thing
11 that I disagreed with Dr. Infante on. So I don't
12 remember all -- so I'm just going to have to go
13 through. Is that what you'd like to do?

14 Q. BY MS. CLANCY: Well, I don't want you
15 at this point to reread his entire deposition because
16 I don't think we have the time for that. But to the
17 extent that the notes in front of you jar your memory
18 as to what your opinion is with respect to Dr.
19 Infante in this case, that's what I'd like you to do.

20 A. Well, I think from a general point of
21 view, I have already expressed that; is that I
22 disagree with Dr. Infante's position that the
23 literature supports an association between benzene
24 exposure and any of these hematopoietic malignancies.
25 That the studies that he cited, I felt like, were not

DAVID PYATT

1 appropriately cited, and I believe that he left off
2 some really important studies that I found surprising
3 that he didn't discuss, in particular the pliofilm
4 cohort, the pliofilm series, as he was one of the
5 original authors of that study.

6 And that's arguably the best study for
7 malignancies associated with benzene, and it clearly
8 shows a dose response relationship with benzene
9 exposure for acute myeloid leukemia and does not show
10 that same relationship with any lymphoid malignancy.
11 So I did find that surprising that he chose not to
12 mention that study when he was rendering his opinion.

13 And then we can go through these, if
14 you'd like, but I think in general that is my
15 opinion.

16 Q. Okay. In looking at the notes, do you
17 -- does it -- that are in front of you with respect
18 to Dr. Infante's deposition, do those -- can you flip
19 through those and see if those also bring --
20 recollect for you any other opinions that you might
21 have today with respect to Dr. Infante?

22 A. You know, we're going to have to go
23 through, and I'm going to have to look at what I read
24 and what I wrote, if -- if we're trying to, you know,
25 understand everything that I wrote on this paper. So

DAVID PYATT

1 I'll do it as quickly as possible, but I -- it's up
2 to you.

3 Q. Well, my question is not -- I don't -- I
4 really do not think we have the time for you to go
5 through again Dr. Infante's deposition and then count
6 on it that way. So I was hoping that we could just
7 -- you could look at the notes and to the extent that
8 they refresh your memory as to an opinion you might
9 have, fine; if they don't, they don't. But I'd like
10 you just look at least what you wrote to see if they
11 spur an opinion that you have.

12 A. Okay. I disagree with Dr. Infante that
13 -- I believe that cumulative dose is the best
14 predictor for AML risk, and I think there are many,
15 many studies that have supported that. I disagreed
16 with a statement that he made where if one -- if a
17 person used liquid wrench with no specification as to
18 how long or the volume, that that was going to be a
19 violation of any kind of occupational standard. I
20 just couldn't imagine the basis for such a statement.

21 I disagree with Dr. Infante's position
22 that the Hayes study is internally consistent. I
23 believe that it is internally inconsistent, which is
24 part of the problem.

25 I disagree with Dr. Infante on this

DAVID PYATT

1 notion that duration is the best predictor for a dose
2 response, and we've already discussed that. It is a
3 second best, if even that. It is a surrogate for
4 exposure, and you can't tell what that exposure was.
5 All you're really measuring is how long the
6 individual was -- was working, was in the facility.
7 So without quantitative exposure information, that is
8 not terribly meaningful.

9 I did not understand his position that
10 confounding variables in a study would flatten the
11 dose response curve. He mentioned that two or three
12 times, like it was an axiom of epidemiology, and I
13 didn't understand his basis for that. I have thought
14 about how confounders might affect it. And we can
15 discuss that, if you'd like. But I disagreed with
16 that position.

17 He misrepresented a few studies in my
18 view, hand selected the numbers that he specifically
19 wanted to talk about.

20 Q. Which studies are you referring to?

21 A. The Nilsson study, for example. The
22 Nilsson study was tankers, tanker workers on chemical
23 or product tankers. There's no indication -- you
24 don't know what was in the tankers and neither does
25 Dr. Infante. So there's no way to get from that that

DAVID PYATT

1 it -- that it must be somehow related to benzene.

2 His mention of the chemical workers in
3 the Hayes study where Dosemeci defined those workers
4 as organic synthesizers in pesticide manufacturers.
5 And I would strongly disagree that a batch pesticide
6 manufacturer in China in the '60s and '70s is likely
7 to have exposures that are -- are representative of
8 anything in -- in an American refinery.

9 We talked about the Hayes before, but we
10 can get into it more, if you'd like. Multiple
11 myeloma is not a form of non-Hodgkin's lymphoma, so I
12 disagree with that segregation on his view. And
13 again, some other studies.

14 Why EPA is not using data, EPA just
15 didn't want to bother was one of the things that he
16 said. And it wasn't that EPA didn't want to bother
17 with the China cohort is that the exposure estimates
18 in the China cohort had too many problems, too many
19 inconsistencies, and it was unreliable data upon
20 which for EPA to use in quantitative risk assessment.
21 They evaluated that study very thoroughly. It wasn't
22 that they didn't want to bother, and that's not why
23 they're using it.

24 I'm just reading through my notes. That
25 was all fairly -- I'm not exactly sure what he said

DAVID PYATT

1 here, so I'll just --

2 Q. Which -- which -- which page number are
3 you on?

4 A. Right underneath part 2, page 37. I
5 think he said something about the plio -- or the
6 Hayes study. They didn't have statistical power,
7 that the study wasn't big enough or -- to have
8 statistical -- which, you know, this is the largest
9 study that's ever been conducted, to my knowledge,
10 and they had over 75,000 exposed workers. You know,
11 agreed there's going to be a lot of confounders in
12 their exposures, but -- and benzene levels somewhere
13 in excess of a hundred ppm years. So I just don't
14 understand that, taking the position that it didn't
15 have the statistical power.

16 Q. Okay.

17 A. Didn't understand as -- on page 116. I
18 really wasn't even sure what he was talking about,
19 what he's referring to. Then in the last comment was
20 the Qu study on page 330 where he's referring to DNA
21 damage. And I have that Qu study, and there is
22 nothing in that Qu study that relates to DNA damage
23 in lymphocytes. So he -- maybe he's thinking about
24 something else.

25 Q. Okay. And the remaining notes that we

DAVID PYATT

1 have in Exhibit 16 are with respect to Dr. Mehlman?

2 A. Correct.

3 Q. And can you tell me, looking at these
4 notes, if that cons -- well, first of all, what is in
5 general your opinion with respect to Dr. Mehlman's
6 testimony?

7 MR. BUTHOD: Form.

8 THE WITNESS: That's a pretty broad
9 question. I had a hard time following all of his
10 deposition, but I categorically disagree with most
11 everything that -- that he has opined on. I do not
12 agree that benzene is associated with solid tumors.
13 I do not agree that benzene is associated with
14 lymphoid malignancies. I do not agree that one ppb
15 of benzene is a high level. I don't agree that
16 there's any risk posed to an individual exposed to
17 one ppb.

18 I don't agree that there's ever been a
19 study ever that has shown a cancer caused by benzene
20 at one part per trillion. He miscited study after
21 study after study, and we can certainly go through
22 those, if you'd like. But in general, I found it to
23 be difficult to follow and totally unsupportable by
24 the scientific literature.

25 So that in a nutshell would be my

DAVID PYATT

1 opinion of Dr. Mehlman's testimony.

2 MS. CLANCY: Okay.

3 THE WITNESS: Now, I understand that he
4 is being deposed again or could be deposed again, and
5 -- and I would like to see that. And if I have
6 anything else following that, but yeah, study after
7 study they're either -- it's just mischaracterized
8 when he discusses them.

9 Q. BY MS. CLANCY: Okay. And if you go
10 through the notes, did that -- that bring to mind any
11 -- you know, starting with -- I apologize. As you go
12 through the notes, does that bring to your mind any
13 more specific opinions you have with respect to Dr.
14 Mehlman's testimony?

15 A. Well, I have a specific opinion
16 regarding his misuse of the literature in every one
17 of these cases and every one of these studies, and we
18 can certainly go through those. But in general, I
19 think it's fair to say that he's -- is using the
20 literature inappropriately, and he's referring to
21 studies that don't say what he says they said and
22 that don't look at the issue that he's discussing.

23 Q. Okay. All right. I'm going to take a
24 five-minute break.

25 A. Okay.

DAVID PYATT

1 THE VIDEOGRAPHER: Off the record at
2 2:25.

3 (Recess taken from 2:25 p.m. to
4 2:31 p.m.)

5 THE VIDEOGRAPHER: We're back on the
6 record at 2:31.

7 Q. BY MS. CLANCY: Dr. Pyatt, one thing I
8 neglected to ask you about is the book that your
9 counsel told me that you might bring today is the
10 American Cancer Society's Clinical Oncology?

11 A. Oh, yes, I do have it in the box down
12 here. I didn't rely on it, really. Just in case we
13 started discussing specific diseases and, you know,
14 that kind of general information. But would you like
15 for me to bring it up?

16 Q. Well, I just was wondering for what --
17 what you used this for -- this book for in this case.

18 A. I really didn't other than just to
19 educate myself on basic -- basic epidemiological
20 facts of these diseases.

21 Q. Is this -- do you use this book for
22 basic epidemiological text?

23 A. No. Just how do they treat Hodgkin's
24 patients, how many Hodgkin's lymphomas occur in the
25 United States every year, how are they treated,

DAVID PYATT

1 what's the prognosis. Just general information that
2 I'm interested in when I'm thinking about these
3 diseases.

4 Q. And did you look up the diseases at
5 issue in this book?

6 A. I don't specifically recall, but I
7 definitely read the section five, six pages on
8 Hodgkin's lymphoma, yes.

9 Q. Okay. And did you read that CLL is a
10 neoplasm of B cells? Did you read that in the book?

11 A. I only read the section on Hodgkin's
12 disease.

13 Q. Turn to page 546 in the book.

14 A. Turn the page. Okay.

15 Q. Okay. And the book I'm referring to is
16 the book you brought with you to your deposition
17 called Clinical Oncology, correct?

18 A. That seems right, yes.

19 Q. Okay. And it's by the American Cancer
20 Society?

21 A. Right.

22 Q. Okay. Do you see under the heading on
23 page 546 where it's labeled chronic lymphocytic
24 leukemia?

25 A. Yes.

DAVID PYATT

1 Q. Okay. And do you see the second
2 sentence down where it says, "In the majority, 95
3 percent of cases it is a neoplasm of B cells. CLL
4 represents a rare subtype."

5 Do you see where it says that?

6 A. Yes.

7 Q. That is all the questions I have for
8 today. Thank you for your time.

9 MR. BUTHOD: Denyse, I'm going to put
10 all the exhibits together, and I can assure you the
11 court reporter will have a -- all this stuff together
12 before we leave.

13 And then I assume nobody else on the
14 phone has any questions. I'm going to reserve mine.

15 DEFENSE COUNSEL: No questions.

16 MR. BUTHOD: All right. Thanks,
17 everybody.

18 THE VIDEOGRAPHER: We're going off the
19 record at 2:35. This is end of tape four of four of
20 the deposition of David W. Pyatt, Ph.D.

21 MR. BUTHOD: Thank you.

22 (The deposition concluded at 2:35 p.m.)
23
24
25

DAVID PYATT

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

SIGNATURE OF WITNESS

I, DAVID W. PYATT, Ph.D., the witness in the above deposition, have read the within transcript of my testimony. I have made _____ changes in said testimony and have stated such changes, if any, and the reason for each change on a separate sheet attached to this transcript. My testimony as given herein is true and correct to the best of my knowledge and belief.

DAVID W. PYATT, Ph.D.

Subscribed and sworn to before me this _____ day of _____, 2006.

Notary PublicMy Commission Expires:

DAVID PYATT

REPORTER'S CERTIFICATE

I, JANICE L. DOYLE, Certified Court Reporter and Notary Public within Colorado, appointed to take the deposition of DAVID W. PYATT, Ph.D., do certify that before the deposition he was duly sworn to testify to the truth; that the deposition was taken by me on May 17, 2006; then reduced to typewritten form consisting of 187 pages herein; that the foregoing is a true and accurate transcript of the questions asked, testimony given, and proceedings had.

I further certify that I am not related to any party herein or their counsel and have no interest in the result of this litigation.

In witness hereof, I have hereunto set my hand this _____ day of May, 2006.

Janice L. Doyle, Certified Court
Reporter and Notary Public

My Commission Expires:
January 6, 2007