

1 SUPERIOR COURT OF THE STATE OF CALIFORNIA

2 FOR THE COUNTY OF LOS ANGELES

3
4 WILLIAM MOLINA and ANGELINA MOLINA,

5 Plaintiffs,

6 v.

Case No. BC 367800

7 SHELL OIL COMPANY, et al.,

8 Defendants.

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12 _____
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14
15 DEPOSITION OF JOHN WHYSNER, M.D., Ph.D., D.A.B.T.

16 Washington, D.C.

17 Tuesday, April 1, 2008

18 9:15 a.m.

19
20
21 REPORTED BY:

22 JOAN V. CAIN

23 JOB NO. 85149
24
25

1 Deposition of JOHN WHYSNER, M.D., Ph.D.,
2 D.A.B.T., held at the law offices of:

3
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8
9 Pursuant to Notice, before Joan V. Cain,
10 Certified Court Reporter and Notary Public in and for
11 the District of Columbia.

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C O N T E N T S

EXAMINATION OF DR. WHYSNER	PAGE
By Mr. Hanley	6

E X H I B I T S

(Attached to the Transcript.)

DEPOSITION EXHIBITS	PAGE
Exh. 1 List of Materials Sent to Dr. Whysner By Attorneys	7
Exh. 2 Dr. Whysner's Notes on Mr. Molina's Medical Records	23
Exh. 3 Scientific Literature Relied Upon by Dr. Whysner for his Opinion	44
Exh. 4 Recent Scientific Literature Relied Upon by Dr. Whysner for his Opinion	44
Exh. 5 Case Control Studies on NHL	122
Exh. 6 Various Cohort Studies	123
Exh. 7 Articles on Dose Response Issues For Benzene	123
Exh. 8 Studies of Petroleum Workers That Include Information About NHL Rates	124
Exh. 9 Health Watch Studies From Australia	124
Exh. 10 All of the Benzene Cohort Studies With Information About NHL	124

E X H I B I T S C O N T I N U E D

(Attached to the Transcript.)

DEPOSITION EXHIBITS

PAGE

Exh. 11 Literature About Other Risk Factors 127

For NHL

Exh. 12 Gasoline Toxicological Profile From 127

ATSDR

Exh. 13 Benzene State-of-Knowledge File 128

Exh. 14 Various Monographs From ATSDR 129

1 P R O C E E D I N G S

2 JOHN WHYSNER, M.D., Ph.D., D.A.B.T.

3 having been duly sworn, was examined and did testify
4 as follows:

5 EXAMINATION BY COUNSEL FOR PLAINTIFFS

6 BY MR. HANLEY:

7 Q Good morning, sir. Could you state your
8 name, please.

9 A John Whysner.

10 Q And can you describe for me what work you've
11 done in the case and what opinions you've formed?

12 MS. KAHN: Objection, overbroad. Compound.

13 THE WITNESS: You mean by this work,
14 materials I reviewed? Is that what you're talking
15 about?

16 BY MR. HANLEY:

17 Q Sure. We're here today in the Molina
18 matter; is that right?

19 A Yes.

20 Q What work have you done in this case and
21 what opinions have you formed?

22 MS. KAHN: Objection, compound.

23 THE WITNESS: Well, in terms of the work
24 that I've done, I have reviewed -- I think you have a
25 list of the materials that were sent to me.

1 MS. KAHN: I do. Let the record reflect I
2 am handing a typed list to Mr. Hanley.

3 THE WITNESS: I asked that this be prepared
4 so that I could show you the materials that I
5 reviewed.

6 BY MR. HANLEY:

7 Q This was prepared by the Steptoe office?

8 A This was the materials that they had sent to
9 me, yes.

10 Q And you ask them to prepare such a list?

11 A Yes.

12 Q When did you ask them to do that?

13 A When?

14 Q Yes.

15 A A few days ago.

16 MS. KAHN: In lieu of bringing 11 boxes or
17 so of material with him from New York to Washington.

18 MR. HANLEY: Okay. We'll mark that as
19 Exhibit 1.

20 (Whysner Deposition Exhibit 1 was
21 marked for identification and was attached to the
22 deposition transcript.)

23 BY MR. HANLEY:

24 Q So what work did you do in this case, sir?

25 A So I reviewed these materials that are on

1 the list, which include certain MSDSs, records of the
2 amount of materials and chemicals that were used that
3 were provided by the defendants in the case, certain
4 depositions of the plaintiff, co-workers, and
5 certain -- some of the treating physicians, the
6 medical records, and I did bring the medical records
7 with me, and so I reviewed those.

8 And then I reviewed the medical and
9 scientific literature concerning the issue of whether
10 or not NHL has been associated or could be causally
11 related to exposures to either benzene or to the --
12 the solvents that have been -- are at issue in this
13 case. That was the work that I did. And then I was
14 asked to form opinions about whether or not the
15 benzene or the solvents in this case could cause NHL
16 and in particular could have caused Mr. Molina's NHL.

17 I also reviewed my literature on -- that
18 I've accumulated over the years on just in general the
19 things that -- studies that have been done relating
20 various either medical conditions or medications or
21 other types of exposures to NHL.

22 Q Is that everything that you've done?

23 A As far as I can recall, yes.

24 Q That last item that you just itemized for
25 me, were you -- sorry -- by saying you reviewed your

1 literature, would you explain that again to me? I
2 didn't quite understand it.

3 A Okay. Well, as is true for some of the --
4 these solvents that we've talked about and for
5 benzene, there are a whole -- a great number of things
6 that have been studied in relationship to whether or
7 not they are associated with NHL, and so I'll give you
8 an example. Obesity, there are studies that say that
9 obesity -- increased body mass index in particular is
10 associated with NHL, and there's some studies that say
11 that it isn't. Same is true with smoking. Same is
12 true with exposures to herbicides. The same is true
13 with occupations like working in the agricultural
14 industry, the use of nonsteroidal anti-inflammatory
15 drugs. And -- and I would say that some of these have
16 a certain number of positive studies and then there
17 are negative studies as well in -- in these regards.

18 There are also things that -- and I would
19 classify them as possibly or unlikely, either one, to
20 be related to -- to NHL. I don't think there's any
21 absolute -- like for benzene or for these solvents,
22 there's no causal relationship that could be
23 concluded. But there are some things that are, like
24 HIV infection, immunodeficiency syndromes, and certain
25 drugs that cause immunodeficiency and -- and I think

1 the studies on hepatitis C infection are getting to
2 the point where one could say that there appears to be
3 a causal relationship.

4 So there's this whole literature that --
5 that looks at all these various factors, and -- and I
6 reviewed that literature as well.

7 Q Did everything you've described for me this
8 morning that you've done for this case, was it done
9 specifically in -- with respect to this particular
10 lawsuit?

11 A Yes.

12 Q And how much time have you spent reviewing
13 all the materials that you've described and working on
14 this case?

15 A I don't have an exact number, but I would
16 say it comprises -- I would say my best estimate would
17 be somewhere between 50 and 70 hours, something like
18 that.

19 Q And, again, that's for this particular case,
20 Mr. Molina's case?

21 A Yes.

22 Q Have you kept track of your time
23 systematically so that you can bill Steptoe & Johnson
24 for it?

25 A My office does that, yes. They bill Steptoe

1 & Johnson for it.

2 Q How do you record your time with your office
3 and track your time? What's your system for doing
4 that?

5 A I have time sheets that I submit to them on
6 a monthly basis and then they submit an invoice.

7 Q When you say them, you mean your office?

8 A Yes, Washington Occupational Health
9 Associates.

10 Q So you have time sheets for all of your time
11 so far?

12 A Well, Washington Occupational Health does,
13 the office does.

14 Q And who owns that business?

15 A Kenneth Chase.

16 Q Who else?

17 A Nobody.

18 Q Are you an employee?

19 A Yes.

20 Q Do you get a direct benefit for the time
21 that you bill in a case like that --

22 MS. KAHN: Objection.

23 BY MR. HANLEY:

24 Q -- that's beyond your salary or however
25 you're compensated?

1 MS. KAHN: Objection, vague and ambiguous.

2 THE WITNESS: Could you be more specific
3 what you're asking about?

4 BY MR. HANLEY:

5 Q Sure. The 50 to 70 hours that you've billed
6 so far, was that at a rate of 450 an hour?

7 A Five hundred -- my office bills \$550 an
8 hour.

9 Q Has that changed recently from 450 or
10 sometime in the past?

11 A No. At least for the -- well, I don't
12 remember. I think it changed two years ago. It used
13 to be 500 and there was an error in the expert
14 disclosure, and I transmitted that. It was put down
15 as 450 and it wasn't, and I think there's been an
16 amended -- amendment to this.

17 MS. KAHN: That's correct. About a week
18 after the expert disclosure was served on February 25,
19 2008 our office served an errata concerning expert
20 witness rates for three of the witnesses. I have a
21 copy of it here.

22 MR. HANLEY: Okay.

23 BY MR. HANLEY:

24 Q All right. So your office has billed 550 an
25 hour for these 50 to 70 hours you've billed so far?

1 A Like I say, I don't know exactly what the
2 numbers are, but I'd say probably in that ballpark.

3 Q Your office has records of exactly what that
4 number is, right, how many hours so far?

5 A Yes.

6 Q Would you be able to call at the lunch hour
7 and ask them for the exact number of hours?

8 A If my -- if it's agreed to, yes, I could do
9 that.

10 Q You mean if it's agreed to by whom?

11 A By Ms. Kahn.

12 Q Why would she have to agree to it?

13 MS. KAHN: I have no objection to your
14 making a phone call at lunch if somebody's available
15 and they can provide that information.

16 BY MR. HANLEY:

17 Q Why would Steptoe & Johnson have to agree to
18 it?

19 A Well, I didn't see it in the notice of my
20 deposition. Often when things like that are asked
21 for, they're in the notice, so I don't know the
22 legal -- legalities of the thing, and that's outside
23 my scope.

24 Q At any rate, will you do that for me, call
25 at the lunch hour and find out exactly what the number

1 of hours is so far?

2 A I will try.

3 Q Who will you talk to doing that?

4 A John Jackson.

5 Q And who's John Jackson?

6 A He's the head of the accounting department.

7 Q How are you compensated by Washington
8 Occupational Health Association?

9 A I receive a salary and I also receive a --
10 I'm also a consultant, paid as a consultant on a 1099
11 form.

12 Q And describe that. Paid for as a consultant
13 on a 1099 by whom and for what kind of work?

14 A Well, for the same type of work. I used to
15 be employed by the American Health Foundation until
16 2002, and so I was just acting as a consultant to
17 Washington Occupational Health, and the -- so I would
18 be paid as a consultant. When I -- when I stopped
19 being a -- an employee of American Health Foundation,
20 then at some time after that I wanted to be employed
21 by somebody for health benefits and so on and so
22 forth. So we made an arrangement whereby my
23 compensation would be in line with my previous
24 consulting agreement, but I'd receive part of it as an
25 employee.

1 Also, I'm asked by Washington Occupational
2 Health to participate in some of the management duties
3 in the company, be involved in a minor degree on other
4 kinds of projects that I don't even bill for in terms
5 of administrative matters and so forth. So I have --
6 so it was mutually beneficial for me to become also an
7 employee of the company.

8 Q What is your compensation per year?

9 MS. KAHN: Objection. Invades the witness's
10 right to privacy. You can find out what percentage of
11 his income is from litigation matters. You can find
12 out a lot of things related to compensation, but his
13 total compensation is a matter of his privacy.

14 MR. HANLEY: That's not true.

15 MS. KAHN: File a Motion to Compel.

16 BY MR. HANLEY:

17 Q What's your compensation from Washington
18 Occupational Health Association?

19 MS. KAHN: Same objections.

20 THE WITNESS: I don't know.

21 BY MR. HANLEY:

22 Q What do you mean you don't know?

23 A Well, I can't remember the number.

24 Q How much did you make last year?

25 MS. KAHN: Objection. Invades the witness's

1 right to privacy. He has a number of responsibilities
2 and duties that has nothing to do with this case,
3 nothing --

4 MR. HANLEY: You know, why don't you just
5 state your legal objections.

6 MS. KAHN: I am.

7 MR. HANLEY: No, you're not.

8 MS. KAHN: Don't interrupt me.

9 MR. HANLEY: No, these are speaking
10 objections and they're going on and they're wasting my
11 time that I'm paying \$550 an hour for and I would
12 appreciate it if you would make your legal objection
13 and let me move on with the deposition.

14 MS. KAHN: And you wasted our time when you
15 were half an hour late.

16 MR. HANLEY: I was not half an hour late. I
17 was 10 minutes late. And I apologized. We started an
18 hour early at your request. And I was 10 minutes
19 late. I'm sorry about that. Don't turn 10 minutes
20 into a half an hour and don't interrupt me and
21 obstruct me when I'm trying to conduct a deposition.

22 MS. KAHN: I object to your question. It
23 invades the witness's right to privacy. It's
24 overbroad. It's beyond the scope of his retention.
25 It's none of your business.

1 MR. HANLEY: You're not Chelsea Clinton.

2 This is my business.

3 MS. KAHN: It is not. It invades the
4 witness's right to privacy.

5 BY MR. HANLEY:

6 Q How much did you make last year, sir?

7 MS. KAHN: Same objection.

8 THE WITNESS: I can't recall.

9 BY MR. HANLEY:

10 Q You can't remember how much money you made
11 last year?

12 MS. KAHN: Argumentative.

13 BY MR. HANLEY:

14 Q Seriously, you can't remember how much money
15 you made last year?

16 MS. KAHN: Argumentative.

17 THE WITNESS: I think I've answered the
18 question.

19 BY MR. HANLEY:

20 Q Well, give me an approximation of how much
21 money you made last year?

22 MS. KAHN: Objection. Invades the witness's
23 right to privacy. Irrelevant to the issues in this
24 lawsuit. Not reasonably calculated to lead to the
25 discovery of admissible evidence. Not relevant to the

1 issue of bias or any issue on which this witness has
2 been retained as an expert.

3 MR. HANLEY: Overruled.

4 BY MR. HANLEY:

5 Q Give me a ballpark of how much you made last
6 year?

7 A I can't recall.

8 MS. KAHN: Same objections.

9 BY MR. HANLEY:

10 Q Was it over a million dollars?

11 MS. KAHN: Same objections.

12 THE WITNESS: I can't recall.

13 BY MR. HANLEY:

14 Q Was it over \$5 million?

15 MS. KAHN: Same objections.

16 BY MR. HANLEY:

17 Q Go ahead. Was it over \$5 million?

18 A No.

19 Q Was it less than a million dollars?

20 A Yes.

21 MS. KAHN: Objection. Invades the witness's
22 right to privacy. Beyond the scope of the deposition
23 notice. Beyond the scope of the witness's designated
24 testimony. Irrelevant. Overbroad and not reasonably
25 calculated to lead to the discovery of admissible

1 evidence.

2 BY MR. HANLEY:

3 Q Can you explain to me your thinking and
4 memory in terms of telling me you couldn't recall
5 whether it was over a million, but you do recall that
6 it was under a million?

7 A That's just what I recall, but I can't
8 recall more specifically.

9 Q Do you remember more now about what your
10 income was last year to remember that, in fact, now
11 you think it was under a million; whereas before when
12 I asked you about 90 seconds ago, you couldn't
13 remember if it was over a million?

14 MS. KAHN: Objection, argumentative. Not
15 reasonably calculated to lead to the discovery of
16 admissible evidence. Irrelevant.

17 THE WITNESS: I corrected my -- what I said.
18 I remember that it was under.

19 BY MR. HANLEY:

20 Q Can you give me your -- now that you seem to
21 have more of a memory, can you give me your best
22 recollection or your best estimate of approximately
23 how much it was?

24 MS. KAHN: Same objections.

25 THE WITNESS: Other than that, no.

1 BY MR. HANLEY:

2 Q So explain to me how your compensation works
3 vis-a-vis the \$550 an hour that you bill to Steptoe &
4 Johnson or your office does for work like this?

5 A As I said, some of it comes -- well, some of
6 it comes from my salary and some of it comes from a
7 consulting agreement that I have.

8 Q Okay. And what's the consulting agreement?
9 What is the consulting agreement?

10 A The consulting agreement is that -- I'm
11 trying to remember exactly what it is now, but my
12 compensation is the equivalent of -- it's a little bit
13 over \$300 an hour.

14 Q Does your work that you've done in this
15 lawsuit translate into you getting paid as a
16 consultant from Washington Occupational?

17 A Yeah, at that rate.

18 Q So, in other words, for every 550 you bill
19 to Steptoe & Johnson, you're paid 300 of that; is that
20 right?

21 A A little bit over 300. I can't remember
22 exactly, but that's about right.

23 Q Okay. Is it a little over as in less than
24 \$325?

25 A I'm trying to remember. I can tell you it's

1 point -- whatever .62 is of 550.

2 Q So you've paid 62 percent of the money you
3 do for your outside consulting work?

4 A Correct, for the consulting work with
5 Washington Occupational Health, yes.

6 Q Then the other 38 percent goes to Washington
7 Occupational?

8 A Yes.

9 Q What opinions have you formed in this case
10 after having reviewed the materials that you did?

11 A Well, I was asked about two opinions, which
12 I mentioned previously. One is whether or not either
13 benzene or the solvents that are in this case are
14 capable of causing NHL, and my opinion is to a
15 reasonable degree of medical and scientific
16 probability that they do not, and the other is whether
17 or not Mr. Molina's exposure to either -- well, the
18 solvents that are in this case would have contributed
19 to his development of NHL, and my opinion is that they
20 do not.

21 Q Have you formed any other opinions in this
22 case?

23 A Well, to the extent there are -- there are
24 other things in the literature that have been
25 associated with the development of NHL such as -- I'd

1 say obesity is probably the one that is -- that
2 Mr. Molina has that is -- had probably the most
3 positive evidence. I can't -- I can't attribute his
4 NHL to obesity either, but there are a number of other
5 factors that have been studied and there are some
6 positive associations in some studies, and Mr. Molina
7 has a history of some of these other either medical
8 conditions or use of nonsteroidal anti-inflammatory
9 drugs, his smoking history, his obesity,
10 anti-inflammatory drugs, and -- oh, his -- his history
11 as a farm laborer. And, as I said, those have been
12 associated, some studies, with -- with the development
13 of NHL.

14 Q Were you just looking at some notes of some
15 sort?

16 A I have a -- my review of his medical records
17 (indicating).

18 Q That's a document you prepared?

19 A Yes.

20 Q Is that everything, your complete set of
21 notes?

22 A On the medical records, yeah, and I have the
23 medical records here.

24 Q And do you have other notes that you've
25 prepared in the case?

1 A I don't believe so. These are the only
2 ones. No. Those are the only ones.

3 Q So other than this one page that we'll mark
4 as Exhibit 2 right now of your notes on the medical
5 records, have you written anything down, other than
6 time sheets you described already, taken any notes,
7 produced any reports, anything like that?

8 A No.

9 Q Okay. So let me mark these notes as Exhibit
10 2. Are these done by your own hand typing in?

11 A Correct.

12 Q Okay.

13 (Whysner Deposition Exhibit 2 was
14 marked for identification and was attached to the
15 deposition transcript.)

16 BY MR. HANLEY:

17 Q And when did you prepare those?

18 A When I reviewed the medical records, which
19 would have been -- I think most -- see, I started
20 working on this case in April of last year, and I
21 can't recall exactly when I got notebooks of the
22 medical records, but I would say probably a few months
23 after that.

24 Q So you've been working on the case for
25 approximately a year almost?

1 A Yes.

2 Q What percent of your overall income comes
3 from litigation work such as this?

4 A Of my income?

5 Q Yeah.

6 A I would say it's -- well, it's greater than
7 50 percent. It's probably -- right now it's probably
8 somewhere between 50 and 75 percent.

9 Q That's a pretty big range. Can you describe
10 your thinking or how it is that you kind of come to
11 that range or whether you think it might be closer to
12 one or the other, but just kind of what your thought
13 process is on how you give that range?

14 A Well, because I do other consulting projects
15 as well, but some of -- a lot of which don't have
16 anything to do with litigation, and -- and it varies
17 from time to time what I'm working on. So that's why
18 it's sort of in that range.

19 Q What other kind of consulting work do you do
20 that's not legally oriented?

21 A Well, I do some work on Superfund sites,
22 which is oriented -- and I've been doing that for a
23 long time, you know, work where -- or even other kinds
24 of cleanup sites that aren't federal Superfund sites
25 where I participate in the process of the review of

1 the literature and providing an opinion on whether or
2 not certain levels of contaminants in the environment
3 would pose a risk. In the past I've done things --
4 things like permitting of power plants. I've worked
5 for, you know, putting together informational
6 literature for certain types of issues. So there's a
7 fairly wide range.

8 And my company does a lot of medical
9 surveillance programs, and I help participate in -- in
10 those. When they, for example, run into a toxicology
11 issue, I provide some consulting for those kinds of
12 projects.

13 Q When you do work relating -- excuse me.

14 When you do your consulting work that
15 relates to Superfund sites or permitting power plants,
16 who typically are the people you're consulting to?

17 A Well, they could be another consulting firm.
18 They could be a power company. In the case of the
19 medical surveillance work, most of our clients are the
20 federal government, our biggest client is the FBI, and
21 we do fitness -- you know, fitness exams for the FBI
22 and the Army Corps of Engineers.

23 Q Does the work that you do relating to
24 Superfund sites tend to be for companies involved
25 in -- petrochemical companies or people who have put

1 some of the materials in the ground or wherever it is?

2 MS. KAHN: Objection, overbroad. Compound.

3 Calls for a legal conclusion. Lack of foundation.

4 Vague and ambiguous.

5 BY MR. HANLEY:

6 Q Go ahead, sir.

7 A Well, the one that I'm involved in right now
8 actually has to do with the railroads, a railroad yard
9 that primarily involves Amtrak.

10 Q So your work is for Amtrak?

11 A Ultimately, yes. The consulting firm is
12 working for Amtrak.

13 Q What other Superfund sites have you worked
14 on? How many others? Let me ask you that question.

15 A Well, I worked on the Paoli site. That was
16 back in the '80s. That was a large one. The Bedford
17 Harbor -- New Bedford Harbor.

18 Q Who ultimately were you working for in that?

19 A For Paoli. That was three railroad
20 companies. That would have been Amtrak, Penn Central,
21 and SEPTA, which is the Southeastern Pennsylvania
22 Transit Authority.

23 Q And on these Superfund sites where railroad
24 companies are involved, what kinds of chemicals or
25 agents are involved for being considered for

1 remediation or whatever's going on with the Superfund
2 site?

3 A These are primarily PCBs, polychlorinated
4 biphenyls.

5 Q And what has your -- what does your work
6 involve relating to the PCBs?

7 A Well, that's -- you mean related -- I've
8 done research on PCBs and, you know, laboratory
9 research when I was at the American Health Foundation,
10 and I've also been involved in these Superfund sites
11 in terms of trying to translate that information into
12 whether or not PCBs pose a human health risk.

13 Q So you're consulted by the railroad
14 companies to give an opinion regarding whether the
15 PCBs that are in whatever state and whatever location
16 that they are, pose a human health risk?

17 A Right. As part of the -- there's a process
18 called an RI/FS, remedial investigation/feasibility
19 study, and part of that is something called a baseline
20 risk assessment, and my role in that is usually to --
21 to deal with the outcome of that risk assessment
22 process and to review the medical literature regarding
23 PCBs and to put the risk assessment issues into
24 perspective.

25 Q Are you a risk assessment professional in

1 that regard?

2 A I would say in a limited sense. You know, I
3 usually don't get involved in cranking out the
4 numbers, the risk assessment numbers. That has become
5 a process which is -- you know, involves today using a
6 lot of computer programs and so forth in order to do
7 that kind of work. What I primarily do is to take the
8 outcome of that and use my knowledge as a toxicologist
9 and the medical and scientific literature to then --
10 as I said, to discuss those results in terms of -- of
11 the -- what would be called moving the risk assessment
12 into a risk management situation in terms of what --
13 what needs -- what needs or does not need to be done
14 in terms of remediation.

15 Q So am I -- do I -- I'll start over.

16 Is that to say then that you are not someone
17 who is qualified to determine quantifiable risk
18 assessment from those toxins?

19 MS. KAHN: Objection. It's vague. It's
20 ambiguous.

21 BY MR. HANLEY:

22 Q Or are you someone who is in a position to
23 quantify risk from a given toxic agent?

24 MS. KAHN: It's overbroad. It's vague.
25 It's ambiguous.

1 THE WITNESS: I -- I would say it probably
2 depends on the specific situation.

3 BY MR. HANLEY:

4 Q Can you give me a specific situation where
5 you believe that you are qualified to do a
6 quantitative risk assessment and a situation where in
7 contrast you are not qualified to do a quantitative
8 risk assessment?

9 A Well, I mean I can -- it depends on the
10 complexity of the modeling that's required in order to
11 come up with the number. There are some things like
12 air dispersion modelling, for example, that I wouldn't
13 even attempt to do. There are certain areas such as,
14 you know, dispersion and sedimentation and
15 understanding the levels of fugitive emissions from
16 certain places that -- that are just -- you know, I
17 don't do that. You know, it's the mathematical models
18 and computer programs are something I've just not --
19 not dealt with.

20 If something is -- is relatively a
21 straightforward issue, for example if you have an air
22 level of something and you have a risk number, a
23 concentration number and so forth, well then, I can
24 come up with at least an upper bound risk estimate in
25 those circumstances. And I've done that, for example,

1 with power plant emissions.

2 Q So are you saying that if it's the very
3 simple equations associated with risk assessment,
4 you're qualified to do that, but when it gets into the
5 area of complex modelling, that gets beyond your area
6 of expertise?

7 A In general I'd say that's -- that's correct.
8 There's some parts of risk assessment that are
9 relatively straightforward. There are other parts of
10 it, like I say, where the -- where it's a whole
11 specialty unto itself that I wouldn't be qualified to
12 do.

13 MR. HANLEY: Off the record briefly.

14 (Discussion off the record.)

15 BY MR. HANLEY:

16 Q When I asked you to describe the opinions
17 that you intend to offer in the case or what opinions
18 you've formed, I think you hit on three areas:
19 benzene and solvents not causing non-Hodgkin's
20 lymphoma, Mr. Molina's exposure not contributing to
21 his non-Hodgkin's lymphoma, and a discussion of the
22 other possible considerations or associations with
23 non-Hodgkin's lymphoma and their relationship to
24 Mr. Molina.

25 First of all, did I get those three areas

1 correct?

2 A Well, the only thing that I would say is
3 when we talk about solvents, I'm talking about the
4 solvents that are specifically involved here.
5 Solvents are a huge big category of different kinds of
6 chemicals, and so we're talking about the types of
7 petroleum-based solvents that are -- my understanding
8 that are at issue in this case.

9 Q All right. And are there other areas or
10 general topics that you have formed opinions on or
11 understand that you'll be offering in this case?

12 A Not that I'm aware of. Those are -- I mean,
13 the issues -- I mean, in terms of general -- the
14 general approach of a toxicologist, what is
15 toxicology, what is dose response, how one evaluates
16 studies as a toxicologist to come up with the kinds of
17 opinions that I have come up with, I think that I
18 would also offer opinions regarding those sort of
19 general areas of -- of toxicology.

20 MS. KAHN: I do have a copy of the expert
21 witness designation here in case you want to refer to
22 that.

23 MR. HANLEY: And are there any other areas
24 that you want to chime in on, state of the art is
25 another one that occurs to me might be an issue? And

1 I'm directing that question to counsel, essentially.

2 THE WITNESS: Well, I can answer. I do have
3 some opinions about state of knowledge regarding --
4 especially the issue of when it was known that -- or
5 when it was generally accepted that benzene can cause
6 acute myelogenous leukemia.

7 MS. KAHN: To the extent Dr. Whysner's
8 opinions are different from Dr. Infante's opinions,
9 there may be some criticism, if you want to
10 characterize it like that of Dr. Infante's opinions or
11 how he goes about arriving at his opinions, his
12 methodology. I think that's probably implicit in the
13 ultimate opinions that Dr. Whysner expressed at the
14 onset today, but I'll state it in case it's not
15 apparent.

16 MR. HANLEY: Okay. I would have taken it
17 that way.

18 THE WITNESS: That would include
19 Dr. Weisenburger as well.

20 BY MR. HANLEY:

21 Q Yeah, I think that all goes into the
22 causation issues that you described, and I'll ask you
23 about those.

24 Was there some point during your time
25 reviewing materials in this case that you had enough

1 information to conclude that the benzene or other
2 petrochemical hydrocarbon solvents involved in this
3 case did not cause or are not capable of causing
4 non-Hodgkin's lymphoma in your opinion?

5 A Well, I can say that this isn't the first
6 case I've been involved in regarding benzene or
7 petroleum-derived solvents and non-Hodgkin's lymphoma,
8 and so I would say that -- I mean, I re-reviewed the
9 literature to see if there was anything that changed
10 in that literature, but that was an opinion I had
11 throughout my review of the material, and I was
12 reviewing the material to confirm that opinion.

13 Q When you say you're reviewing the material
14 to confirm that opinion, what do you mean exactly?

15 A Well, there are always new studies coming
16 out, and, as I said before, I have been involved in a
17 few other cases of NHL and materials like these
18 solvents. In fact, one case that actually dealt with
19 the same solvents, and that was the Hooper case, and
20 so in that case I had the opinion that Mr. Hooper's
21 NHL was not caused by these solvents.

22 And so when I reviewed the material for this
23 case, I began -- I mean, that was where I started
24 from, and I reviewed all the literature and read
25 Dr. Infante's and Dr. Weisenburger's opinion to

1 confirm the fact that I still held that same general
2 causation opinion, which would -- which was that
3 benzene and these solvents have not been causally
4 related to the development of NHL.

5 Q When you started your review in this case,
6 when you had zero hours invested into it, you already
7 had the opinion that benzene and other hydrochem- --
8 excuse me -- petrochemical hydrocarbon solvents did
9 not cause non-Hodgkin's lymphoma; is that right?

10 A As I said, based upon the work that I had
11 done in other cases leading up to that case, that had
12 been my opinion.

13 Q Did you review any new literature that you
14 had not seen before in preparation for this case?

15 A I think there were a couple of studies
16 that -- that had come out and a few studies that --
17 that the other experts mentioned that I didn't have in
18 my file. So I took a look at those. I can't recall
19 specifically which ones those are right now, but I
20 think there were a few additional studies.

21 Q What are the couple of new studies that had
22 come out?

23 A I'd have to look at my files to see if -- to
24 identify those.

25 Q Would you, please? What do we have here by

1 the way, these stacks of documents?

2 A We have lots of both literature and reviews
3 by IARC. These are studies of either benzene or
4 solvents and NHL, scientific studies.

5 Q Are these -- is this your complete library
6 of scientific studies relating to these -- the areas
7 that -- at issue in this case?

8 A Yes.

9 Q All of this is (indicating)?

10 A Well, with the exception -- this is -- this
11 is -- now, here's an example of a new document that
12 had been in draft before. This is the Toxicological
13 Profile for Benzene from the Agency for Toxic
14 Substances and Disease Registry and this has just and
15 out in August of 2007.

16 Q Okay. So that's one of the things -- that's
17 one of the new studies that has come out?

18 A Right. And as I -- I try to be aware of
19 things that government organizations have summarized
20 the data or IARC, and in general I don't rely upon
21 review articles except where they are done by an
22 organization like ATSDR or IARC or EPA, and so I try
23 to keep up with -- with those.

24 Q And -- and why -- explain your reasoning
25 behind your not relying on review articles generally,

1 but trying to keep informed of what agencies such as
2 IARC and the EPA and the ATD --

3 A ATSDR.

4 Q -- the ATSDR conclude?

5 A Well, because in terms of -- I want to form
6 my own opinion about the scientific literature rather
7 than relying upon what somebody else has concluded
8 about the scientific literature, in terms of, for
9 example, an individual when they review the literature
10 or a group of individuals. But when it is a -- a sort
11 of what I would call an authoritative group like the
12 IARC or the ATSDR, I try to take that into account
13 because -- because they have made an effort in almost
14 all cases to come up with sort of an objective and a
15 rather complete review of all of the scientific
16 literature in the area.

17 Q So is it your belief that governmental
18 organizations like the EPA and world health
19 organizations, IARC, when they speak as to a
20 particular issue on agents that cause cancer, for
21 example, that what they have to say is typically
22 authoritative and more objective and more complete
23 than other reviews in the peer reviewed scientific
24 literature?

25 A I'd say -- I'd like to characterize it as

1 perhaps being more thorough, and, you know, I don't
2 agree with every review that has been performed by
3 these organizations, but, you know, for example, I've
4 served on the IARC working groups that do the reviews
5 and produce the monographs, and so I know sort of the
6 level at which it is done, and -- and, you know,
7 there's usually somewhere between 20 and 35 scientists
8 from around the world involved in that process for any
9 particular chemical, and I think it lends itself --
10 the process lends itself, especially IARC, to a more
11 sort of objective and thorough review of the
12 literature.

13 Q So we were talking about new studies that
14 had come out since your previous review or that you've
15 reviewed in the last year in relation to this case,
16 and one was the Toxicological Profile For Benzene that
17 you've pointed out to me. Are there any other such
18 studies or articles?

19 A I'm sorry. I'm -- another one is -- came
20 out in December of 2007, which is -- the IARC has
21 recently reviewed -- re-reviewed painting, in other
22 words, the occupation of being a painter. They had
23 previously concluded that it was -- carcinogenicity
24 was associated with that and focused on lung cancer
25 and bladder cancer, and of course there are various

1 kinds of solvents that are used in painting. And so
2 they recently reviewed that and there's a summary --
3 they haven't published the monograph, but there's a
4 summary been published in -- I think this is called
5 Lancet Oncology from December 2007, and apparently
6 they've reconfirmed that -- that those are the two
7 issues again that come up with being a painter. One
8 is lung cancer. The working group concludes there is
9 sufficient evidence in humans that occupational
10 exposures of painter causes cancer of the lung and
11 urinary bladder.

12 And they said additionally there was limited
13 evidence in humans, namely on the basis of maternal
14 exposure that painting is associated with childhood
15 leukemia, and those are apparently the only positive
16 findings.

17 And I know that they've looked at the NHL
18 issue because I have the monograph from the previous
19 time. So apparently they did not conclude that it was
20 associated with non-Hodgkin's lymphoma. So that just
21 came out recently.

22 Q That's what you take from that, is that they
23 have concluded that it's not associated with
24 non-Hodgkin's lymphoma?

25 A Well, yes, because they stated what they

1 found was sufficient and what was limited, and I know
2 that the way that IARC works and so I know that they
3 have reviewed -- I'm almost positive they reviewed
4 those issues because they reviewed them previously,
5 and did not conclude that it was -- that that
6 information supported carcinogenicity in humans.

7 Q Is there anything else that you've reviewed
8 that falls into the category of the new studies that
9 are always coming out? Hold that one aside so we can
10 mark it.

11 A Okay. Well, there are some other articles
12 that had to do with the literature regarding other
13 risk factors that I also found. There were some new
14 studies.

15 There was actually a study that when I -- I
16 looked at this issue, which was published actually a
17 couple years ago in 2006, but it was -- I was looking
18 up Dr. Weisenburger and this is an article that he did
19 on agricultural pesticide use with the subgroup of
20 non-Hodgkin's lymphoma, which would correspond to the
21 follicular non-Hodgkin's lymphoma, this t(14,18). So
22 I found that.

23 Q Okay. If that's one of the new ones, why
24 don't you keep that out.

25 A There's an article on occupational risk

1 factors of non-Hodgkin's lymphoma by Richardson that
2 looked primarily at occupations and said the risk was
3 elevated among agricultural workers, blacksmiths,
4 machine tool operators, and they found that -- and
5 they went through some chemical exposures, but none
6 that were benzene or any of these solvents.

7 There was a new article in 2007 about U.S.
8 veterans with hepatitis C. I believe these were all
9 since --

10 Q All since Hooper?

11 A Well, certainly since Hooper. There was
12 also a fairly large meta-analysis about the issue of
13 smoking and non-Hodgkin's lymphoma that came out
14 which -- well, here's another one. Hepatitis C. I
15 did find a review article by Alexander, which I -- I
16 looked at primarily because of other -- all the other
17 risk factors, not necessarily the -- these solvents or
18 the benzene exposure, because they had -- some
19 extraneous material attached to it, which was our
20 seminar schedule at Columbia for some reason, but
21 that's not part of that. So there was that review
22 article. But I think I actually knew about this
23 before the last case that I was involved in.

24 But there was -- oh, there's one about
25 nutrients contributing to one carbon metabolism and

1 risk of non-Hodgkin's lymphoma subtext which had to
2 basically do with folic acid.

3 Oh, here's the one I was thinking of. The
4 non-Hodgkin's lymphoma, and I think this one was on
5 obesity. It was a pooled meta-analysis and another
6 article on hepatitis C.

7 Q If these fall into the new articles that
8 you've reviewed, then go ahead and keep them in that
9 same stack of those so that we keep all those
10 together, if you don't mind.

11 A Okay. That's about it.

12 Q So would this then -- if we take this U.S.
13 Department of Health and Human Services' document that
14 you've given me in the large binder --

15 A By the way, I had seen the draft of that
16 before, but I think the draft was a 2005 document.

17 Q And if we take this document, the -- and
18 these articles that you've handed to me now, these are
19 all the things that you've reviewed within the last
20 year that would be new materials in terms of the
21 articles?

22 A Right. Like I said, I reviewed
23 everything -- oh, and there's also the 2007 -- this
24 comes out every year. This is the TLV booklet. I
25 just looked at this to see if there had been any

1 changes in any of these, and the Alexander review I
2 think I actually was aware of this before the last
3 time I reviewed the literature. So I don't know if
4 I'd consider that absolutely new.

5 But, as I said, I re-reviewed everything
6 again for this case and in relationship to
7 Dr. Weisenburger's and Dr. Infante's deposition as
8 well.

9 Q All right. I understand you read both of
10 their depositions given in this case; is that right?

11 A Correct.

12 Q And with the caveat that you've just given
13 me, then these materials are the -- the new materials
14 that you've read and what you were referring to when
15 you said there were new studies always coming out
16 within the last year?

17 A Correct.

18 Q All right. So let's --

19 A At least to the best of my recollection, and
20 I might have missed one here somewhere.

21 Q Okay, all right. So let me mark this
22 (indicating) as Exhibit 3 and we'll mark then this
23 collection of -- did I get the whole collection or do
24 you still have some of them there?

25 A No.

1 Q Because you had reviewed them before?

2 A Yeah.

3 MR. HANLEY: We'll mark this collection as
4 Exhibit 4 that will be -- so that we have Exhibit 3
5 and Exhibit 4 are the new studies and articles that
6 you've read as you just described and were going
7 through them, right?

8 THE WITNESS: I'd say in the last six
9 months.

10 MS. KAHN: Plus the TLV booklet that he
11 identified.

12 MR. HANLEY: Plus the TLV booklet that I'm
13 not going to mark.

14 MS. KAHN: Is there, for clarification, a
15 difference, Dr. Whysner, between things you reviewed
16 in relation to the issues in this case and things that
17 you rely on?

18 THE WITNESS: Well, I'm always reading
19 things and if they're not really relevant to his case,
20 then they wouldn't be in these files. I mean, that's
21 the only distinction that I can think of. But in
22 terms of everything that I could find related to
23 studies of NHL and either benzene or the types of
24 solvents that we're dealing with here or even solvents
25 in general and including petroleum worker studies,

1 this is, as far as I can remember, the new materials.
2 Like I said, there may be one or two other papers
3 mixed in here that I haven't found.

4 MS. KAHN: Great.

5 (Whysner Deposition Exhibit 3 & Exhibit 4
6 were marked for identification and were attached to
7 the deposition transcript.)

8 THE WITNESS: Can I take a break?

9 MR. HANLEY: Of course.

10 (Recessed at 10:20 a.m.)

11 (Reconvened at 10:25 a.m.)

12 BY MR. HANLEY:

13 Q This document that we marked as Exhibit 3,
14 did it -- how has it informed your opinions? Does it
15 support them or contrast them or --

16 A I have a -- the one page here that --

17 Q Okay.

18 A So I can find it. They reviewed the
19 literature and basically they said that -- that the
20 possible association -- they talked about the Hayes
21 study -- has been suggested by the Hayes study, but
22 then they say, however, other studies didn't support
23 that. The association found in the Chinese study, the
24 Hayes study -- they're talking about benzene versus --
25 the profile on benzene. So in general what they say

1 is that their overall conclusion -- my read is that it
2 supports my conclusion regarding the NHL and the
3 literature.

4 Q What page are you looking at exactly?

5 A 101.

6 Q And what exactly do they say on that page
7 that leads you to the conclusion that it is consistent
8 with your opinion? And just so we're clear, you're
9 talking about the opinion that benzene is demonstrated
10 to cause AML but no other forms of the blood cancers
11 or lymphatic cancers?

12 A Well, specifically they're talking about
13 benzene and NHL in this case is what we're -- what
14 we're talking about. I didn't really focus on
15 actually what they had said about some of the other
16 blood cancers.

17 Q So what is it exactly on page 101 that leads
18 you to say that you believe that their position is
19 consistent with your position that benzene is not
20 demonstrated to cause NHL or non-Hodgkin's lymphoma?

21 A Well, this paragraph says, although the
22 results of the NCI/CAPM Chinese study, Hayes, et al.,
23 indicated a possible association between exposure to
24 benzene and NHL, other cohort mortality studies found
25 no significant increases in NHL mortality, and they go

1 on to quote the Rinsky study, the Collins study, the
2 Bloemen, B-l-o-e-m-e-n, et al., study, and the
3 meta-analysis of the 26 cohorts of petroleum workers
4 by Wong and Raabe, and then they go on to say,
5 "Furthermore, case controlled studies provides no
6 indication of association between benzene exposure and
7 risk of NHL," and then they quote a number of studies.

8 Q And do you take that as a conclusive
9 statement that benzene has not been demonstrated to
10 cause non-Hodgkin's lymphoma?

11 A Well, I mean their analysis of those studies
12 is consistent with my analysis of those studies and my
13 conclusion.

14 Q That's not exactly the question I asked you.
15 My question is, do you take this paragraph to say that
16 their conclusion is that benzene is not demonstrated
17 to cause non-Hodgkin's lymphoma?

18 A As I said, I'm -- I wasn't looking at it for
19 a conclusion. I was looking at it for a -- their
20 analysis, and what they have said is there is one
21 study that suggests an association, but then all of
22 the other studies did not find those associations in
23 their analysis, and I'm not going to try to put words
24 in their mouth in terms of any of their conclusions.
25 But what I'm saying is this is consistent with my

1 conclusion.

2 Q But are they making the conclusion, are they
3 stating that benzene is not demonstrated to cause
4 non-Hodgkin's lymphoma?

5 A I'd have to go through the rest of the
6 document to see if they say that anywhere else. I
7 don't really know if they say that anywhere else in
8 the document.

9 Q Do you consider this to be an authoritative
10 and reliable text as to the issues it addresses?

11 A Well --

12 MS. KAHN: Overbroad.

13 THE WITNESS: Yeah, I don't know that I
14 would consider it to be -- I mean, it's addressing a
15 lot of benzene -- different things on benzene,
16 different aspects of it, but I would say it is -- it
17 is one that I would consider along with EPA and IARC
18 in terms of groups that have reviewed this literature,
19 and I would consider it to be certainly something that
20 I would take into account in terms of how they review
21 the literature and what they said about these
22 individual studies.

23 BY MR. HANLEY:

24 Q In terms of its place in the medical and
25 scientific literature that exists on the issues

1 relevant to this case, as to the issues that are
2 addressed in this document, do you consider it to be a
3 reliable source of information and authoritative as to
4 those issues it addresses?

5 A Well, for example, you asked about the issue
6 of conclusion. ATSDR's role is not to classify
7 carcinogens like EPA does, like IARC does, like the
8 NTP does. So, you know, they -- they don't -- as far
9 as I know at least, they don't really, you know, make
10 that kind of overall determination in terms of a
11 particular issue.

12 But what I -- what I can say is that as far
13 as it goes, I think that they have reviewed those
14 studies accurately, with the possible exception of the
15 fact that I'm aware that the -- that the Rinsky -- I
16 mean, the people who did the Chinese study actually
17 published a subsequent article after that Hayes study
18 in 2000, where they said that their study did not
19 necessarily indicate an association between NHL and
20 benzene, that it might have been due to other chemical
21 exposures, and they said that it was because of the
22 wide differences in -- in the findings between
23 different industries in their study, and the chemical
24 industry was the highest.

25 And so this was a Hayes publication from

1 2000, and so they -- they sort of came to a little
2 different conclusion than the -- the ATSDR just says
3 that there's a suggested association, but the actual
4 authors of the study said that that association might
5 have been confounded by exposures to other chemicals.
6 So I would have a little difference of -- you know, in
7 terms of the way that they even reviewed the -- the
8 Chinese study.

9 Q Okay. So you've just described some ways in
10 which you disagree with the analysis by the authors of
11 Exhibit 3, correct?

12 A Well, only in the sense that they didn't
13 mention that as a confounding -- I mean, they
14 correctly said that there was an association described
15 in that study, but there weren't associations found in
16 these other studies, but I just would point out that
17 they -- at least in that part of the document, they
18 didn't consider the -- the qualifications that the
19 authors of the Chinese study put on those findings.

20 Q When you refer to the ATSDR, you're
21 referring to Exhibit 3, correct?

22 A Correct.

23 Q Is -- and I guess I'm just going to press
24 for a yes or no, if it's possible, because I really
25 want to ask this question about all of the literature

1 that you have here today. So let me ask it with
2 respect to all of this literature, what we've marked
3 as Exhibit 3, what we've marked as Exhibit 4, and what
4 we will mark -- because I want to mark your library of
5 these materials -- are all of these authoritative and
6 reliable texts as to the issues that they address?
7 Whether or not you agree with everything that's in
8 them, in terms of what they are, are they
9 authoritative? Are they reliable sources of
10 information to draw upon in forming conclusions
11 relating to the issues in this case?

12 MS. KAHN: The question as framed is
13 overbroad, compound, lacking in founding, vague, and
14 ambiguous.

15 THE WITNESS: I don't think I can answer
16 that question for everything. I think if we go
17 through the studies, I can -- I can point to things
18 that -- you know, I mean that are relevant and are not
19 relevant to this case, for example, and to some issues
20 regarding whether or not they really show an
21 association or don't show an association. Because,
22 for example, the solvent literature, when we talk
23 about, quote, the solvent literature, I think it
24 becomes very complicated because there are two things
25 here.

1 First of all, this is just a chapter heading
2 from Cassarett, C-a-s-s-a-r-e-t-t, and Doull,
3 D-o-u-l-l, and so these are various solvents, and so
4 in some cases these studies didn't identify what
5 solvents they were talking about, which would have
6 included chemicals that aren't in this case. So I
7 can't really rely upon them to tell us anything about
8 these particular solvents because it includes things
9 like chlorinated solvents, which, my understanding,
10 are not in this case. Or it may include things like
11 glycol ethers or alcohols, okay. So --

12 BY MR. HANLEY:

13 Q Well, let me ask you this. Is that next
14 book a reliable and authoritative text for the issues
15 that are addressed in that textbook?

16 A Well, I think it's -- I mean, that's kind of
17 a hard question to answer because I don't -- I rely
18 upon my own review of the scientific literature, okay.
19 I go through study by study. So I can't embrace and
20 say, gee, this book got everything right or the ATSDR
21 got everything right from my standpoint. Because I
22 reviewed all of this literature, and, you know, it has
23 to be reviewed. It has to be reviewed according to
24 the -- you know, the Bradford Hill type of analysis to
25 see whether or not things are consistent, to see

1 whether or not the associations are strong, to see
2 whether or not they've taken into account what are
3 certain obvious confounding variables.

4 So, like I say, I think that it's a -- it's
5 an enterprise that requires a lot of detail, and so I
6 can't make overbroad generalizations, even about a
7 book like Cassarett and Doull. My purpose for showing
8 you this list was just to illustrate the fact that
9 people throw around the word "solvents" and all that
10 means is -- all a solvent is, is something that can
11 dissolve something. It doesn't really have any
12 toxicological meaning because they're all different
13 chemicals.

14 Q Now, on -- you referred me to page 101 of
15 Exhibit 3, which is part of chapter 3 of that document
16 entitled "Health Effects," correct?

17 A Yes.

18 Q And this document is about benzene, correct?

19 A Yes.

20 Q And the section that is included in page 101
21 actually begins on page 97 under the subtitle of
22 Cancer, correct?

23 A I'd have to see the document.

24 Yes.

25 Q And the way this document is organized,

1 because these governmental agencies tend to write
2 these documents in a certain format, first of all,
3 correct?

4 A Yes.

5 Q They kind of follow a certain formula for
6 the way that they present their information?

7 A Yes.

8 Q And the way this section is organized is
9 similar to the way that many of these such
10 governmental documents are organized in that under the
11 section in the Cancer they first state some general
12 principles that are not really subject to much dispute
13 and state their conclusions, and then they go through
14 and summarize what is out in the literature and tend
15 to summarize the different positions of the different
16 people who have published that scientific literature
17 on that subject; is that correct?

18 A Well, they do it different ways. They
19 don't -- I mean, for example, IARC doesn't provide any
20 summary at the beginning. Their whole summary is at
21 the very end of the document, where they have
22 section -- I think it's usually Section 5 called the
23 Overall Evaluation. So there -- there -- they tend to
24 be different.

25 Q But in this particular document, the way

1 they've done it is on page 97, they start their
2 discussion of benzene and cancer and in the first
3 paragraph is where they set forth their -- the
4 conclusions of these authors; is that right?

5 A I'm not sure that that's the case here. I'd
6 have to go through the document and --

7 Q Why don't you read the first paragraph and
8 see if you wouldn't agree with that? That would be
9 the bottom of page 97 and the top of 98, just that
10 first paragraph. Is that not a conclusion, the
11 conclusion of the authors based on their review of the
12 literature that they're just about to then go through
13 and itemize in some detail?

14 MS. KAHN: Object. The document speaks for
15 itself.

16 THE WITNESS: I think it pretty much says
17 what you were reading beforehand, except it -- except
18 this statement sort of lumps together NHL and multiple
19 myeloma, and it's talking about the one -- one
20 suggested evidence, which is the Hayes study, for NHL,
21 and then I believe when they talk about multiple
22 myeloma, they're referring to the Rinsky 1987 study.
23 So they've made a statement here that -- but all they
24 have talked about is the one study which we mentioned
25 previously, but they didn't talk about all the ones

1 that didn't show associations with -- with NHL.

2 BY MR. HANLEY:

3 Q My question is, do they not summarize in the
4 first paragraph under Cancer their general conclusions
5 relating to benzene and cancer and then from there go
6 on over the next several pages, including page 101
7 that you quoted from and then beyond, describe the
8 literature in terms of what the authors in that
9 literature have concluded in their various studies?

10 A No. I think I would characterize it more as
11 an introduction rather than a conclusion.

12 Q And they introduced the subject of cancer
13 saying that benzene clearly causes AML and ANLL and --
14 as -- and the studies provide suggested evidence of it
15 causing non-Hodgkin's lymphoma and multiple myeloma?

16 MS. KAHN: Objection. The document speaks
17 for itself.

18 THE WITNESS: Well, I think what they have
19 said is -- is -- I'll put it this way in terms of
20 introduction, which I would interpret to say, okay,
21 there are several studies that show that at least at a
22 sufficient dose benzene is capable of -- is associated
23 with AML, and then they say, and there are some
24 suggestions in the literature of multiple myeloma and
25 NHL and they quote the two studies that provide those

1 suggestions and then they go on later to discuss them
2 in detail and say there is this one study that
3 provides some suggested association, but then there
4 are all these other studies that do not.

5 So, again, I would see this as kind of a --
6 as not a conclusory statement, but a statement that's
7 indicating why they're -- why they're reviewing this.

8 BY MR. HANLEY:

9 Q Do you agree with everything in that first
10 paragraph under Cancer?

11 A With -- with the caveats that I just
12 mentioned, which says that -- that this is not really
13 their analysis. This is an introductory paragraph.

14 Q Do you agree with each statement made in
15 that paragraph?

16 A I -- I don't know. I would have to go back
17 and take a look at -- well, no. Because, as I
18 mentioned before, I don't believe that the authors
19 then when they subsequently published in 2000, they
20 also said that the evidence that they had found
21 linking -- associating benzene with NHL needed to
22 be -- I can -- I can read it to you what they said.
23 They said that it might have been confounded by
24 exposures to other chemicals. And so I don't even
25 believe that these Hayes studies, according to what

1 the authors concluded later, provide suggestive
2 evidence of an association.

3 Q Which statements in that first paragraph do
4 you not agree with?

5 A What I just said.

6 Q Well, why don't you go through sentence by
7 sentence, since it's only one paragraph, read the
8 sentence and tell me whether or not you agree with
9 that sentence? If you could start with the first
10 sentence and then stop after that sentence and tell me
11 whether or not you agree or disagree with that
12 sentence and then go through each sentence by sentence
13 of that first paragraph.

14 A Okay. Well, I -- I can tell you --

15 Q You know, I really want to try to get this
16 deposition done today, if it's going to be possible.
17 I'm not sure at this point. But so that we keep it
18 clear and so that we go by question and answer and
19 hopefully only answer my question, not that I'll ever
20 cut you off, but I just want to make it clear and go
21 through this clearly.

22 So the first sentence says epidemiological
23 studies and case reports provide clear evidence of a
24 causal relationship between occupational exposure to
25 benzene and benzene-containing solvents and the

1 occurrence of acute nonlymphocytic leukemia, ANLL,
2 particularly the myeloid cell type acute myelogenous
3 leukemia, AML.

4 Do you agree with that statement?

5 A I don't know what case reports they're
6 talking about. I agree with the rest of the
7 statement, but I'm not sure that -- case reports I
8 don't think can ever provide clear evidence because
9 they're just case reports. I believe that the
10 epidemiological studies and the ones that they've
11 mentioned, in particular the Rinsky study, provides
12 clear evidence of a causal relationship.

13 Q Okay. So you disagree with the part about
14 case reports, but otherwise agree with it?

15 A I don't know what they're talking about. I
16 mean, I -- I would -- you know, in general I would say
17 case reports can't provide clear evidence, but I would
18 have to say that I would have to see what case
19 reports -- I would have to know what case reports
20 they're referring to that are included in this string
21 of references, and I just don't know what they are.

22 Q It next says some studies also provide
23 suggestive evidence of association -- excuse me --
24 associations between benzene exposure and
25 non-Hodgkin's lymphoma, NHL, and multiple myeloma.

1 Do you agree or disagree with that sentence?

2 A First of all, I don't agree that the Hayes
3 study even provides suggestive evidence because of the
4 chemical confounders that they later identified could
5 have been responsible for those results. The issue of
6 multiple myeloma, I've not reviewed and so I don't
7 have an opinion on that.

8 Q So you don't know whether or not benzene
9 causes multiple myeloma?

10 MS. KAHN: Objection, misstates the
11 witness's testimony. Lack of foundation.

12 THE WITNESS: What I said is I have not
13 reviewed it recently for this purpose, and so I don't
14 know if I agree with that study regarding the Rinsky
15 study.

16 BY MR. HANLEY:

17 Q Okay. But let me ask you another question.
18 Do you have an opinion as to whether or not benzene
19 can cause multiple myeloma in humans?

20 MS. KAHN: Objection. Beyond the scope of
21 what the witness was asked to look into for this case.
22 Beyond the scope of the expert witness designation.

23 THE WITNESS: I would have to review the
24 literature first in order to define my opinion on
25 that.

1 BY MR. HANLEY:

2 Q Okay. So as you sit here today, you don't
3 know whether or not benzene causes multiple myeloma?

4 A I think I've just answered that question.

5 Q I just want to be clear on it. Are you
6 saying as you sit here today you do not know whether
7 or not benzene causes multiple myeloma?

8 MS. KAHN: Objection, asked and answered.

9 THE WITNESS: Well, what I can tell you is
10 it's my impression that the literature does not reach
11 a -- is not strong enough to provide a causal
12 association. That's what I remember from reviewing
13 the literature in the past, but as I said right now
14 sitting here, I haven't really reviewed the literature
15 recently regarding that issue.

16 BY MR. HANLEY:

17 Q Okay. And is that to say then that as you
18 sit here today you don't know whether or not it does
19 because you haven't done a recent -- done recent
20 research on that subject?

21 MS. KAHN: Objection, misstates the
22 witness's testimony. Argumentative. Asked and
23 answered.

24 THE WITNESS: Could you repeat the previous
25 question and answer?

1 BY MR. HANLEY:

2 Q No, she will not repeat the previous
3 question and answer. I am entitled to ask you whether
4 that means, as you sit here today, you do not know
5 whether or not benzene causes multiple myeloma.

6 MS. KAHN: Objection, asked and answered.
7 Argumentative.

8 BY MR. HANLEY:

9 Q That's a yes-or-no question. You can answer
10 it yes or no and explain it however you like.

11 MS. KAHN: It's been done.

12 BY MR. HANLEY:

13 Q You know, either as you sit here today you
14 know or as you sit here today you don't know?

15 MS. KAHN: Do you have anything to add over
16 what you already said, Dr. Whysner?

17 MR. HANLEY: I ask the questions today, not
18 Ms. Kahn.

19 THE WITNESS: Fine. I don't have anything
20 to add. What I can tell you is that the last time I
21 reviewed that literature -- as I mentioned, with each
22 case, I re-review the literature, okay, to see if my
23 opinion has changed because of anything that has come
24 out in the literature. My recollection is the last
25 time I reviewed this literature there was not a causal

1 link between multiple myeloma and benzene exposure.

2 BY MR. HANLEY:

3 Q You'll agree that biological plausibility is
4 an important consideration in determining whether or
5 not an agent can cause a particular cancer. Would you
6 agree with that?

7 MS. KAHN: Objection, overbroad. Vague and
8 ambiguous.

9 THE WITNESS: Depends on what you mean by
10 biological plausibility.

11 BY MR. HANLEY:

12 Q Well, what -- well, explain that.

13 A No. I'm asking you what you mean by
14 biological plausibility.

15 Q All right. You don't understand the
16 question?

17 A I don't know what you mean by biological
18 plausibility.

19 Q All right. Biological plausibility is a
20 Bradford Hill criteria for attribution, correct?

21 A I've got the paper right here. I can read
22 it.

23 Q Is that correct? Do they not refer to
24 biological plausibility as being a criteria for causal
25 inference?

1 A No. Bradford Hill specifically says that
2 what he is laying out here are not criteria.

3 Q Biological plausibility is one of the
4 considerations one needs to consider when determining
5 whether or not a toxin is capable of causing a
6 particular cancer, correct?

7 A Well, it's one of the things that one -- one
8 needs to look at. It says -- I can read you what it
9 says. It says, "It would be helpful if the causation
10 we suspect is biologically plausible, but this is a
11 feature I am convinced we cannot demand. What is
12 biologically plausible depends upon the biological
13 knowledge of the day." And it also depends on what
14 people mean by biological plausibility.

15 Q Would you not agree that whether or not
16 benzene is capable of causing NHL is informed in part
17 by our understanding of whether or not benzene is
18 capable of causing AML, ANLL, or multiple myeloma?

19 MS. KAHN: Objection. Overbroad. Vague.
20 Ambiguous. Causing it in humans? Causing it in
21 animals? It's overbroad.

22 THE WITNESS: Could you reread the question.

23 (The reporter read the record as
24 requested.)

25 THE WITNESS: I don't agree with -- with

1 that because these are all specific individual
2 diseases.

3 BY MR. HANLEY:

4 Q Isn't the biological plausibility of benzene
5 being able to cause one informed by our understanding
6 of the mechanism, for example, of the toxin reaching
7 the target organ?

8 MS. KAHN: Objection, overbroad. Compound.
9 Vague and ambiguous and lack of foundation.

10 THE WITNESS: Not necessarily.

11 BY MR. HANLEY:

12 Q Explain that.

13 A Well, because in general chemicals reach a
14 lot of organs, and these organs don't necessarily
15 respond. For example, it used to be thought that you
16 could take a look at a chemical and say, okay, what --
17 this is going back decades now. People used to think
18 that you could look at the bodily distribution of a
19 chemical and get some idea from the bodily
20 distribution where the chemical would have its effect,
21 but it turns out that it's a poor predictor. Now with
22 one exception and that is -- well, a couple of
23 exceptions. There's the blood brain barrier that
24 prevents some chemicals from reaching the brain, but
25 in general it's not a good predictor.

1 Q I didn't ask about it being a predictor.
2 You don't even get to the point where you consider
3 whether or not a toxin can cause a particular cancer
4 unless the toxin actually is demonstrated to reach the
5 target organ, correct?

6 A Well, I could -- in general you might be
7 correct, but, you know, our analytical capabilities
8 are so good these days that it's -- you know, it's
9 hard not to measure things in almost all organs. So I
10 could say if you had a good analytical technique and
11 you didn't find the chemical in a particular organ
12 system of the body, it would make a difference in
13 terms of your thinking of whether or not it was
14 biologically plausible that it would have a toxic
15 effect on that particular organ.

16 Q And isn't whether or not benzene can cause
17 AML or ANLL important to the consideration of the
18 biological plausibility of whether or not it can cause
19 NHL?

20 MS. KAHN: Objection, overbroad. Compound.
21 Vague and ambiguous.

22 THE WITNESS: Well, I -- I -- you know, it's
23 hard for me to imagine that. For example, the
24 diseases that you mentioned, AML, ANLL arise in the
25 bone marrow. The issue -- what we're dealing with

1 here today, follicular NHL, by definition is a B-cell
2 lymphoma that is thought to arise from the follicle in
3 the lymph nodes, which are not part of the bone
4 marrow. So I don't -- I mean even in terms of tissue
5 distribution, which is what we were talking about
6 before, the fact that something arises in the bone
7 marrow versus something arising in the lymph nodes, I
8 don't see where the -- where you draw the connection.

9 BY MR. HANLEY:

10 Q All right. The next sentence states, "The
11 epidemiological studies are generally limited by
12 confounding chemical exposures and methodological
13 problems, including inadequate or lack of exposure
14 monitoring and low statistical power due to small
15 numbers of cases, but a consistent excess risk of
16 leukemia across studies indicates that benzene is the
17 causal factor."

18 Do you agree or disagree with that sentence?

19 A I think I mostly agree with it. I think
20 there has been some exposure monitoring that certainly
21 went into the dose reconstruction of the Rinsky study,
22 but, you know, you always want to have more if you
23 can, and -- but I think -- I think that in terms of
24 the Rinsky '87 study, I think that for leukemia or
25 AML, they have reasonably good dose response

1 information, and so in general I would agree with that
2 statement, but I would qualify it to say we're talking
3 about acute myelogenous leukemia in terms of benzene
4 being a causal factor.

5 Q The authors don't so limit it, do they?

6 A Well, I think that people tend to sometimes
7 talk about leukemia, but when they actually mean a
8 particular kind of leukemia, it says -- next sentence
9 says many of the earlier studies are additionally
10 limited by a lack of information on leukemia types
11 other than AML, and so -- some of the studies lump all
12 leukemias together. Some of the studies have
13 distinguished AML from other leukemias and some of the
14 associations were found with leukemia, but these seem
15 to have been due to acute myelogenous leukemia.

16 Q You're not suggesting that these authors in
17 this document have not been careful about their choice
18 of words and their specific use of leukemia in a
19 general sense, are you?

20 A Well, I think in the Rinsky study, in the
21 1987 study there were --

22 Q Sir, I asked you about these authors of this
23 document in Exhibit 3, in their use of leukemia. I
24 didn't ask you about the authors in the Rinsky study.

25 A Well, no, I agree with what they said.

1 There's a consistent excess risk of leukemia across
2 studies, but as I said, I think that the underlying --
3 which they discuss in some sense in the next sentence,
4 but I think the underlying cause for that excess risk
5 is an increase in acute myelogenous leukemia.

6 Q The next sentence reads, "Many of the
7 earlier studies are additionally limited by a lack of
8 information on leukemia cell types other than AML
9 because leukemia used to be considered a single
10 diagnostic category for epidemiological purposes due
11 in part to historical nomenclature, small numbers of
12 death by cell type, and unavailability of cell type
13 specific rates for comparison."

14 Do you agree with that statement?

15 A I agree with the statement. I -- I'm -- you
16 know, I'm not as familiar maybe with some of the
17 people who wrote this document about the
18 unavailability of cell type rates for comparison, but
19 I don't see anything wrong with that statement.

20 Q Now, going back to the issue of biological
21 plausibility, it is true that although leukemias
22 develop in the bone marrow and lymphomas develop in
23 the lymphatics, that in a number of these cancers
24 between leukemia and lymphoma, we're talking about the
25 same cells developing the cancer or becoming

1 cancerous. It's just a matter of whether it's
2 diagnosed in the bone marrow or in the lymphatics,
3 correct?

4 MS. KAHN: Objection.

5 THE WITNESS: No.

6 MS. KAHN: Overbroad, compound, vague, and
7 ambiguous.

8 THE WITNESS: No.

9 BY MR. HANLEY:

10 Q How is that not correct?

11 A Well, you said diagnosed and it depends
12 where they're diagnosed, but in actuality we're
13 talking about where they develop, not -- the issue is
14 you made it sound as though they just happened to be
15 diagnosed in the lymphatics, but we're talking about a
16 different biological process.

17 Q How is it a different biological process?

18 A Well, because the cancer has -- has arisen
19 in a different organ through different mechanisms that
20 are specific to it arising in that cell type once it
21 has -- it in the environment of the -- of the lymph
22 node.

23 Q When we're talking about the various
24 lymphomas and in comparison to leukemias, we're often
25 talking about the same types of cells getting cancer,

1 and it's a matter of whether that cancer arises in the
2 bone marrow or in the lymphatics, which determines
3 whether it's a leukemia or lymphoma, even though it
4 may be exactly the same cells, correct, or the same
5 cell types?

6 MS. KAHN: Objection, compound. Overbroad.

7 THE WITNESS: Well, you said two things.

8 You said -- I don't know what you mean by cell types
9 and exactly the same cells.

10 BY MR. HANLEY:

11 Q Not the same cells, the same cell types.

12 MS. KAHN: Same objections.

13 THE WITNESS: Well, I mean, they're
14 obviously not the same cell types or you would have
15 developed a leukemia rather than a lymphoma. I mean,
16 the -- there is something -- these cells are different
17 when they are in the lymph node. They have already
18 changed into lymphatic cells rather than being bone
19 marrow cells. I mean, it's -- it's -- I don't know
20 quite how to explain it beyond that. You know, they
21 just -- they're arising in different places.

22 Now, there is one type of NHL, which is not
23 what we're talking about in this case, where there is
24 some similarity between the cells in the bone marrow
25 and the -- and the type of lymphoma, and that's CLL

1 and small-cell lymphoma, chronic lymphocytic leukemia
2 and small-cell lymphoma, but as far as I know that's
3 the only type of lymphoma that is related to a B-cell
4 leukemia.

5 BY MR. HANLEY:

6 Q And other than CLL -- well, let me ask you
7 this first. CLL and small-cell lymphoma involve a
8 cancer of the same cell type, a B-cell, one arising in
9 the bone marrow, the other arising in the lymphatics;
10 is that correct?

11 A Well, I don't know that it's entirely clear
12 where the -- whether or not the cells arise in the
13 bone marrow and then are in the lymph system, found in
14 the lymph system or whether -- I mean, I think
15 you're -- in terms -- in terms of that, I'm not sure
16 that that's really known.

17 Q So --

18 A I know from a classification system, the
19 World Health Organization is -- considers the CLL and
20 the small-cell non-Hodgkin's lymphoma to be on -- what
21 they call on a continuum. In other words, it's maybe
22 different stages of the same disease, but in terms of
23 the kind of lymphoma that we're talking about, it is a
24 distinct different type of lymphoma that has not been
25 related to a leukemia.

1 Q So CLL and small-cell lymphoma are
2 essentially the same disease, correct?

3 A Well, I mean, they have different clinical
4 manifestations. The -- and this is not my area of
5 expertise. The treatment may be somewhat different as
6 well. I'm not -- I'm not really sure. I don't --
7 that's something I don't give an opinion on. That's
8 something I'm not that knowledgeable about.

9 But all I know is that there are enough
10 similarities that it is considered to be, if not the
11 same disease, but have enough similarities that they
12 believe -- that there is a belief that they are
13 related to each other.

14 Q Are there any other leukemias and lymphomas
15 that have any such sort of the same kind of
16 relationship?

17 A Not that I'm aware of.

18 Q And can you go through and give me a list of
19 the different kinds of leukemia and which cell type is
20 involved in getting cancerous and do the same thing
21 for lymphomas?

22 MS. KAHN: I'm going to object. That's
23 beyond the scope of this witness's expert witness
24 designation and beyond the scope of what his
25 assignment was in this case. I think another witness,

1 John Bennett, who's going to be deposed later this
2 week, will address all that.

3 BY MR. HANLEY:

4 Q Go ahead.

5 A Well, there are myeloid cells, okay, and
6 these are the -- both acute myelogenous leukemia and
7 CML arise from the myeloid cell line. There's a
8 difference though between these two kinds of leukemia
9 in that -- in that CML is almost always related to a
10 very specific translocation defect in the genetic
11 material that was discovered 30 -- at least 30 years
12 ago called the Philadelphia chromosome, and this is a
13 translocation between chromosomes 9 and 22, and so
14 it's a very distinct type of leukemia in terms of that
15 and also in terms of its clinical diagnosis and
16 course. It can have an acute phase, but it's still a
17 different disease from acute myelogenous leukemia.

18 Acute myelogenous leukemia has been found to
19 have a wide variety of different kinds of chromosomal
20 defects. There isn't any one type of chromosomal
21 defect that is associated with that. The -- and then
22 there are lymphocytic leukemias and they can either be
23 CLL or acute lymphocytic leukemia. Those both come
24 from the lymph cell line and there in general can
25 be -- well, in general you can say that the ALL is

1 almost always a childhood leukemia. That's the common
2 form of leukemia that one sees in children is acute
3 lymphocytic leukemia.

4 I think you asked about the -- did you ask
5 me about lymphomas also?

6 Q Yes. Yes. Thank you.

7 A So lymphomas, the major forms of lymphomas
8 are diffuse and follicular, and then there are, you
9 know, the -- I think the type that we talked about
10 before that's related to CLL forms a much smaller
11 percentage, less than 10 percent of NHLs, and then
12 there are --

13 Q I'm sorry. That last statement again was
14 the CLLs?

15 A The type of NHL that we talked about, the
16 small-cell CLL, represents less than 10 percent of
17 NHLs, okay. But more common ones are the diffuse and
18 the follicular. And we're talking about B-cell
19 lymphomas. Now, there can also be T-cell lymphomas.
20 They're less common. And those -- there are a number
21 of different types of those T-cell lymphomas.

22 Now getting back to the B-cell lymphomas,
23 you also have lymphomas that arise in parts of the
24 gastrointestinal tract. You can have ones that arise
25 in the skin and -- you know, for example, the one that

1 arises in the gastrointestinal tract has been
2 associated with the bacterial Helicobacter infection.
3 There's a Burkitt's lymphoma which is found
4 predominantly in Africa and that's been associated
5 with Epstein-Barr virus infection. So I think those
6 are the major -- major general types of lymphomas.

7 Q Okay. So that -- so the NHLs include the
8 CLLs and either a diffuse B-cell lymphoma or a
9 follicular B-cell lymphoma or diffuse T-cell lymphoma
10 or a follicular T-cell lymphoma?

11 A Well, the T-cell -- now you're getting a
12 little beyond what I've reviewed for this case and I
13 don't really -- I don't remember what all the T-cell
14 lymphomas are, whether you would characterize them as
15 diffuse or follicular.

16 Q Do any of the leukemias involve B-cells?

17 A The CLL is a B-cell leukemia and, like I
18 said, it's related to this one subtype of NHL, the
19 small-cell -- small B-cell, you know, lymphoma.

20 Q Would you agree that if benzene or other
21 petrochemical hydrocarbon solvents are demonstrated to
22 cause any lymphomas, that it informs the biological
23 plausibility of whether or not it can cause other
24 types of lymphomas?

25 MS. KAHN: Overbroad. Objection, compound,

1 undefined, vague, and ambiguous.

2 THE WITNESS: With all of these kinds of
3 biological plausibilities, the devil is all in the
4 detail, and so I could answer your question if I knew
5 that benzene caused NHL and how it causes it, okay,
6 but without knowing that and without -- my opinion is
7 that it doesn't cause NHL, I can't really answer that
8 question.

9 BY MR. HANLEY:

10 Q Would you agree that benzene and other
11 petrochemical hydrocarbon solvents reach the B-cells
12 in the human lymphatic system?

13 MS. KAHN: Objection. Overbroad, compound,
14 vague, and ambiguous.

15 THE WITNESS: I don't know specifically.
16 I've never -- I've never seen any measurements of
17 that.

18 BY MR. HANLEY:

19 Q Well, regardless of seeing measurements of
20 it, do you know one way or the other whether benzene
21 and other petrochemical hydrocarbon solvents ever come
22 into contact with lymphatic B-cells?

23 MS. KAHN: Objection. The question is
24 overbroad, compound, vague, and ambiguous.

25 THE WITNESS: As I said, I have never -- I'd

1 have to speculate on this in order to answer the
2 question because I've never seen any actual
3 measurements.

4 BY MR. HANLEY:

5 Q Well, are you saying you've never seen any
6 evidence in the scientific literature one way or the
7 other as to whether or not benzene or other
8 petrochemical hydrocarbon solvents come into contact
9 with B-cells in the human lymphatic systems?

10 MS. KAHN: Same objections.

11 THE WITNESS: I actually have never looked
12 at that literature. I don't even know if people have
13 actually analyzed lymph node cells -- lymph nodes to
14 see if it contains those constituents.

15 BY MR. HANLEY:

16 Q Do you know whether such literature exists?

17 MS. KAHN: Objection, lack of foundation.

18 THE WITNESS: You know, I -- you know,
19 people do do distribution studies of -- of chemicals.
20 They look at that, and, you know, like I said for this
21 matter, I've focused on the epidemiology studies to
22 see whether or not it causes -- there has been a
23 causal relationship with non-Hodgkin's lymphoma, but
24 not looked at the chemical -- what you're asking for
25 is the chemical analysis of benzene or these chemicals

1 in lymph nodes, and I have not looked at that.

2 BY MR. HANLEY:

3 Q Actually what I asked you was, do you know
4 whether or not such literature exists?

5 MS. KAHN: If he hasn't looked into it, I
6 don't know if he could know it exists. It lacks
7 foundation.

8 BY MR. HANLEY:

9 Q Then the answer may be I don't know whether
10 or not such literature exists, but that is -- whatever
11 the answer is, that's the question I'm asking. Do you
12 know whether or not such literature exists?

13 A I believe it might.

14 Q Thank you. Do you know of any reason why or
15 why not benzene or other hydrocarbon petrochemical
16 solvents would reach the B-cells in the human
17 lymphatic system?

18 MS. KAHN: I object to the question that
19 it's overbroad. It's vague and ambiguous. If you ask
20 as to benzene, I don't have an objection, but when you
21 ask benzene or petrochemicals and you don't identify
22 the petrochemicals and the witness has referred you to
23 a document that identifies a number of categories of
24 items that could be considered petrochemicals, the
25 question is overbroad, and frankly I don't think it

1 can be answered.

2 MR. HANLEY: Counsel, I'm not deposing you,
3 if that's okay.

4 THE WITNESS: Could you repeat the question.

5 (The reporter read the record as
6 requested.)

7 MS. KAHN: The question is also beyond the
8 scope of this witness's designation, beyond the scope
9 of his assignment, and beyond the scope of his
10 retention.

11 THE WITNESS: I don't know any reason why
12 they would or would not.

13 BY MR. HANLEY:

14 Q I'm not sure I understand that answer. Are
15 you saying you don't -- well, what is your
16 understanding of where these chemicals go in the human
17 body when they're breathed in or dermatologically
18 absorbed?

19 A Well, I think I mentioned to you before, I
20 mean in general I think the statement could be made
21 that most chemicals are distributed widely throughout
22 the body.

23 Q Okay. So is that to say that --

24 MS. KAHN: Let him finish, please.

25 BY MR. HANLEY:

1 Q I don't mean to cut you off. I'm sorry. I
2 thought you were finished.

3 A And so I would -- as I said, it's -- it's
4 the measurement techniques have gotten so good that we
5 can demonstrate most things in most places, and so it
6 would surprise me if they didn't.

7 Q In other words, you presume they do. You
8 haven't reviewed the literature on it, but presumably
9 they do; is that what you're saying?

10 MS. KAHN: Objection. That's vague and
11 ambiguous. Assume they do what?

12 MR. HANLEY: I didn't say assume. I said
13 presume.

14 BY MR. HANLEY:

15 Q Go ahead.

16 A Well, I think based on my general knowledge
17 of chemicals and distribution patterns of chemicals, I
18 would think that these would fall into the category
19 where we would expect to find them distributed
20 throughout the body.

21 Q Just based on our understanding of what our
22 body does with toxins, wouldn't it be fair to presume
23 that if a molecule of benzene gets into the lungs,
24 that that gets taken and -- and presumably filtered
25 through the lymphatics, attacked by macrophages, and

1 removed including through the lymphatics?

2 A Well, I think it's low levels of most
3 chemicals are metabolized by the body so that they are
4 excreted, and so what you're asking me about is --
5 there's sort of a race to a finish line, if you will.
6 For example, the body is trying to take these
7 chemicals and make them into something else so that
8 they can be excreted, and there are a number of enzyme
9 systems to do that.

10 So I would think that in general, at least
11 going up to a certain level of a chemical, that the
12 body is pretty efficient at trying to eliminate it so
13 that it doesn't reach all parts of the body. Again, I
14 guess the answer is it depends on a lot of things. It
15 depends on dose. It depends on route of exposure for
16 a particular chemical, and I haven't really looked
17 into that specific question for -- in this -- in this
18 matter.

19 Q Do you know whether or not the lymphatics is
20 part of the human body's defense mechanisms against
21 benzene or other petrochemical hydrocarbon solvents?

22 MS. KAHN: Objection. The question as
23 framed is overbroad, compound, vague, and ambiguous.

24 THE WITNESS: By defense you mean in terms
25 of metabolizing them and getting rid of them?

1 BY MR. HANLEY:

2 Q Yes, part of our body's defense mechanism.

3 A The lymphatic system -- I would say in
4 general no. The lymphatic system is primarily aimed
5 at dealing with infectious agents.

6 MR. HANLEY: All right. If we might, I'd
7 like to take a quick break.

8 (Recessed at 11:28 a.m.)

9 (Reconvened at 11:36 a.m.)

10 BY MR. HANLEY:

11 Q Do you have an opinion on whether or not the
12 benzene, toluene, and other petrochemical hydrocarbon
13 solvents that Mr. Molina was exposed to at his work at
14 Firestone reached the target organ for his
15 non-Hodgkin's lymphoma cancer?

16 MS. KAHN: Objection. It's overbroad,
17 compound, vague, and ambiguous. And it lacks
18 foundation.

19 THE WITNESS: Well, I mean, I really didn't
20 look -- I mean, I looked into the solvents that he was
21 using or presumably using, at least that were
22 furnished, and I really don't know whether or not the
23 levels of those chemicals would have been sufficient
24 that they would have reached -- you're talking about
25 the lymphatic system -- to any -- you know, I mean I

1 don't know how to say like significant degree or any
2 measurable amount. I wouldn't have any way of knowing
3 that.

4 BY MR. HANLEY:

5 Q So you don't have an opinion one way or the
6 other whether or not the benzene, toluene, and other
7 petrochemical hydrocarbon solvents that he was exposed
8 to at the Salinas Firestone facility reached the
9 target organ for his non-Hodgkin's lymphoma?

10 MS. KAHN: Objection, asked and answered.
11 Same objections that I just stated.

12 THE WITNESS: Like I said, there's too much
13 missing information here for me to have an opinion on
14 that.

15 BY MR. HANLEY:

16 Q What information is missing in order to
17 inform an opinion on such an issue?

18 A Well, first of all, I would need to know
19 the -- I mean, I would have to come up with a number
20 in terms of the amount that he was exposed to, to know
21 whether or not that actually he received a dose and
22 then I would have to know whether or not that dose was
23 sufficient to overcome the metabolic capacity of his
24 particular system that would allow the chemicals to be
25 distributed to the lymphatic system.

1 Q Can you point me to some particular
2 information that would allow you have to have an
3 opinion on that one way or the other?

4 A I haven't been asked to look into that in
5 this case and so I couldn't. I didn't -- I didn't
6 focus on that particular issue.

7 Q Which particular issue? The levels at which
8 he was exposed to these petrochemical hydrocarbon
9 solvents?

10 A Well, that, but also the issue of the
11 metabolic capability and how much it takes in order to
12 overcome an individual's metabolic capacity to -- to
13 excrete the chemical.

14 Q If someone's exposed to 7 ppm years of
15 benzene over a working career, is that enough to
16 overcome someone's metabolic capacity to handle those
17 toxins without reaching the lymphatics?

18 MS. KAHN: Objection. The question presents
19 an incomplete hypothetical, misstates the evidence,
20 lacks foundation, it's overbroad, compound, vague, and
21 undefined.

22 THE WITNESS: Could you repeat the question.

23 (The reporter read the record as
24 requested.)

25 THE WITNESS: That's not something that I've

1 looked at.

2 BY MR. HANLEY:

3 Q So the answer is you don't know?

4 A For that -- no. For that particular number,
5 I mean, there are too many -- too many unknowns so
6 that I wouldn't -- I wouldn't have an opinion on that.

7 Q What more would you need to know in order to
8 have an opinion?

9 A Well, I'd have to know Mr. Molina's
10 particular metabolic capacity for metabolizing
11 benzene.

12 Q Anything else?

13 A And the -- well, the -- I mean, the --
14 certainly the amount of benzene that was in the
15 atmosphere at various points in time rather than a --
16 maybe a general ppm year number.

17 Q Explain that.

18 A Well, I'd want to know whether or not you're
19 assuming that there is a -- if you take -- you said a
20 7 ppm year, and if you're dividing that by 17 years
21 and then dividing that by 8 hours per day five days a
22 week, that number actually is -- so we're talking
23 about a number that would be below 1 ppm in the
24 atmosphere. Depends whether or not there's a --
25 depends what the levels are in the atmosphere rather

1 than the number of ppm years is what I'm trying to
2 say.

3 Q Would situations of higher ppm peak
4 exposures make someone more inclined to have their
5 metabolic capacity for dealing with that toxin
6 overcome?

7 MS. KAHN: Objection. Overbroad,
8 compound --

9 MR. HANLEY: Do you want to just reserve all
10 of your objections?

11 MS. KAHN: -- incomplete hypothetical.

12 MR. HANLEY: Do you want to just have a
13 continuing every objection in the world is reserved
14 and you can raise it at any time so that I don't have
15 to be interrupted today?

16 MS. KAHN: I'll think about that.

17 MR. HANLEY: Okay, please do.

18 MS. KAHN: I'll think about that.

19 BY MR. HANLEY:

20 Q Go ahead.

21 A Okay. Well, as I said, it depends upon how
22 you divide it. If you say that there's a very low
23 level of exposure that's occurring all the time, you
24 would use one -- I mean, I can't answer the question
25 either way because I'd have to -- I'd have to have the

1 inputs in the model in order to come up with the kind
2 of answer you're talking about. This is an area
3 called pharmacokinetics, and I don't really consider
4 myself to be an expert in pharmacokinetics. It's a --
5 as a matter of fact, I don't teach that class at
6 Columbia.

7 Q What's pharmacokinetics?

8 A Pharmacokinetics is understanding the exact
9 quantitative distribution of a chemical through the
10 body, you know, its absorption, metabolism,
11 distribution, blood levels at various points in time,
12 and I don't really consider myself to be, in general,
13 an expert in that area.

14 Q Is one of the things you're saying, that the
15 higher the ppm concentration in the air that someone
16 is breathing, a higher concentration of ppm
17 concentration for benzene, toluene, or other
18 petrochemical hydrocarbon solvents, the higher that
19 ppm intensity, the more likely that person's metabolic
20 capacity is to be overcome and, therefore, allow the
21 toxin to reach the target organ?

22 MS. KAHN: Objection. It's overbroad,
23 compound, vague, and ambiguous, and I don't want to
24 have a standing objection. I'd rather object to
25 specific questions as they come up with the hope that

1 maybe you'll reframe the question if you know what my
2 objection is to the form.

3 THE WITNESS: Well, I mean in general higher
4 exposure levels result in -- in greater dosages of any
5 chemical. Now, when we get to benzene and other
6 chemicals, it depends, because sometimes even high --
7 short-term high exposure levels, there's a certain
8 capacity in the system that they don't -- that certain
9 systems are not saturated, and so they have not --
10 there is the ability of the body to absorb a certain
11 amount of material and retain it over a short period
12 of time. It's a -- it's something that I really
13 haven't had a chance to look into for this -- that
14 particular question.

15 BY MR. HANLEY:

16 Q What are the mechanisms by which someone has
17 any metabolic capacity for exposure to benzene,
18 toluene, or other petrochemical hydrocarbon solvents
19 without any adverse health effects?

20 MS. KAHN: Objection. The question is
21 overbroad, compound, vague, and ambiguous.

22 THE WITNESS: In general we call it
23 metabolism or detoxification, and benzene is
24 metabolized through the addition of alcohol groups to
25 the -- to the benzene molecule and then those alcohol

1 groups can get conjugated to water-soluble things like
2 glucuronidation, which then leads to urinary
3 excretion.

4 BY MR. HANLEY:

5 Q So how exactly is benzene or other
6 petrochemical hydrocarbon solvents metabolized by the
7 human body?

8 A Well, each one is done differently. What
9 I've talked about is related primarily to benzene, and
10 to be quite honest sitting here, if you're talking
11 about toluene or xylene, these other ones, I could
12 refer to the IARC monograph to see if they say, but
13 sitting here I can't remember the exact metabolic
14 pathway for those chemicals.

15 Q Okay. What's the exact metabolic pathway
16 for benzene?

17 A I just said what it was.

18 Q The liver?

19 A The liver, adding of hydroxyl groups to it,
20 creating things like phenol, hydroquinone, benzene
21 triol, and then those get conjugated to -- there are a
22 number of different water-soluble groups that then --
23 then facilitate their excretion in the -- in the
24 urine.

25 Q Is everything you just described things that

1 occur while the benzene is in the liver?

2 MS. KAHN: Objection, vague and ambiguous.

3 THE WITNESS: Primarily in the liver, but
4 these metabolic systems are also present in other
5 parts of the body.

6 BY MR. HANLEY:

7 Q How does the benzene that is encountered
8 through the air by breathing into someone's lungs get
9 from those capillaries in the lung to the liver to be
10 excreted out through urine?

11 A Well, primarily it would be through -- there
12 are two ways. One would be hepatic artery and the
13 other way would be the circulation that goes through
14 the gastrointestinal tract that winds up in the portal
15 system of the liver.

16 Q What's the hepatic artery?

17 A Hepatic artery is a branch of the aorta that
18 specifically distributes blood to the liver.

19 Q So take me from the capillaries in the lung
20 through the -- to the toilet, if you will, through
21 these two different pathways. Describe these two
22 different pathways where the benzene goes from the
23 time it's inhaled to the time it's excreted.

24 You talked about the hepatic artery and the
25 GI tract, two different pathways. So I'm asking you

1 to take me from the lungs and through however it gets
2 to the hepatic artery to the liver and then excreted
3 and then take me from the lungs to however it gets to
4 the GI tract and to wherever it gets to from there.

5 MS. KAHN: Starting with the lungs, not the
6 nasal passages -- you're assuming it's in the body to
7 start?

8 BY MR. HANLEY:

9 Q Well let me ask you. Benzene's inhaled,
10 right? I mean, it's one of the ways in which --

11 A Right.

12 Q And the other way in which a person suffers
13 exposure to benzene is through dermal absorption,
14 right?

15 A It's possible, mm-hmm.

16 Q All right. So starting with benzene that's
17 inhaled, could you take me from that inhalation
18 through the human body through those two pathways and
19 how it gets from those two pathways into the urine to
20 be excreted, and if those are the only two pathways,
21 and if there are others, I'll ask you to describe
22 those as well, and we'll talk about dermal absorption
23 later and how it gets to where it goes.

24 A Well, the pulmonary vein -- first of all, it
25 goes through the alveolus, and then in the alveolus

1 there are capillaries, and then from the capillaries
2 in the alveolus, capillaries get into different parts
3 of the pulmonary venous drainage.

4 Q So it goes from the alveoli into the oxygen
5 and carbon dioxide diffusion mechanism into the blood;
6 is that right?

7 A In essence, it's following the same pathway
8 as oxygen is.

9 Q So it's getting into the blood and then from
10 the blood in the lungs going where?

11 A Pulmonary vein. Pulmonary vein goes into
12 the heart. The heart pumps the blood to the aorta,
13 and then the hepatic artery is branched off of the --
14 I can't remember if it's directly off the aorta but it
15 comes eventually from the aorta into the pulmonary
16 artery. Then there are other arteries that distribute
17 the blood to the gastrointestinal tract and --

18 Q Okay. So just to stay in our -- we're in
19 the blood and the blood is coursing through the body
20 and one of the areas blood is going is to the --
21 through the hepatic artery and that leads to the
22 deliver?

23 A Yes.

24 Q And is that oxygenated blood that's going to
25 the liver?

1 A Yes.

2 Q And does all of our blood in our body -- I
3 guess it goes to different places and some of the
4 blood goes to the liver and some of the blood goes to
5 the brain and everywhere else, correct?

6 A Correct.

7 Q And does the benzene then make its way to
8 the liver to get metabolized there just in the -- I
9 mean, there's no way in which the benzene somehow gets
10 channeled to that hepatic artery. That hepatic artery
11 just carries whatever benzene happens to be in the
12 body's blood at any given point, correct?

13 A In general, yeah.

14 Q And that same blood that has presumably the
15 same amount of benzene coursing throughout is also
16 going to all of the other parts of the body that need
17 oxygenated blood; is that right?

18 A That's correct.

19 Q So the benzene can go to the brain and your
20 fingers and back to your lungs and everywhere where
21 oxygenated blood is being used by the body, correct?

22 A Yes.

23 Q Then the benzene when it gets to the liver,
24 the body has a way of dealing with such toxins in the
25 liver, and you described that briefly before; is that

1 right?

2 A Well, yeah. I mean, when it gets to the --
3 as I mentioned, there is -- also the benzene in the
4 blood, because benzene would be relatively fat
5 soluble -- you know, the reason that it's -- one of
6 the reasons these solvents are used is because they
7 dissolve things that are fatty, in essence, grease or
8 whatever. It will be sequestered somewhat in the
9 blood into certain areas like -- that are usually
10 transporting fats.

11 So then when it gets to the liver, the liver
12 will have a mechanism of extracting the lipids,
13 because the liver is also responsible for metabolizing
14 lipids that are absorbed in the gastrointestinal
15 tract. Because, remember, the other way that the
16 blood gets to the liver is all of the blood that's
17 distributed to the gastrointestinal tract is then
18 drained through the portal vein system directly to the
19 liver. So the liver actually receives most of its
20 blood supply from the drainage of the gastrointestinal
21 tract rather than from the hepatic artery.

22 In the liver then, the liver is responsible
23 for extracting the lipid fraction also from the blood,
24 which in this case would contain the benzene because
25 it's lipid soluble, and so it would do that and at the

1 same time it's metabolizing the fats that are in that
2 system, and then there's an enzyme called cytochrome
3 P450 and it's a heme protein and that's the enzyme
4 that's responsible for activating oxygen that then
5 reacts with benzene and forms these hydroxyl groups,
6 which are -- contain oxygen, OH groups.

7 And then as I said, those will be conjugated
8 with things like glucuronidation or might get
9 conjugated with other things that are then responsible
10 for taking -- making this very water soluble so that
11 it can be excreted in the kidney.

12 Q You may have said it, but I didn't quite
13 follow, but tell me how the benzene gets from the
14 lungs to the GI tract?

15 A Same way. Pulmonary vein.

16 Q Through the blood?

17 A Through the blood, and then it gets
18 distributed to the intestines, stomach through
19 arteries and then the veins that drain those same
20 organs, the stomach and the intestines, there's a very
21 specific drainage system called the portal system, and
22 instead of then that blood going back to the heart, it
23 goes directly to the liver.

24 Q Would it be fair to say, given this
25 understood pathway of benzene in the human body, that

1 there's no question it gets to the target organs for
2 leukemia by virtue of it gets into the blood and,
3 therefore, necessarily going through bone marrow?

4 MS. KAHN: Objection. Overbroad, vague, and
5 ambiguous. Compound.

6 BY MR. HANLEY:

7 Q Or is that a misunderstanding of the
8 anatomy?

9 A Could you repeat the question.

10 (The reporter read the record as
11 requested.)

12 THE WITNESS: I don't understand the
13 question.

14 BY MR. HANLEY:

15 Q Does that blood that we talked about that
16 would have benzene in it also in the normal course go
17 to the target organ of leukemia -- the target organs
18 for leukemia such as bone marrow?

19 A Well, don't forget it's not the benzene.
20 It's the benzene metabolites that are thought to cause
21 leukemia: hydroquinone, phenol. It's not really well
22 understood, but it's not the benzene itself that is
23 believed to be involved in leukemia formation. So
24 that's not really answering your question. I'm sorry.
25 But I think you're heading in that direction.

1 Q Okay, I appreciate the clarification. Is
2 the process which turns the benzene into the agent
3 understood to cause these benzene-related cancers
4 something that happens in the liver?

5 MS. KAHN: Objection. Overbroad, compound,
6 vague, and ambiguous, benzene-related cancers.

7 THE WITNESS: If we're talking about acute
8 myelogenous leukemia, which is the only thing that I
9 know that's been -- been -- that is -- like I say,
10 the -- the metabolism in the liver leading to the
11 formation of these hydroxylated metabolites and those
12 hydroxylating metabolites being distributed to the
13 bone marrow is the -- is -- it's not really understood
14 how that all occurs, but the metabolites are the ones
15 that are thought to be responsible for the development
16 of leukemia or acute myelogenous leukemia.

17 BY MR. HANLEY:

18 Q The AML?

19 A Right.

20 Q And are those metabolites created in the
21 liver as part of its metabolizing benzene or is
22 that --

23 A Yes.

24 Q It is?

25 A It is.

1 Q And somehow they get from the liver back up
2 to the bone marrow and that mechanism is not well
3 understood?

4 A Well, the mechanism that's not well
5 understood is -- here's the problem. I mean,
6 hydroquinone itself is not know -- or phenol, known to
7 be leukemogens. There's scientific information that
8 leads one to believe that you have to have this
9 metabolism in order to -- in order to cause leukemia,
10 but there -- there are amazingly a lot of unknowns
11 about the fundamental biology of how AML is produced
12 by the benzene metabolites.

13 Q When you talk about a person's metabolic
14 capacity for -- for handling benzene, you're talking
15 about a person having a capacity to be exposed to a
16 certain level or a certain amount of benzene without
17 any appreciable risk for developing a cancer or any
18 other -- like an AML or any other benzene-related
19 disease; is that right?

20 A That's correct.

21 Q And in the description that you've given me
22 of where benzene goes in the body and what happens, it
23 sounds like a lot goes on in the liver and are you
24 saying that then some of that is excreted and the
25 benzene or the metabolites that it creates are

1 excreted and then some of that is not excreted and
2 goes to other parts of the body that can cause DNA
3 damage in certain cells?

4 MS. KAHN: Objection, overbroad. Compound.
5 Vague.

6 THE WITNESS: Well, as I mentioned, the only
7 one that we know about is the metabolites going to the
8 bone marrow causing DNA damage in the bone marrow and
9 producing acute myelogenous leukemia, and there have
10 been various hypotheses about how that happens, and I
11 have written a review article on the -- on the
12 genotoxicity of benzene and, you know, I mean my
13 working hypothesis is that it inhibits an enzyme
14 called Topoisomerase 2, T-o-p-o-i-s-o-m-e-r-a-s-e 2 --
15 we can just call it Topo 2 -- and that seems to be one
16 of the -- I think the best explanation for the kind of
17 genotoxicity that we see with benzene.

18 BY MR. HANLEY:

19 Q And that's a paper you've written that was
20 funded by the API?

21 A Yes.

22 Q There was a -- oh, so before I move on from
23 this area, describe for me your understanding of the
24 mechanism by which benzene gets into the human body
25 through dermal absorption and how the body expresses

1 any metabolic capacity it may have for exposure by
2 that mechanism?

3 A Well, I mean, benzene I think has some
4 limited ability to get through the stratum corneum
5 which is the barrier -- the barrier part of the skin,
6 you know, the cornified epithelium, and from there it
7 would go to the venous system and be distributed just
8 as we mentioned from the -- from the lungs.

9 Q Okay. And so by the venous system, you mean
10 the veins taking blood back to the lungs?

11 A Yes.

12 Q All right. Another statement in Exhibit 3
13 that I want to ask you if you agree or disagree with
14 is the next sentence, where we left off before. The
15 first sentence of the next paragraph, where they
16 say, "Two series of studies on workers exposed to
17 benzene in Ohio, the Pliofilm study, and China, the
18 NCI/CAPM study, have yielded particularly strong data
19 on the leukemogenic potential of benzene and are
20 summarized below."

21 Do you agree with that statement that those
22 studies have yielded particularly strong data on the
23 leukemogenic potential of benzene?

24 A Well, I certainly would say with the Rinsky
25 study and I think also the Chinese study, but there

1 are -- I believe there are -- well, I think that's a
2 fair statement, mm-hmm.

3 Q When the scientific literature talks about
4 the leukemogenic propensity of benzene, do you
5 understand that to be referring specifically only to
6 its ability to cause leukemias and to the exclusion of
7 non-Hodgkin's lymphoma, or is that phrase leukemogenic
8 propensities sometimes used to describe the class of
9 cancers that would include leukemias and lymphomas?

10 A Well, I know in the case of the Rinsky study
11 they didn't find any increase in non-Hodgkin's
12 lymphoma in the study. So I would interpret this
13 statement to be only talking about leukemia and, from
14 my perspective, specifically about acute myelogenous
15 leukemia.

16 Q Okay. That's a slightly different question.
17 My question was about the use of that phrase in
18 scientific literature generally, including the context
19 of the sentence we're reading again now, but let me
20 ask both questions. In the sense that this is used --
21 in the context that this is used here, do you believe
22 that it's referring specifically to just leukemias or
23 specifically only to AML leukemia, or to a broader
24 class of cancers and lymphatics and leukemias?

25 A Well, it certainly wouldn't mean the broader

1 category. It would not -- because they would -- if --
2 if -- they would not have said leukemogenic because
3 that -- if you were talking about lymphomas, you would
4 use a different terminology.

5 Q Okay. They are talking about leukemias as a
6 general class including not only AML but other
7 leukemias as well in the context of that sentence,
8 correct?

9 MS. KAHN: Objection. It calls for
10 speculation as to how the authors are using the term
11 and what the authors meant.

12 THE WITNESS: I don't know how they're using
13 the term, to be quite honest.

14 BY MR. HANLEY:

15 Q Well, doesn't the Pliofilm study, at least
16 according to those authors, demonstrate benzene as a
17 cause of different kinds of leukemias?

18 A No. I mean what they did in the Pliofilm
19 study, they lumped all of them together, but it really
20 doesn't tell you which of the leukemias was
21 responsible for the increase. I think other people
22 have reanalyzed that data later and found that the
23 increase was due to an increase in acute myelogenous
24 leukemia, but they just didn't -- they just didn't
25 differentiate.

1 Q All right.

2 MS. KAHN: Let me know when you're ready to
3 switch topics because that might be a good time for a
4 lunch break.

5 MR. HANLEY: Yeah, that would be now.

6 (Whereupon, at 12:14 p.m., the
7 above-entitled matter was recessed until 1:05 p.m.)

8 CONTINUED EXAMINATION BY COUNSEL FOR PLAINTIFFS
9 BY MR. HANLEY:

10 Q Sir, did you have a chance to talk to your
11 office about the number of hours that you billed in
12 this case so far?

13 A Well, John Jackson was out to lunch, but I
14 left him a message, and I told him to give me a
15 callback on my phone.

16 Q If you get that call, will you tell me so we
17 can interrupt our proceedings and take it?

18 A When we interrupt, I'll check my voice mail
19 and I'll get back to him.

20 Q All right. Now, how was the time broken
21 down, would you say, in terms of the different
22 materials you reviewed? Was essentially all of that
23 50 to 70 hours reviewing either depositions or medical
24 articles or medical records?

25 A Well, those plus the -- I did review the

1 MSDSs and some of the other records. There were
2 depositions that had been taken of toxicologists and
3 employees of the various defendants also, and I
4 reviewed those to a certain extent, although I wasn't
5 really asked to give an opinion on the -- on the issue
6 of exposure in this case.

7 Q Okay. So how was your time broken out in
8 terms of by percentage or approximately how did it
9 break down among the different documents?

10 A Well, let me just modify one thing. When I
11 say exposure, I did look to see what kinds of
12 chemicals were involved, but not in terms of any kind
13 of a quantitative thing of exposure. Boy, that would
14 be really hard for me to estimate.

15 I would say at least half of it would be
16 re-going through my literature and making sure I had
17 everything, and I'd say the other half would probably
18 be spent reading other people's depositions and
19 reviewing the medical records, but I don't know that I
20 could get more specific than that.

21 Q All right. What was it that you were
22 reviewing any of these materials for in order to draw
23 any information that might help you form or change an
24 opinion?

25 And the reason I'm asking it, because I'm

1 getting a little bit of a blank look back, is since
2 you already knew -- I assume you knew from the very
3 beginning when you were retained in the case that this
4 was a case of non-Hodgkin's lymphoma. You already had
5 the opinion that benzene and other petrochemical
6 hydrocarbon solvents do not cause non-Hodgkin's
7 lymphoma. So my question is, what was the point of
8 those next 50 to 70 hours of review of these documents
9 for?

10 A I don't know it was just 50 to 70 hours for
11 these documents, but I sort of expected that you would
12 be wanting to go through these studies with me, and so
13 I tried to make it efficient in terms of -- you see I
14 have different colored tabs on them so that -- you
15 know, I use these studies, you know, in cases that
16 aren't non-Hodgkin's lymphoma. They might be AML
17 cases. They might be CML cases.

18 I've been involved in CML cases, and so the
19 last time I used this -- and this literature is not
20 all just dedicated to non-Hodgkin's lymphoma. So I've
21 got to go through all the literature that I have to
22 reorient it to an NHL case, and then I went through,
23 and in the last NHL case that I was involved in, only
24 benzene was at issue. So now we have other of these
25 solvents, petroleum-based solvents and including

1 toluene I understood was at issue particularly. So I
2 had to go back through the studies, and, as I said, I
3 put little tabs on the tables that support my opinion
4 so that we could go through them efficiently, and that
5 takes a lot of time.

6 Q So is that fair to say then, that the 50 to
7 70 hours that you put in this case were not so much
8 for you to be able to determine what your opinion was,
9 but more for preparation for testifying in the case,
10 whether it be at deposition now or at trial in the
11 case later?

12 A I'd say that's true, yeah, that I have to --
13 I have to prepare and I wanted to bring all the
14 documents that were relevant in this case, and so I
15 had to go through everything.

16 Q Because when you started your review, one of
17 the first things that you learned about the case, I
18 take it, from the attorneys was that this was a
19 non-Hodgkin's lymphoma case?

20 A Yes, I believe that they told me that at the
21 time, yes.

22 Q And with just that much information, you
23 knew that your opinion would be no amount of benzene
24 or other petrochemical hydrocarbon solvents was going
25 to increase his risk for contracting that disease,

1 regardless of how much he was exposed to, for example?

2 MS. KAHN: Objection, overbroad and
3 compound.

4 THE WITNESS: Well, I mean, as I said, at
5 the beginning of my case, I had reviewed the
6 literature previously, and, you know, my opinion, of
7 course, is based upon what's available in the
8 scientific literature. For example, there have been
9 certain exposures that have been described in the
10 scientific literature, and at least his exposure
11 didn't exceed any of those that were in the scientific
12 literature. So to the extent that the -- that his
13 exposures fall within the -- the extent that have been
14 studied in the scientific literature, yes, that's
15 true.

16 BY MR. HANLEY:

17 Q Did you review the exposure assessment
18 reports of Dr. Nicas and Dr. Reiss in this case?

19 A Yes. I had more time to do Nicas. I just
20 saw Reiss's earlier today.

21 Q Would you agree that both of those gentlemen
22 document significant exposures to benzene, toluene,
23 and other petrochemical hydrocarbon solvents?

24 MS. KAHN: Objection. The question is
25 overbroad and it's vague and it's ambiguous. It's not

1 clear what the word "significant" means.

2 THE WITNESS: Well, that would be my -- that
3 was what I was going to say. From a -- from a medical
4 standpoint, I don't -- I wouldn't characterize the
5 exposures as medically significant. That would be in
6 relationship to the known threshold limit values
7 and -- and also in terms of the other things that have
8 been reported in the scientific literature.

9 But I know -- I recognize that both of them
10 have come up with part per million year estimates of
11 benzene exposure -- no, I'm sorry. Reiss came up with
12 part per million year estimates of benzene and
13 toluene, and I think total hydrocarbon exposures, to
14 the extent that he could, based on both the numbers
15 that Dr. Nicas had generated and upon his
16 understanding of Mr. Molina's testimony.

17 BY MR. HANLEY:

18 Q What in your mind is a medically significant
19 exposure to benzene or other petrochemical hydrocarbon
20 solvents?

21 MS. KAHN: Objection. The question's
22 overbroad, compound, vague, and ambiguous.

23 THE WITNESS: Can you just tell me which
24 one -- I'll give them to you individually. Okay.
25 Well, okay. I'm basing this, for example, on the ACGH

1 TLVs. So -- so, for example, for rubber solvent, they
2 have a time weighted average threshold limit value of
3 400 parts per million, and that's based upon eye and
4 ear irritation --

5 BY MR. HANLEY:

6 Q Let me interrupt you. Is what you're saying
7 or about to say in a much longer way that in order for
8 an exposure to be medically significant in your
9 opinion, it should exceed the ACGIH TLVs currently in
10 place?

11 A In general that's true because ACGIH base
12 their TLVs upon the medical literature and
13 occupational medical literature in particular, where
14 they documented that at certain levels, certain
15 effects begin to be seen, and they try to set those
16 numbers below those levels.

17 Q So your bottom line for what is medically
18 significant regarding solvent exposures is whatever
19 the ACGIH TLVs are published?

20 A Well, that would be a starting point, but,
21 you know, I wasn't asked to in this case so I didn't
22 really review the literature. I wasn't asked to
23 comment on anything other than the question of
24 non-Hodgkin's lymphoma and these various solvents. So
25 I mean I brought the ACGH TLV as a starting point. If

1 you were going to ask me for certain effects that
2 don't have to do with non-Hodgkin's lymphoma for
3 benzene or for these other petrochemical solvents, as
4 you characterized them, I would have to do a
5 literature review and verify for my own mind that the
6 ACGH TLV numbers would be correct.

7 Q To what extent exactly do you rely upon the
8 ACGIH TLVs as being an indicator of whether a
9 significant -- whether an exposure to a solvent would
10 be medically significant or not? To what extent do
11 you rely on the ACGIH TLVs for that kind of analysis?

12 A Well, I just said I used them as a starting
13 point. I mean, if it's something that is of
14 particular concern either in a case or regarding an
15 individual who's in one of our medical surveillance
16 programs or something like that, I go -- I look at the
17 TLVs, but then I usually go beyond that and look at
18 the documentation for the TLV and also do my own
19 independent literature survey. So I don't -- it's
20 just part of the materials that I rely upon.

21 Q Was Mr. Molina exposed in a medically
22 significant way to benzene in his work at the Salinas
23 Firestone facility?

24 A No.

25 Q Why not?

1 A Well, because -- well, again, let me say
2 that I'm primarily focusing on the issue of -- of any
3 of the scientific literature that we have available
4 regarding non-Hodgkin's lymphoma and any of these
5 chemicals, and my view of the literature is that they
6 are not causally related to NHL, and there are certain
7 exposure levels that have been studied in -- in that
8 literature, and so certainly Mr. Molina did not exceed
9 those exposure levels that have been studied.

10 Q What does that mean?

11 A Okay. Well, let me give you an example.

12 Q No, I don't want an example. I want to know
13 what that means.

14 MS. KAHN: I think he's got to give you an
15 example to explain what that means.

16 MR. HANLEY: I don't know that --

17 THE WITNESS: Certain studies -- okay.
18 Certain studies have studied, for example, benzene
19 exposure up to including, I believe, hundreds of parts
20 per million of exposure, hundreds of parts per million
21 years of exposure, okay. And my conclusion is that
22 that hasn't been related to non-Hodgkin's lymphoma.

23 Now, if indeed it were the fact that
24 Mr. Molina was exposed to way more than that, then I
25 wouldn't have any scientific literature to base an

1 opinion upon.

2 Does that make sense?

3 BY MR. HANLEY:

4 Q Okay, I understand. Thank you.

5 A Okay.

6 Q If Mr. Molina was exposed to ten times the
7 amount of benzene that is described by Dr. Nicas,
8 would that be a medically significant exposure to
9 benzene as relates to non-Hodgkin's lymphoma, in your
10 opinion?

11 A No.

12 Q If Mr. Molina was exposed to benzene to the
13 extent described by Dr. Nicas, would that be a
14 medically significant exposure to benzene as relates
15 to his risk for developing AML?

16 A No.

17 Q Why not?

18 A Well, because my -- my review of the
19 literature says that you have to -- you have to get
20 somewhere into the range of 40 to 200 part per million
21 years before we see an increased risk for acute
22 myelogenous leukemia.

23 Q What scientific literature do you rely upon
24 for that proposition of a 40 to 200 ppm years
25 threshold for benzene causing AML?

1 MS. KAHN: I'm going to object that that's
2 beyond the scope of the witness's retention in this
3 case and beyond the scope of the expert witness
4 disclosure.

5 BY MR. HANLEY:

6 Q Go ahead.

7 A The primary one is Rinsky 1987.

8 Q Anything else?

9 A Well, the other literature I think is --
10 there's another article by Constantini that finds a
11 similar -- and the Chinese study doesn't get -- I'm --
12 let me just take a quick look at the literature here.
13 Constantini is -- et al. was 2003. And the Chinese
14 study I'm pretty sure doesn't go into statistically
15 significant increase until above 40, but to be quite
16 honest, I really -- I didn't bring all of the
17 necessary AML dose response literature with me
18 because, well, this is a case of non-Hodgkin's
19 lymphoma.

20 Q Is it fair to say that there was nothing
21 that you were going to review in this case when you
22 started it that was going to convince you that
23 Mr. Molina's non-Hodgkin's lymphoma was caused by his
24 exposure to benzene, toluene, or other petrochemical
25 hydrocarbon solvents at the Salinas Firestone plant,

1 including the medical articles that you'd seen before
2 and the medical records that you reviewed, and the
3 deposition testimony that you read?

4 MS. KAHN: Objection to the form of the
5 question.

6 THE WITNESS: Well, I think I mentioned the
7 fact that I did re-look for any additional information
8 to see whether or not it would affect my opinion, but
9 my opinion was not changed by that review of both the
10 existing literature, the new literature, or the
11 testimony of any of the plaintiffs' experts.

12 BY MR. HANLEY:

13 Q I mean, you knew what you were going to see
14 in the medical literature because you had reviewed it
15 before, correct?

16 A Well, except for the ones that I looked -- I
17 looked for anything new that was available, and I --
18 I -- as I -- as I mentioned before, I have been -- I
19 have been involved in other cases that included
20 similar exposures and non-Hodgkin's lymphoma, and so I
21 had a general idea of what my opinion was, but I went
22 through -- I went through the literature review to
23 reconfirm that.

24 Q Going through the -- the only information
25 that would possibly change the opinion you had would

1 have to be the new literature that had been published
2 within the last year from now, correct?

3 MS. KAHN: Objection. Lacks foundation and
4 calls for speculation.

5 THE WITNESS: Well, as I -- you know, I also
6 mentioned that there were -- there were one or two
7 articles that were mentioned by Dr. Infante and
8 Weisenburger, and I can't remember which ones they are
9 now offhand, that I re-looked at because I didn't
10 remember having reviewed those before, that they had
11 mentioned. So I really couldn't characterize them as
12 all having been published in the last year.

13 BY MR. HANLEY:

14 Q You knew when you went through the medical
15 records that there was nothing you were going to see
16 in there that was going to impact your opinion
17 regarding whether or not his non-Hodgkin's lymphoma
18 was caused by benzene or other petrochemical
19 hydrocarbon solvents, correct?

20 MS. KAHN: Objection. Lacks foundation and
21 calls for speculation. It assumes that the
22 non-Hodgkin's lymphoma was the correct diagnosis and
23 no other interpretation could be derived from the
24 medical records.

25 THE WITNESS: Well, I have to confirm for

1 myself that the medical record indicates non-Hodgkin's
2 lymphoma being diagnosed, and -- and I also, as I
3 mentioned, looked for other things because the
4 literature on other risk factors is really, I think,
5 changing a lot more than the benzene and petroleum
6 solvent literature in the sense that there are a lot
7 more new studies going out. So I was also reviewing
8 his medical records to see about any other possible
9 risk factors.

10 BY MR. HANLEY:

11 Q Do you have an opinion that Mr. Molina has
12 any risk factor for non-Hodgkin's lymphoma to a
13 reasonable degree of medical certainty?

14 A I think the reason for his non-Hodgkin's
15 lymphoma is not known.

16 Q So it's an idiopathic cancer?

17 A Correct. There are -- there are some things
18 that -- that -- other risk factors that have been
19 studied that I would put in the -- more in the
20 possible category that he has, but none that have
21 been -- you know, my opinion none that have been
22 clearly causally related to non-Hodgkin's lymphoma.

23 Q Okay. So you believe that his cancer is
24 idiopathic, correct?

25 A The cause is not -- yeah, idiopathic,

1 meaning the cause is not -- we don't know the cause.

2 Q And you do not believe that Mr. Molina's
3 weight or any obesity that he may have was a
4 substantial factor in contributing to his risk for
5 developing non-Hodgkin's lymphoma; is that correct?

6 A All I can say is this. It may be, but I
7 can't say that for certain.

8 Q You cannot say to a reasonable degree of
9 medical certainty that this weight was a substantial
10 factor contributing to his risks for developing
11 non-Hodgkin's lymphoma; is that correct?

12 A That's correct.

13 Q And the same would be true for any exposure
14 to pesticides that he may have had in his life?

15 A That's correct.

16 Q Would the same be true for any
17 noninflammatory steroid drugs that he may have ever
18 taken in his life?

19 A Yes.

20 Q Would the same be true for any HIV infection
21 that he may or may not have ever had in his life?

22 A Well, if he had had HIV, I would say it was
23 involved, but I didn't see anything in the medical
24 record that indicated to me that he had HIV infection.

25 Q Did you see anything in the medical records

1 to lead you to believe that he had been taking any
2 drugs which caused immunodeficiency in him?

3 A No.

4 Q And so you don't believe that drugs which
5 cause an immunodeficiency are a substantial factor in
6 contributing to his risks for developing non-Hodgkin's
7 lymphoma to a reasonable degree of medical certainty,
8 correct?

9 A That's correct.

10 Q And would the same be true for any other
11 potential or possible causes of non-Hodgkin's lymphoma
12 currently being investigated as causes of
13 non-Hodgkin's lymphoma?

14 A Yes.

15 Q You said that the medical articles that you
16 brought here have tabs on them, and did I understand
17 you to say that the color of the tabs have some
18 particular significance?

19 A For the most part, especially this --
20 there's one file here that includes -- let me see if
21 this is the one. Yeah, especially this file where
22 there are lots of studies that deal with certain
23 solvents as well as benzene. The benzene is in green
24 and the solvents are in yellow, and the red markers
25 might be something different, like occupation or -- or

1 something like that.

2 Q And that collection of articles that you're
3 holding in your hand, what is the -- what is that
4 collection? Why is it separated from the other
5 collections of articles?

6 A As I said, these are case-control studies,
7 almost all of them, and they're ones in which -- in
8 which because they're case-control studies, meaning
9 they're studies of non-Hodgkin's lymphoma and risk
10 factors for non-Hodgkin's, examination of various
11 either exposures or occupations or -- or whatever.
12 Often these studies will deal with both benzene and
13 other solvents, including chlorinated solvents
14 sometimes. So that's why they're in this pile.

15 I have a -- I have a separate collection of
16 cohort studies that have to do with benzene exposures,
17 and cohorts means you have a group of workers who were
18 exposed to benzene and you're comparing them to either
19 people who are not exposed or to the general
20 population in terms of cancer rates.

21 And then I have another collection that
22 deals specifically -- well, those are the two main
23 collection of articles, although I have another
24 collection of people who were involved in -- in --
25 mostly cohort studies that had to with exposures to

1 toluene or to -- or these were people who were, like,
2 painters, like some underlying studies that looked at
3 painters who were exposed to toluene and other kinds
4 of solvents that might be at issue in this case.

5 And then I have another folder that has to
6 do with -- with the question of chemical interactions,
7 which has to do with benzene threshold effects and how
8 certain chemicals like toluene can actually inhibit
9 the metabolism of benzene to the -- I mentioned that
10 benzene has to be metabolized in order to produce the
11 metabolites that we think are associated with
12 producing AML, and concurrent benzene -- toluene
13 exposure inhibits that kind of metabolism. So it's
14 been found to reduce the, for example, chromosomal
15 aberrations that are produced by benzene. So I have a
16 file on that.

17 Q Does that mean having exposure to benzene
18 and toluene at the same time increases the adverse
19 impact of the benzene, or are you saying it's the
20 other way around?

21 A It's the other way around. It appears to
22 decrease it.

23 Q Did I interrupt you? I'm sorry.

24 A Well, I don't know if you wanted me to
25 describe all of these files.

1 Q I do. Let me ask you this about them
2 generally. Have you attempted to include a
3 comprehensive collection of articles, whether they
4 support your opinions or are contrary to your
5 opinions?

6 A Yes, I have. I have.

7 Q And is that included here, what we have here
8 today?

9 A Yes. And I can't guarantee I have every
10 single article, but I have all the articles I could
11 find.

12 Q All right. And it's your intention to
13 include whatever helps you or doesn't help you; is
14 that right?

15 A Yes.

16 Q All right. Let's go through each collection
17 and have you briefly describe what that particular
18 collection is and why it's, you know, in the same
19 bucket, for example, same folder, and then -- and have
20 you describe the different ones and we'll mark them as
21 we go just so we can keep track.

22 A Okay.

23 Q So you've started to do that already with
24 what we'll mark as next in order which will be 5, but
25 why don't you just briefly again describe what the

1 collection is of Exhibit 5.

2 A Okay. Exhibit 5 includes mostly primarily
3 case control studies on non-Hodgkin's lymphoma that
4 also includes exposures to benzene and/or some of the
5 solvents.

6 Q Okay.

7 A And I've also included two other articles.
8 One is in this because I think it's important to
9 evaluate these kinds of studies, and that's the
10 Bradford Hill article and also this little list from
11 Cassarett and Doull about the fact that solvents --
12 there are lots of different kinds of solvents. So
13 these studies have to be looked at with that in mind.

14 Q Okay. We'll mark that as five.

15 A And this is the file in which -- unless I
16 made some mistakes, I have benzene marked with the
17 green and the other solvents marked with yellow.

18 Q Great, thank you.

19 (Whysner Deposition Exhibit 5 was
20 marked for identification and was attached to the
21 deposition transcript.)

22 BY MR. HANLEY:

23 Q The next folder we'll mark as Exhibit 6 and
24 briefly describe what Exhibit 6 is.

25 A These are various cohort studies. For

1 example, the rubber workers, studies of rubber
2 workers. Oh, I just realized that there was one in
3 here that was a recent one that just came out, but I
4 have it in this folder. It came out in 2007, a more
5 recent rubber worker study by Beall, B-e-a-l-l.

6 It also has people who were exposed to
7 toluene in various industries, and in here I also have
8 the IARC monograph on paint -- painters, because --
9 because toluene is often described in that.

10 MR. HANLEY: That's Exhibit 6.

11 (Whysner Deposition Exhibit 6 was
12 marked for identification and was attached to the
13 deposition transcript.)

14 THE WITNESS: And this file has some -- a
15 few articles on dose response issues for benzene,
16 benzene threshold, the chemical interaction one we
17 just talked about with toluene and benzene, and also
18 the -- my basis for believing that inhibition of
19 Topoisomerase 2, Topo 2 is the -- is a -- not only a
20 mechanism that I believe is most likely for the
21 effects of benzene, but also that that mechanism would
22 have a threshold, and there's some studies that have
23 looked at that particular issue for Topoisomerase 2.

24 MR. HANLEY: We'll mark that as Exhibit 7.

25 (Whysner Deposition Exhibit 7 was

1 marked for identification and was attached to the
2 deposition transcript.)

3 THE WITNESS: This is a file that contains
4 studies of petroleum workers that include information
5 about NHL rates.

6 MR. HANLEY: We'll mark that as Exhibit 8.

7 (Whysner Deposition Exhibit 8 was
8 marked for identification and was attached to the
9 deposition transcript.)

10 THE WITNESS: Except for the Health Watch
11 studies from Australia, which there are various
12 iterations of here, it's one of the groups, but they
13 published a lot of documents.

14 BY MR. HANLEY:

15 Q So that's what's in Exhibit 9 then?

16 A Yes.

17 (Whysner Deposition Exhibit 9 was
18 marked for identification and was attached to the
19 deposition transcript.)

20 THE WITNESS: This file contains all of the
21 benzene cohort studies that have information about
22 NHL.

23 MR. HANLEY: Okay. We'll mark that as
24 Exhibit 10.

25 (Whysner Deposition Exhibit 10 was

1 marked for identification and was attached to the
2 deposition transcript.)

3 THE WITNESS: This is the literature about
4 other risk factors that have been studied, like
5 smoking and obesity, so on and so forth.

6 BY MR. HANLEY:

7 Q None of which particularly apply to
8 Mr. Molina?

9 A Well, they apply to Mr. Molina, but as we
10 said, I can't say that these have been clearly
11 causally related to non-Hodgkin's lymphoma, but I mean
12 they are -- they describe some of the things --
13 characteristics of Mr. Molina, obesity, smoking
14 history, working as an agricultural worker and so
15 forth. So I've included them here.

16 Q Is there any author who suggests that their
17 studies have demonstrated that there is a causal
18 association between non-Hodgkin's lymphoma and any of
19 these other risk factors?

20 A I couldn't tell you without reading the
21 papers if they've actually said that.

22 Q Is there any study that you're aware of that
23 says that smoking is related to non-Hodgkin's lymphoma
24 in a causal way?

25 A I don't know.

1 Q Same question for obesity.

2 A I mean, people -- I mean, what I'm having
3 trouble with is if people have a finding, you know,
4 and some of them do have these findings, these
5 associations, I can't remember if anybody actually
6 used that terminology.

7 Q What? That it's a cause?

8 A Correct.

9 Q And cause being the sense of a causal
10 association. So the association it has a strong
11 enough statistical power to be considered not random
12 and not by chance, but causally associated, there's --
13 you don't know of any studies that say that for
14 non-Hodgkin's lymphoma and smoking or obesity?

15 A No, I don't. I don't know offhand that any
16 studies would say that. As I said before, like with
17 the studies on benzene or solvents, you have to go
18 through and look for consistency. My take is you have
19 to go through and look for consistency among the
20 studies in order to come up with a causal
21 determination, and I've said that I don't think any of
22 these are causally related or have been demonstrated
23 to be causally related, but I can't vouch for what one
24 of the authors might or might not have said.

25 MR. HANLEY: All right. So that is being

1 marked as Exhibit 11, I believe.

2 (Whysner Deposition Exhibit 11 was
3 marked for identification and was attached to the
4 deposition transcript.)

5 THE WITNESS: I'll start a new pile. This
6 is the gasoline toxicological profile from ATSDR, and
7 I've included this because they -- at least when that
8 was written, they had reviewed the studies on
9 gasoline, and gasoline is a petrochemical that has,
10 you know, a percentage of benzene in it.

11 MR. HANLEY: Okay. We'll mark that as 12.

12 (Whysner Deposition Exhibit 12 was
13 marked for identification and was attached to the
14 deposition transcript.)

15 THE WITNESS: And then this is what I call
16 benzene state-of-knowledge file. It has to do with --
17 there are a few documents in here that have actually,
18 I think, been presented by plaintiffs' experts. I
19 think there's the -- there's some old articles from
20 the Journal of Industrial Toxicology -- Journal of
21 Industrial Hygiene & Toxicology. There's an API
22 toxicological review. There's a NIOSH document from
23 1974.

24 MR. HANLEY: Okay. Let's mark that as next
25 in order, Exhibit 13.

1 (Whysner Deposition Exhibit 13 was
2 marked for identification and was attached to the
3 deposition transcript.)

4 BY MR. HANLEY:

5 Q Is that collection of articles in Exhibit 13
6 comprehensive on the issue of what was historically
7 known about benzene and its hazards?

8 A Well, I certainly didn't include every
9 article that has studied benzene or talked about
10 benzene in terms of that. I think -- the reason that
11 a few of these articles are here is that I think
12 plaintiffs' experts had brought up the API review, and
13 so I included that, and also the underlying articles
14 that the API was quoting when they made their
15 statements. And the 1974 NIOSH document speaks for
16 itself. It talked about what was known about benzene
17 at that time.

18 Q All right. What's the last folder you have
19 there?

20 A These are various monographs or -- well, I
21 have -- you probably don't need this since we have the
22 whole thing, but that's from the -- this is from that
23 ATSDR.

24 I have the monograph on rubber industry.
25 Actually, this doesn't need to be in here. This is

1 just a list of all the monographs. The benzene one
2 from 1982, some petroleum solvents, the -- the toluene
3 IARC monograph, toluene and -- no, xylenes is in here
4 as well.

5 Q Okay. Did you have any objection to leaving
6 this list of the IARC monographs in that folder?

7 A No, I don't think so. It's out of date,
8 but -- it stopped with '77, but I can leave it in.
9 That's fine.

10 MR. HANLEY: Okay. Then we'll mark that
11 folder as Exhibit 14.

12 (Whysner Deposition Exhibit 14 was
13 marked for identification and was attached to the
14 deposition transcript.)

15 THE WITNESS: Now, the rest of my
16 materials -- oh.

17 BY MR. HANLEY:

18 Q Go ahead.

19 A Yeah, the rest of my materials are
20 depositions or materials specific in this case. You
21 know, Weisenburger's, Nicas's report, one of
22 Weisenburger's review article, Nicas's deposition
23 testimony. This was the document that I got this
24 morning, Reiss's report, some old summaries of
25 Wilson's deposition, Jones', co-workers, Molina's

1 deposition, some selected medical records, and
2 depositions of Dr. Phan, P-h-a-n, Dr. Meng, M-e-n-g.

3 I excerpted some things from all of these
4 other files that you have a list of. University of
5 North Carolina reports, stuff like that that were --
6 you know, the IH reports that were done at Salinas.
7 Deposition of Dr. Infante. This is the -- another
8 North Carolina IH report. Deposition of Robert Helm.
9 Here are a couple of things that were from Nicas's
10 deposition, things like that. These are all --

11 Q Okay. Does that conclude itemizing
12 everything that you brought with you today?

13 A Everything except the volumes of medical
14 records that I have. They're all in this other box
15 right here (indicating).

16 Q And that's about a banker's box full of
17 medical records?

18 A Yeah.

19 MS. KAHN: For the record, it looks like
20 there are Post-It notes on various pages of the
21 materials that Dr. Whysner has identified.

22 BY MR. HANLEY:

23 Q All right. Can you tell me what the import
24 was of your review of the medical records?

25 A Well, again, the -- as I said, the medical

1 literature has been changing a lot about how they
2 evaluate these other risk factors.

3 First of all, I wanted to make sure that
4 Mr. Molina didn't have what I would consider to be a
5 causally related risk factor: HIV infection,
6 immunosuppressive drugs, family history that would
7 indicate that he might have had some kind of
8 immunodeficiency syndrome.

9 And then there were all of the -- there was
10 other factors, and since I knew that the literature on
11 all of these other things like smoking and obesity and
12 somewhat -- were somewhat of a moving target, I wanted
13 to document whether or not he had any of these other
14 conditions and, you know, just to understand his --
15 his medical history so that I could describe it if
16 asked to do so and the confirmation of his NHL and the
17 type of NHL that he had. Those are the reasons that I
18 reviewed the medical records.

19 Q Would you agree that cancers are usually a
20 result of some environmental exposure?

21 MS. KAHN: Objection. Vague, ambiguous, and
22 overbroad.

23 THE WITNESS: Well, I think causes of most
24 cancers are not known. That's my -- that's what I
25 would -- certainly in terms of an individual. Now, if

1 you include environment, if you include things like
2 smoking and diet and all of that, I would say that
3 cancers can be the -- many cancers can be the
4 interaction of those types of environmental factors
5 with the genetic backdrop of that particular
6 individual or individuals. But environment, when we
7 talk about environment, we're talking about all those
8 things, you know, alcohol, smoking, and so forth.

9 BY MR. HANLEY:

10 Q Causes external to the body is what I'm
11 getting at when I talk about environmental exposures.
12 So whether it's smoking or asbestos or benzene or
13 nickel or whatever it is, most cancers are caused by
14 some sort of toxic exposure to the target cell; is
15 that correct?

16 MS. KAHN: Objection, overbroad. Vague.
17 Ambiguous.

18 THE WITNESS: I don't know if I could
19 characterize it as most cancers. All I can say is
20 that we know that there are certain what we call
21 potentially preventable cancers which have been
22 studied and -- and many of those can be related to
23 environmental factors like the ones you described.

24 BY MR. HANLEY:

25 Q Do you have an opinion as to what percentage

1 of cancers that occur are potentially preventable
2 cancers as you've described them versus spontaneous
3 cancers that arise for literally just no reason?

4 A Well, that'd be very difficult to do. I
5 mean, you know, the largest cause of cancer in women
6 is breast cancer and the major risk factor for breast
7 cancer is estrogen and most of the estrogen is
8 internally generated and so things like that make it
9 difficult to make those kind of determinations. Is it
10 preventable if the woman had an oophorectomy when she
11 was young. Could you prevent her cancer? Would you
12 really call that a preventable cancer? I think that's
13 a different thing to try to quantify.

14 Q Are you aware of any cancers that have been
15 established to be spontaneous as in not like the
16 example you gave where there's estrogen is considered
17 a causative factor, but where there's not only no
18 known cause, but it's determined that that cancer is
19 somehow just spontaneous?

20 MS. KAHN: Objection, vague. Ambiguous.
21 Overbroad.

22 THE WITNESS: I'm having a little trouble
23 with the word "spontaneous." We know that certain
24 cancers are very genetically determined. The example
25 I gave about -- I mean, breast cancer with estrogen,

1 since, you know, a woman's estrogens are generated by
2 their own body, then, in essence, even if the estrogen
3 were involved, it would still be sort of spontaneous,
4 I guess.

5 I mean, there are obviously some cancers
6 like lung cancer that we know are strongly related to,
7 you know, both smoking and from an occupational
8 standpoint asbestos exposures, but there are other
9 cancers where most of them we don't seem to see any
10 cause for that kind of cancer, like non-Hodgkin's
11 lymphoma, and so I would -- I would say that most
12 non-Hodgkin's lymphoma is idiopathic and I guess one
13 could characterize that as spontaneous, although I
14 don't -- that's not really -- I don't know that's
15 really a good medical term to use.

16 BY MR. HANLEY:

17 Q Do you agree that for most people, even if
18 they have a genetic predisposition, they won't get a
19 given cancer without exposure to some environmental
20 toxin such as cigarette smoke; is that right? I mean,
21 someone can be genetically predisposed to getting lung
22 cancer but that genetic predisposition won't end up
23 resulting in cancer unless there's exposure to a
24 carcinogen like cigarette smoke or asbestos or both or
25 something like that; is that true?

1 MS. KAHN: Objection. Overbroad, compound,
2 vague, and ambiguous.

3 THE WITNESS: I don't think so. For
4 example, let's take the cancers that are related to
5 something called Li-Fraumeni syndrome. These are
6 people who have a mutated P53 gene, okay, and we know
7 that P53 genes are very important in cancer causation.
8 These people have a very high incidence of breast
9 cancer, brain cancer, and also I think cancer of the
10 colon.

11 In that case -- just take the brain cancer,
12 for example. We don't know the causes of any brain
13 cancers. There's never, I mean, been convincingly
14 described except for ionizing radiation a chemical
15 cause, but we do know that people who get brain
16 cancer, and it's mostly in men in their 30s and 40s
17 get a type of brain cancer that starts out with P53
18 mutation, just like the people who have this
19 Li-Fraumeni syndrome.

20 I think we can be pretty certain that what's
21 called loss of heterozygosity takes place in people
22 who have Li-Fraumeni syndrome without any kind of
23 chemical interaction, because these kind of events can
24 occur just through cell replication. There are errors
25 that occur, genetic errors that occur when cells are

1 replicating their DNA, and through that mechanism we
2 know we can get these kinds of -- instead of just
3 having one P53 gene mutated, we can get the other P53
4 gene mutated as well spontaneously.

5 And so I think there's good evidence that
6 many -- that's an example, but there's evidence that
7 other people have these kind of genetic defects and
8 they can be -- they can -- they can -- they're very
9 prone to getting cancer without any kind of
10 environmental interaction.

11 BY MR. HANLEY:

12 Q Is the P53 gene a tumor suppressor gene or
13 an onco gene?

14 A Tumor suppressor gene.

15 Q And the P53 tumor suppressor gene can suffer
16 genetic mutations from, for example, exposure to
17 asbestos; isn't that right?

18 A Well, I think it can -- from a number of
19 agents, yes, it can.

20 Q And that includes benzene, doesn't it?

21 A I don't know that P53 mutation has ever been
22 particularly associated with benzene exposure. A lot
23 of genetic mutations and translocations -- not genetic
24 mutations, but deletions, translocations, and
25 trisomies that have been associated with benzene are

1 found to occur, but I don't think that's one of them,
2 you know, but I'm -- I'd have to look that up.

3 Q You suggested, and I think it was in Exhibit
4 11 or 12, but you can tell me, that there were certain
5 articles that supported your idea or your opinion that
6 there is a threshold below which benzene does not
7 cause AML. Can you direct me to those studies which
8 you believe support that opinion?

9 A Yes. Well, one of them is the Rinsky study,
10 where -- where there -- from exposures of zero to 40
11 ppm years, and that's laid out in their '87 paper,
12 where they didn't find any increase, and they didn't
13 find any statistically significant increase until you
14 get over 200 parts per million years.

15 Q So that's one of the articles contained in
16 Exhibit 10?

17 A Right.

18 Q And do they say that they're -- that they
19 find that there's a threshold below which there's not
20 a risk for developing cancer?

21 MS. KAHN: Objection. The article speaks
22 for itself.

23 THE WITNESS: I don't know that they have
24 used the word "threshold" in their article. I mean,
25 I'd have to read it through again to see that they did

1 but --

2 BY MR. HANLEY:

3 Q Is it fair to say then you don't know
4 whether they do or not, but that's your interpretation
5 of their data?

6 A Well, that's my interpretation of their
7 data. I don't see them saying that here, but, like I
8 said, in the zero to 40 ppm years, the standardized
9 mortality ratio was basically 1. It was 1.09. So
10 that's -- but this is just part of my -- I mean,
11 there's the epidemiological basis and then there is
12 also the -- the mechanistic basis, which is my
13 analysis of the genotoxicity literature, my papers
14 included in that file, leads me to believe that the
15 best explanation for the way in which benzene causes
16 acute myelogenous leukemia is through inhibition of
17 this enzyme called Topoisomerase 2, and that type of
18 toxicity would be expected to have a threshold because
19 you'd have to -- you'd have to inhibit a certain
20 amount of that enzyme before you would begin to see
21 chromosomal breaks and translocations, and there is --
22 there's some substantiation for that in the scientific
23 literature as well.

24 Q I'd asked you to direct me to any articles
25 that support your opinion that there is a threshold

1 below which benzene does not confer a risk for
2 developing cancer at all, including AML. You've
3 pointed me to the Rinsky article.

4 Is there any other scientific or medical
5 publication that you can point me to that supports in
6 your opinion your belief that there is a threshold
7 below which benzene is not a cancer risk?

8 A Well, so when I was talking about what we
9 call biological plausibility, meaning the mechanism
10 and what we believe is true about the mechanism and
11 how that mechanism could have a threshold, I thought I
12 was being responsive to your question.

13 Q Okay. Which article in particular are you
14 referring me to?

15 A Oh, okay. Okay. Well, these would be in
16 part of Exhibit 7. There's an article by Lynch called
17 Investigations Into the Concept of a Threshold For
18 Topoisomerase Inhibitor Induced Clastogenicity.
19 Benzene is considered to be a clastogen.

20 There is an article -- I got the web site
21 from FDA because a lot of drugs are Topoisomerase
22 inhibitors, and so FDA's interested in this issue
23 about whether or not there is a threshold.

24 And I reviewed -- as I mentioned, I reviewed
25 the studies on genotoxicity that lead me to that

1 belief of the mechanism.

2 Q Identify that article, please.

3 A It's an article that I wrote in mutation
4 research and was published in 2004.

5 An article by David Eastman about
6 Topoisomerase 2 inhibition. And there are several
7 other articles in here that are -- whoops. I got a
8 second copy of the -- of the Lynch article in here.

9 This is an article about a drug called
10 bimolane, which I think is about the closest to
11 benzene -- you know, the Topoisomerase inhibitors are
12 used as anticancer drugs, and in their anticancer drug
13 treatment, they cause a certain number of secondary
14 leukemias, acute myelogenous leukemias as well, which
15 is another reason to believe that Topoisomerase
16 inhibition, which has been shown to occur with benzene
17 metabolites, is a likely or plausible mechanism for
18 the development of acute myelogenous leukemia because
19 we know it has in people with certain Topoisomerase
20 inhibitors.

21 Q Okay. So are there any other articles then
22 that support your opinion that there's a threshold
23 below which benzene does not pose a risk for cancer?

24 A All I can say is there are a few other
25 articles in this file that also deal with this

1 Topoisomerase thing.

2 Q Which file is that?

3 A This is that -- the file in Exhibit 7 called
4 Benzene Threshold Topo 2.

5 Q Okay.

6 A And then there's a file in there also that
7 has to do with the chemical interaction, saying that
8 if benzene -- if there's an exposure to benzene and
9 toluene, it inhibits the benzene effects, which I
10 consider that to be also part of the threshold issue
11 when we're talking about AML and solvents that contain
12 benzene, that the other constituents of those solvents
13 inhibit the ability of benzene to produce leukemia as
14 well, which would be part of the threshold argument.

15 Q How do you know that they do?

16 A Well, like I say, there are some studies
17 that say that they inhibit the metabolism of benzene
18 to its metabolites, and those are the metabolites that
19 I think are pretty universally agreed upon are
20 involved in the formation of acute myelogenous
21 leukemia, that benzene has to be metabolized, and if
22 toluene inhibits the benzene -- the metabolism of
23 benzene to those metabolites, then it should inhibit
24 its effects.

25 But getting back to the other, there's

1 another study by Constantini. Where is it? That
2 might be in the -- well, there's an article by
3 Constantini in which he finds a similar dose response
4 relationship with no increase documented until above
5 40 parts per million.

6 Q All right. And is that everything then that
7 supports that opinion?

8 MS. KAHN: I'm just going to object to the
9 extent it calls for speculation. The witness said he
10 didn't review all the leukemia literature because this
11 isn't a leukemia case. So a question asking if that's
12 all the literature on the subject I think calls for
13 speculation.

14 MR. HANLEY: Okay, thanks, Coach Ruth.

15 BY MR. HANLEY:

16 Q Doctor, have you described everything that
17 you believe supports your opinion that there's a
18 threshold below which benzene does not cause cancer?

19 A Well, the other studies -- well -- well,
20 there are some studies. Like there's a study Bloemen,
21 B-l-o-e-m-e-n, 2005, and they have cumulative exposure
22 benzene with -- we're talking about AML essentially.
23 They call it acute nonlymphocytic leukemia. Less than
24 28.3 parts per million and the SMR is .87, but this is
25 actually a smaller study than the Rinsky study. So

1 that would support it as well, and the -- I don't know
2 that I have the right papers from the Chinese study
3 with me for that. It might be in one of the other
4 folders.

5 Q So are you saying you would add the Chinese
6 study?

7 A I can't remember right now how. I know they
8 didn't -- I'm pretty sure they didn't find any
9 statistically significant unless you get above 40 ppm
10 years, but I don't remember what the SMR was below 40,
11 whether it was so close to one or not or whether there
12 were other doses involved. I can't remember right
13 now.

14 Q All right. Setting aside that point then,
15 can you point me to any scientific literature or
16 governmental regulatory agency or any statements in
17 any of these documents or any that you're aware of in
18 the published literature where the author concludes
19 that -- and states explicitly that there is a
20 threshold below which a person is not at risk for
21 cancer from benzene?

22 A You mean -- well, first of all most -- in
23 most of these cases, for example for the government
24 agencies, the way in which they proceed with doing
25 a -- most of the conclusory statements are made by

1 these regulatory agencies, and regulatory agencies in
2 some cases have come to the conclusion that some
3 chemicals would not cause an increase in cancer before
4 you reach a certain dose. But I don't believe they
5 have come to that conclusion regarding benzene at this
6 time.

7 Q Are you able to direct me to anywhere in the
8 published literature anyone who says that there is, in
9 fact, a threshold below which benzene does not confer
10 a risk for developing cancer?

11 MS. KAHN: Objection, asked and answered.

12 THE WITNESS: Well, all I can say -- all I
13 can do is again talk about the -- the -- what is
14 available in the literature, and that is that it
15 hasn't been demonstrated to occur above a certain
16 dose, but I don't know that I could -- I could answer
17 that question for you in terms of other -- what other
18 people have said.

19 BY MR. HANLEY:

20 Q Well, if you don't know of anywhere in the
21 literature where someone has said there is a threshold
22 below which benzene does not confer a risk for
23 developing cancer, then the answer is no, you don't
24 know of that. Whether it exists out there somewhere
25 and you can't remember it or it exists out there and

1 you've never seen it or you've never seen it because
2 it doesn't exist out there, I understand it could be
3 any one of those three possibilities.

4 But as you sit here today, are you able to
5 point me to any literature where the author states
6 that there is a threshold below which benzene does not
7 confer a risk for development of cancer?

8 MS. KAHN: Objection, the literature speaks
9 for itself.

10 THE WITNESS: I believe there is, but I
11 couldn't point you to which specific article might
12 have said that. I mean, I believe I have read that.
13 I remember that, but I can't really point you to the
14 particular article right now.

15 BY MR. HANLEY:

16 Q All right. Would you agree that a cohort
17 study that shows both a causal connection between an
18 agent and a given cancer and also a dose response
19 relationship is especially persuasive on the issue of
20 causation?

21 MS. KAHN: Objection. Overbroad, compound,
22 vague, and ambiguous.

23 THE WITNESS: I don't believe a single study
24 can establish a causal relationship, so I don't agree
25 with your premise, or if that was a premise. But I

1 just don't agree with the statement you just made.

2 BY MR. HANLEY:

3 Q Would you agree that it is of significance
4 when a study shows or a cohort epidemiological study
5 shows not only an association statistically
6 significant with sufficient power but also a dose
7 response relationship, that those two elements being
8 contained in a single cohort is of significance in
9 evaluating that piece of literature?

10 MS. KAHN: Same objections.

11 THE WITNESS: Not necessarily, and the
12 Chinese study is a good example, and I mentioned that
13 because they do have -- if you look at it sort of on
14 face value, they had an increase in relative risk
15 which was at least of borderline statistical
16 significance or it depends on how they analyze the
17 data. But on the other hand when the authors later
18 looked at the differences among different industry
19 groups -- this is from Rinsky 2000 -- they said, "We
20 noted, however, that an excess of NHL was found in our
21 study," but they also said, "which could potentially
22 be attributed to other exposures as the excesses were
23 significant only in the subset of benzene-exposed
24 chemical workers."

25 So you can have a study that shows an

1 increased cancer rate and you can have a study, that
2 same study could show a dose response relationship,
3 but you can't rule out the fact that that dose
4 response relationship and the other is due to the fact
5 that other chemicals might be involved and that when
6 people get a greater dose of benzene, they're also
7 getting a greater dose of these other chemicals
8 because of concurrent exposures. And this is, I
9 think, what the -- what Hayes, et al., in 2000 were
10 referring to.

11 So, again, a single study, even if it has an
12 elevated rate of cancer and a dose response
13 relationship, does not necessarily mean that it shows
14 a causal relationship. You have to look at other
15 studies like the Rinsky study or the Bloemen study or
16 the Collins study and see whether or not there is a
17 consistency among those studies that would -- that
18 would lead you to believe that there is a causal
19 relationship.

20 BY MR. HANLEY:

21 Q Are you suggesting that somehow because a
22 cohort demonstrates a causal association from an
23 increased relative risk and a dose response
24 relationship that somehow that suggests that
25 confounding factors might be involved?

1 A I don't think that's what I said. I said --
2 I know of -- the example, and since we're talking
3 about benzene and NHL, I brought up this example, and
4 I'm just saying that -- I believe your previous
5 question was how much weight do you give to a study
6 because it has both of those elements, and what I was
7 saying, if we're talking about what we're talking
8 about here, which is benzene and NHL, then there is a
9 prime example of something where you did have to take
10 those confounding chemicals into account.

11 Can we take a short break? Are we moving
12 into something else?

13 Q Sure, that's fine.

14 (Recessed at 2:28 p.m.)

15 (Reconvened at 2:33 p.m.)

16 BY MR. HANLEY:

17 Q Is it your opinion, sir, that exposures to
18 benzene up to 40 ppm years of total cumulative
19 exposures are safe and do not confer a risk of cancer?

20 MS. KAHN: Can I have the question read
21 back, please.

22 (The reporter read the record as
23 requested.)

24 THE WITNESS: Well, based on the fact that
25 AML is the only cancer that has been causally related

1 to benzene and there is no increased risk below 40, I
2 would say yes.

3 BY MR. HANLEY:

4 Q What is your confidence in the dose
5 reconstructions used to report those numbers of 40 ppm
6 years in the literature for reasonable and scientific
7 accuracy? How do you know that the cohorts are, in
8 fact, exposed to that high of levels?

9 A Well, the reconstruction is documented in a
10 paper by Rinsky, et al. You know, the Rinsky study
11 was done by NIOSH, as I'm sure you're aware. It also
12 involved Dr. Infante, and so these dosage
13 reconstructions are documented in American Journal of
14 Industrial Medicine, 1981, and these have been
15 examined by others as well, including the U.S. EPA,
16 and I know that Dr. Crump -- I have in here the Iris
17 overview, and they talk about the -- using -- they
18 used the Rinsky study for their -- their risk
19 assessment that they do for benzene. And so it's been
20 looked at by EPA, and I think Crump was a contractor
21 for EPA who looked at that dose reconstruction. So I
22 have a reasonably high confidence in it.

23 Q Is there any level of toluene below which
24 you believe it does not confer a risk of cancer?

25 A Well, toluene has never been, as far as I

1 know, found to cause any form of cancer, and one of
2 the -- and I believe that includes in animals,
3 experimental animals. So it's not classified as
4 either a human carcinogen or an animal carcinogen.
5 The last time that IARC looked at it, they -- they put
6 it in group 3, which means that it's -- it's not
7 either a human or an animal carcinogen.

8 Q So you don't believe there's any level of
9 toluene that confers any risk of cancer?

10 A That's correct.

11 Q What level of ppm years confers any risk of
12 cancer from total petrochemical hydrocarbon solvent
13 exposure?

14 MS. KAHN: Objection. Overbroad, compound,
15 vague, and ambiguous.

16 THE WITNESS: Well, again, the -- the -- I
17 don't believe that there has ever been a type of
18 cancer that has been causally related to total
19 hydrocarbon or at least petrochemical hydrocarbon
20 exposure. The IARC reviewed solvents, and they were
21 talking about petrochemical solvents, and the last
22 time they reviewed it, I believe they also put it in
23 group 3, non -- not classifiable, which means that
24 they didn't find them to be either animal carcinogens
25 or human carcinogens.

1 BY MR. HANLEY:

2 Q So is that to say it's your opinion that
3 there is no level of ppm years of petrochemical
4 hydrocarbon solvent exposures that you believe confers
5 any risk of cancer?

6 MS. KAHN: Objection. Overbroad, misstates
7 the witness's testimony, compound, vague, and
8 ambiguous.

9 THE WITNESS: All I can say is not that has
10 ever been found in studies.

11 BY MR. HANLEY:

12 Q So it's your opinion that no matter how many
13 total petrochemical hydrocarbon solvent ppm years
14 someone may have suffered exposure to, they will not
15 be at risk for any form of cancer?

16 MS. KAHN: Same objections.

17 THE WITNESS: As far as we know, no. As far
18 as we can base it on the scientific -- medical
19 literature, that's true.

20 BY MR. HANLEY:

21 Q What -- what hydrocarbon petrochemical
22 solvents do you believe are capable of conferring a
23 risk of cancer, other than benzene?

24 A I can't think of any. I don't believe there
25 are that have been demonstrated.

1 Q How do you define petrochemical hydrocarbon
2 solvents?

3 A Hydrocarbon solvents that have been derived
4 from petroleum.

5 Q And what are hydrocarbon solvents?

6 A They contain hydrogen and carbon.

7 Q And is both benzene and toluene a
8 petrochemical hydrocarbon solvent?

9 A Yes.

10 Q What are all of the petrochemical
11 hydrocarbon solvents that Mr. Molina was exposed to in
12 his work at the Salinas Firestone facility?

13 MS. KAHN: Objection, overbroad. Lacks
14 foundation.

15 THE WITNESS: Well, I can -- I mean, what
16 was the list of constituents? I would have to base it
17 upon looking at the -- the -- what I remember from the
18 MSDSs, and mostly hydrocarbon solvents are involved
19 with -- or have paraffinic alkanes. They're various
20 lengths. Then there are aromatic chemicals such as
21 benzene, toluene, xylenes, and -- and then there would
22 be other smaller components such as like ethyl
23 benzene, and I believe I remember seeing those in the
24 list of components of -- of -- well, at least they
25 would be -- let's put it this way. They would be kind

1 of typical of hydrocarbon petrochemical solvents
2 having those -- those kinds of constituents.

3 BY MR. HANLEY:

4 Q How many different petrochemical hydrocarbon
5 solvents do you believe Mr. Molina was exposed to at
6 the Firestone facility?

7 MS. KAHN: Objection, calls for speculation.

8 THE WITNESS: I -- I was not asked to really
9 look at that. I mean, I saw mention of a couple of
10 Firestone numbers, and I looked at some of those. I
11 think there was 356 and 374. Those are the two that I
12 remember. But, I mean, I don't really have an opinion
13 as to -- as to whether or how much of those chemicals
14 he was exposed to because that was not something I was
15 asked to look at.

16 BY MR. HANLEY:

17 Q Is there not a body of literature relating
18 to the association between exposure to petrochemical
19 hydrocarbon solvents as a class and the development of
20 cancer?

21 THE WITNESS: Can you repeat that question.

22 (The reporter read the record as
23 requested.)

24 THE WITNESS: Well, there's certainly the
25 petroleum worker studies who at least have the

1 opportunity for exposure to all kinds of petroleum
2 products, some of which would be included in the
3 solvents and including gasoline. There are studies
4 of -- and I've included those in my files. There are
5 studies of -- of people who work in the -- who are
6 painters who were involved with petrochemical
7 solvents, but they'd also be exposed to a lot of other
8 things as well.

9 There are people who were exposed to
10 gasoline that have been studied, and then I have a
11 whole file of, as I mentioned, case-control studies of
12 non-Hodgkin's lymphoma when they've asked questions
13 about exposures to certain, you know, solvents.
14 Sometimes they've specified specifically that they
15 were petroleum-derived hydrocarbon solvents. Most of
16 the times they don't.

17 BY MR. HANLEY:

18 Q Has not both IARC and the EPA stated
19 explicitly that there is no known threshold below
20 which benzene does not confer a risk of cancer?

21 A Well, I'm pretty sure that IARC has never
22 said that, and I -- I don't know about the EPA.

23 Q Has not IARC reported that with respect to
24 benzene there is no known threshold?

25 A No, I don't think they have.

1 Q Have you had a chance to get from your
2 office the number of hours that you've billed in this
3 case so far?

4 A Oh, when I took that break, I forgot to call
5 them, but I could do that.

6 Q At Washington Occupational, part of what you
7 do is -- for that company is consult as a -- consult
8 in litigation; is that correct?

9 A Yes.

10 Q And part of what you do is -- for that
11 company is litigation support for clients who have
12 hired you in litigation?

13 MS. KAHN: Objection, vague and ambiguous.

14 THE WITNESS: Well, let me see if I
15 understand what you mean. Litigation support meaning
16 that I'm consulting with them before they have
17 designated me as an expert witness. Is that --

18 BY MR. HANLEY:

19 Q Sure.

20 A Okay, yes.

21 Q Would you describe how Washington
22 Occupational Health lends support to companies in
23 litigation?

24 MS. KAHN: Objection to the extent the
25 question calls for speculation.

1 THE WITNESS: Well, I can tell you what I
2 do. I can't really speak for everybody at Washington
3 Occupational Health, but they lend support to me
4 sometimes by helping me with literature reviews.

5 BY MR. HANLEY:

6 Q Who's they in that sentence?

7 A They would be research associates or
8 assistants who --

9 Q For Washington Occupational?

10 A Yes.

11 Q Okay.

12 A So they would help me with that. Sometimes
13 I've asked them to review medical records for me. I
14 haven't done that in this case, but in some other
15 cases, another physician has assisted me in reviewing
16 medical records. We -- of course, you know, in terms
17 of litigation consulting, I think a large part of what
18 we do is to help the attorney understand the case
19 better, understand the literature, provide feedback
20 regarding the medical records and what the literature
21 shows that is relevant to the case and, you know, of
22 course sometimes I'm asked to write a report. I
23 wasn't asked to do that in this case.

24 Q Do you know why you weren't asked to do that
25 in this case?

1 A My understanding -- I mean, I'm not a
2 lawyer. So my understanding is certain jurisdictions
3 require reports and certain jurisdictions don't
4 require reports, but that's as far as I can sort of
5 speculate on that answer.

6 Q The medical surveillance work that
7 Washington Occupational Health engages in, is that
8 largely on behalf of -- or paid for by insurance
9 companies?

10 A Most of the work we do, as I said before, is
11 work directly for the federal government.

12 Q Is it fair to say in the last several years
13 about 50 percent of your work at Washington
14 Occupational is litigation-related work?

15 MS. KAHN: Objection, asked and answered.

16 THE WITNESS: Yeah, I think I indicated it
17 varies somewhat, but I would say recently it's been
18 more. It's been somewhere between 50 and 70 percent,
19 something like that.

20 BY MR. HANLEY:

21 Q Actually I think this morning you said 50 to
22 75 percent. Does that sound right?

23 A Oh, okay. 50 to 75.

24 Q And is that true for the last several years?

25 MS. KAHN: Objection, asked and answered.

1 THE WITNESS: No. It's varied. I think
2 it's -- as I said, it depends upon the year, and in
3 the past I've done more work with Superfund sites and
4 administrative hearings related to things like
5 permitting power plants, things like that, and as I
6 mentioned before, until 2002 my primary employer was
7 not Washington Occupational Health. I was at a
8 research institute, where I was doing research.

9 BY MR. HANLEY:

10 Q In the Topo 2 work that you talked about
11 earlier that was sponsored by the API, was that
12 sponsorship disclosed on the face of the publication?

13 A Yes, I believe so.

14 Q And would you agree that it's important to
15 disclose the funding for research on the face of the
16 publication of it?

17 MS. KAHN: Objection. That's vague and
18 ambiguous. Important for what purpose? Important to
19 whom?

20 THE WITNESS: Well, I think it's -- it's the
21 convention to do it now. I mean, that has changed
22 over the years by the way. You know, people didn't
23 used to do that, and I would say over the past ten
24 years there's been more and more of a tendency that
25 people are -- either do it. They're often required by

1 the journal that they're publishing in to do it. I
2 mean, I have to go back and check, but let me just
3 look and make sure I didn't give you the wrong answer
4 on that, but I'm pretty sure that we disclosed that in
5 our publication.

6 Yes, we did.

7 BY MR. HANLEY:

8 Q And my last question was, do you believe
9 it's important to disclose such information generally
10 for authors publishing their findings and conclusions
11 in peer reviewed scientific literature, do you believe
12 that it's important that, as a general proposition,
13 those authors disclose their funding sources?

14 MS. KAHN: Objection, vague and ambiguous.

15 Asked and answered.

16 THE WITNESS: I think that it's a good idea.

17 BY MR. HANLEY:

18 Q And why is that?

19 A Because I think that some -- it's important
20 to know if somebody is -- you know, for example, this
21 last go-around about the study that was funded by the
22 tobacco companies that had to do with the idea that
23 you could discover lung cancer 80 percent through CT
24 scans, I think it's important for people to know that
25 that information was funded by tobacco companies

1 because you would look at that -- I think as people
2 described it, people would look at that with some
3 skepticism, more skepticism, and scientists tend to be
4 skeptical about things, and I think you'd look at it
5 with more skepticism if you knew it was funded by a
6 tobacco company.

7 Q Now, is it correct that you worked on the
8 Topo 2 research for about 40 years consuming about 20
9 to 30 percent of your time during those years?

10 A No.

11 Q How would you accurately state that?

12 A Topoisomerase, it certainly wasn't 40 years.
13 It might have been four years.

14 Q I thought that's what I said.

15 A Oh, I'm sorry. I thought you said 40 years.

16 Q No, I'm sorry. I meant -- if I did, I
17 misspoke. I meant to say 4 years.

18 A Four years and what was the percentage?

19 Q About 20 to 30 percent of your time.

20 A I think that's probably right, somewhere in
21 that ballpark.

22 Q And the funding provided for that was on the
23 order of about a quarter million dollars?

24 A I don't specifically recall, but I wouldn't
25 argue with that. I mean, is that an answer I gave in

1 another case or something?

2 Q I'm just asking.

3 A Well, I can't specifically recall right now,
4 but I wouldn't -- I mean, I didn't receive the
5 funding. The American Health Foundation received the
6 funding to do that work, and it was not specifically
7 to look at Topoisomerase 2. The project was to
8 analyze all the genotoxicity information and to come
9 up with what we thought added to the understanding of
10 the development of AML, and that was something that we
11 came up with on our own. I mean, it had been
12 suggested in the literature by David Eastman, but it
13 sort of actually surprised us that all the
14 genotoxicity literature seemed to fit that particular
15 model.

16 Q And how were you compensated for that -- for
17 the work on that study? On an hourly basis or as
18 getting a portion of the grant and then having certain
19 things that had to be accomplished for that? How did
20 that work?

21 A No. I was just a salaried employee of
22 American Health Foundation. Didn't change my
23 compensation at all.

24 Q Now, it's a presumption maintained,
25 including maintained through today, by the EPA and the

1 World Health Organization and IARC that there is a no
2 threshold model for carcinogens, correct?

3 A Well, there's -- there's been a lot of
4 discussion about this. First of all, let me just
5 clear one thing up. IARC in general does not get into
6 dose response issues. They get into what we call
7 hazard identification. They're strictly involved with
8 classifying carcinogens based upon the data. So it
9 would surprise me if IARC would have made a stand --
10 or a stance on this because IARC doesn't do
11 quantitative risk assessment work.

12 Q Well, you have seen where the IARC has
13 published, for example relating to asbestos, that not
14 only is there no known threshold below which it does
15 not confer a cancer risk, but also that that is true
16 for all types of asbestos, including chrysotile.

17 Have you seen their monograph on that, which
18 I dare say states just exactly what I said?

19 MS. KAHN: Objection, beyond the scope of
20 the witness's assignment. Beyond the scope of our
21 expert witness designation in this case.

22 THE WITNESS: I haven't seen that.

23 BY MR. HANLEY:

24 Q If that does exist, that would be
25 inconsistent with what you're describing being the

1 normal practice at IARC as you were just describing in
2 your answer; is that right?

3 MS. KAHN: Objection, lack of foundation.
4 Beyond the scope of this witness's designation.

5 THE WITNESS: My -- my -- what I know about
6 IARC, and like I said, I've worked on the working
7 groups, we don't get into what happens at different
8 doses. I'm not disputing the fact that IARC might
9 have done a special publication on something like
10 asbestos, but I certainly don't -- it wouldn't fit
11 with what I know that IARC's mission is.

12 BY MR. HANLEY:

13 Q Is there a presumption maintained by the EPA
14 and IARC and the World Health Organization of a known
15 threshold model for carcinogens?

16 A For risk assessment purposes and regulation
17 like setting drinking water standards and so forth,
18 EPA has traditionally taken a default position, which
19 means that that's the position they take unless you
20 can prove differently. That carcinogens in general do
21 not have thresholds, and that was based upon a
22 particular model that was accepted 30 years ago, 40
23 years ago by which we believe that all chemicals cause
24 cancer. Now we know today that that's not true
25 anymore. So EPA has accepted the concept that if the

1 underlying mechanism by which the chemical produces
2 cancer has a threshold, then cancer itself would have
3 a threshold dose.

4 In other words, if you can show that a
5 particular toxic event has to occur, and that that
6 toxicity has a threshold, then the production of
7 cancer would have a threshold dose. That's the kind
8 of thing I'm talking about with the Topoisomerase
9 thing. That's my best analysis of the way in which
10 benzene produces AML, that there is this underlying
11 toxicity mechanism, and if that toxicity mechanism
12 indeed has a threshold, then it would make biological
13 plausibility -- make sense that -- that the cancer
14 produced would have a threshold.

15 But, as I said, this is -- the EPA has taken
16 a regulatory stance, health protective, you know, bend
17 over backwards to protect the public, but it doesn't
18 really -- it's very different from doing a causal
19 determination like we're doing here.

20 Q They have taken a different position as to
21 some toxins, for example, asbestos and benzene, where
22 they have affirmatively described there being no
23 threshold for those toxins; whereas, they have not
24 made the same affirmative statements about other
25 toxins; is that correct?

1 A I have -- you know, as I said, for risk
2 assessment purposes in general, they take the position
3 that there are not thresholds and they do these risk
4 calculations at these extremely low levels, and I
5 think that -- I think the EPA in its original risk
6 assessment guidelines as a matter of fact said that
7 the true risk is anywhere from the number that is
8 calculated from the risk assessment to zero, and you
9 don't know where the risk is because it's totally
10 dependent upon the model that's used for the low-dose
11 extrapolation.

12 So EPA has, I think, pretty consistently
13 acknowledged the possibility of there being a
14 threshold, but for their regulatory purposes, which is
15 again not what we're dealing with here because we're
16 trying to determine whether or not something actually
17 did cause the disease, but from a regulatory
18 standpoint, they take that position to do things in
19 the most health protective way that they can.

20 Q Is that a long way of answering my question
21 yes with that explanation?

22 A Well, I don't know -- if you had a document
23 you wanted to show to me about what EPA said
24 affirmatively about benzene, I'd be glad to comment on
25 it, but if you're asking me to, in essence, sort of

1 second-guess that and sort of -- try to figure out
2 where such a statement might have come from, well then
3 that's the best answer I can give you.

4 Q You were discussing a moment ago about a
5 benzene threshold being indicated by your Topo
6 research; is that right?

7 A Well, at least it's consistent with that
8 research.

9 Q Have you or anyone else published anywhere
10 in the open peer review scientific literature how
11 those findings are consistent with or support the
12 notion of a threshold for benzene causing cancer?

13 A Let me just check and see if we --

14 MR. HANLEY: I'm going to have to go.

15 (Discussion off the record.)

16 THE WITNESS: It may be in my paper. I
17 can't locate it right now. I can't tell you sitting
18 here.

19 BY MR. HANLEY:

20 Q And you can't tell me if anyone else has
21 ever published that notion; is that right?

22 A That particular idea, I couldn't tell you
23 sitting here right now if they have or not.

24 Q Has anything changed about our understanding
25 of the mechanisms of carcinogenesis that would or has

1 changed or influenced our understanding about
2 threshold for carcinogens?

3 MS. KAHN: Objection, speculative. Vague
4 and ambiguous.

5 THE WITNESS: Well, there's been a lot of
6 information that has come out. I mean, two of the
7 working groups that I was involved in for IARC, we
8 were actually dealing with some of these toxicity
9 mechanisms, and in some of those cases not only did we
10 say that -- that at low levels the toxic effect
11 wouldn't occur and would not be expected to produce
12 cancer, but in some cases we concluded that the toxic
13 effect wouldn't even be expected to happen in people
14 at all, and so, therefore, the -- the findings -- and
15 we were talking about the extrapolation of animal
16 studies to humans. The findings in animals wouldn't
17 be at all relevant to human cancer.

18 BY MR. HANLEY:

19 Q And what toxic agent was that related to?

20 A Well, there are various ones. There's
21 limonene, l-i-m-o-n-e-n-e, which is the principal
22 ingredient in citrus oil which is used in air
23 fresheners and all sorts of things. It's a naturally
24 occurring compound. It also produces kidney tumors in
25 rats, and it produces it by a particular mechanism

1 along with a whole range of other chemicals that
2 wouldn't be expected to cause cancer in -- in humans.
3 One of these being, by the way, unleaded gasoline.

4 There was a -- there were -- the whole issue
5 of thyroid tumors in humans, we did a whole monograph
6 on that saying that at low level exposures, one would
7 not expect -- the exposures that one would see in
8 humans, one would not expect to see cancer in humans
9 because of differences in the mechanism by which the
10 thyroid regulates its growth.

11 Q Let me ask you this. Describe anything that
12 has occurred in our understanding of the mechanisms of
13 carcinogenesis that would have anything to do with
14 establishing or understanding a threshold for benzene
15 below which a cancer risk is not conferred.

16 MS. KAHN: Objection, calls for speculation.
17 I don't know what you mean by our understanding, and
18 it's vague and ambiguous.

19 THE WITNESS: Could you repeat the question,
20 please.

21 (The reporter read the record as
22 requested.)

23 THE WITNESS: Well, I was describing the
24 Topoisomerase research and the epidemiology studies
25 that have been done for benzene. I think that those

1 would be the things that I've already mentioned that
2 would indicate that.

3 BY MR. HANLEY:

4 Q Would you agree that for purposes of risk
5 assessment, that the EPA has recently reconfirmed its
6 acceptance of the no threshold model for benzene?

7 A If you're thinking of a particular document,
8 I would be glad to comment on it.

9 Q Is your answer you don't know?

10 A Well, I don't know of any document that EPA
11 has put out recently regarding benzene.

12 Q Now, sir, isn't it true that your position
13 that the only cancer benzene is demonstrated to cause
14 is AML is one that is outside the mainstream of
15 current medical and scientific thinking?

16 A Could you repeat that question, please.

17 (The reporter read the record as
18 requested.)

19 THE WITNESS: Well, that is what -- IARC
20 concluded when it reviewed benzene, says, it is
21 established that human exposure to commercial benzene
22 or benzene-containing mixtures can cause damage to the
23 hematopoietic system, including pancytopenia. The
24 relationship between benzene exposure and the
25 development of acute myelogenous leukemia has been

1 established in epidemiological studies. Reports
2 linking exposure to benzene with other malignancy were
3 considered inadequate for evaluation.

4 That's what IARC said when they evaluated
5 benzene and that hasn't changed.

6 BY MR. HANLEY:

7 Q What are you reading from?

8 A The IARC monograph on benzene that was the
9 original one that was published Volume 29, and so I
10 don't think that has changed since then.

11 Q Okay. That's a part of which exhibit?

12 A Exhibit 1.

13 Q And that publication you just read from is
14 dated from when?

15 A '82.

16 Q And you don't think that anything has
17 changed on the thinking on that point in the medical
18 and scientific community since '82?

19 A Well, I can certainly tell you that IARC
20 hasn't published any update that would indicate that
21 that has changed and that's my opinion, and I think
22 it's -- I believe it's the mainstream scientific
23 opinion.

24 Q Are you familiar with the phrase that
25 epidemiology can only detect a catastrophe?

1 MS. KAHN: Objection, lack of foundation.

2 Vague and ambiguous.

3 THE WITNESS: I hadn't heard that before.

4 BY MR. HANLEY:

5 Q Are you familiar with the concept? Does
6 that make sense to you?

7 A No, I don't think it makes sense to me.

8 Q And why not?

9 A Because, I mean, a catastrophe to me means
10 something that is obvious even without epidemiology.

11 Q Would you agree that if something confers a
12 1.5 relative risk, that of three cancers that one of
13 those could have been avoided?

14 MS. KAHN: Objection, incomplete --

15 THE WITNESS: Doesn't make any sense.

16 MS. KAHN: -- hypothetical. Vague and
17 ambiguous.

18 BY MR. HANLEY:

19 Q Let me try again. Would you agree that if a
20 particular toxin causes an increased relative risk for
21 cancer of 1.5, a 1.5 relative risk, that in a group of
22 three people with that particular cancer based on that
23 relative risk, one of those cancers could have been
24 avoided?

25 MS. KAHN: Same objections.

1 THE WITNESS: I don't believe that with
2 three cancers that would be a statistically
3 significant finding, and so I think the uncertainty
4 would be so great that one couldn't reach that
5 conclusion.

6 BY MR. HANLEY:

7 Q That's not what I'm asking you, sir. This
8 is not a hypothetical of a cohort. I'm saying that
9 the result, the net result of an increased risk of
10 cancer of just 1.5 relative risk means that of a group
11 of people, one out of three of those cancers would be
12 eliminated by taking away that particular toxin and
13 that exposure?

14 MS. KAHN: Objection, overbroad. Lacking in
15 foundation. Vague and ambiguous.

16 THE WITNESS: This would be based upon the
17 assumption that you would truly know that that cancer,
18 that additional cancer was caused by exposure to that
19 chemical. So I think it speaks for itself.

20 BY MR. HANLEY:

21 Q But that does reflect the degree to which a
22 relative risk as low as 1.5 can make a difference in
23 an affected cohort; does it not?

24 A Now you're mixing --

25 MS. KAHN: Objection, lack of foundation.

1 Vague and ambiguous. Overbroad and compound.

2 THE WITNESS: Now you're mixing apples and
3 oranges. You're doing exactly what you said you
4 weren't doing. I started to talk about an
5 epidemiology study you wouldn't be able to with three
6 people make that determination. You're going back now
7 and describing this as an epidemiology study and I
8 disagree with that.

9 BY MR. HANLEY:

10 Q Do you believe that secondhand smoke can
11 cause lung cancer?

12 A You know, I really -- I know that at one
13 time that was controversial, and I've never -- let's
14 put it this way. I've never really looked into the
15 literature on secondhand smoke so I don't have an
16 opinion on it. I believe -- and again -- I'm sorry.
17 I'd have to be speculating to even know whether or not
18 IARC has concluded that it causes cancer. I believe
19 it has, but I can't be certain sitting right here.

20 MS. KAHN: Don't speculate.

21 THE WITNESS: Yeah, I'm not speculating.
22 Sorry. It's not something I've looked into.

23 BY MR. HANLEY:

24 Q Are you familiar with the literature that
25 reports the relative risk from secondhand smoke being

1 approximately 1.5?

2 MS. KAHN: Objection, beyond the scope of
3 the witness's retention and our expert witness
4 designation.

5 THE WITNESS: No, I'm not familiar with
6 that.

7 MR. HANLEY: All right. I have to catch a
8 plane. I have got -- I've got a fair bit more
9 questions. I'm not going to be able to finish it
10 today. I wouldn't finish today if we went all day.

11 MS. KAHN: I will point out the deposition
12 was noticed to continue day to day until completed.
13 It's now 3:15. We are prepared to put in a full day
14 today. We are prepared to come back tomorrow if
15 needed as called for by the deposition notice. We
16 object to producing Dr. Whysner for a subsequent
17 session.

18 There's no reason we can't complete the
19 deposition today or this week. The witness has given
20 reasons why it is difficult for him to conclude next
21 week. We have three more depositions this week, three
22 to five depositions next week. I don't know when
23 we're going to find time to do it and you take a risk
24 that you may not be able to complete the deposition if
25 you leave at 3:15 today.

1 MR. HANLEY: Well, it's 3:25 now and I do
2 need to leave.

3 MS. KAHN: Additionally, the court
4 reporter's going to have the exhibits. So even if we
5 can find a day next week to do the deposition and
6 you're willing to do it by telephone, I don't know
7 that the witness is going to have his originals back.
8 So that's a real problem. We are not agreeing to
9 produce him.

10 Now I will meet and confer with you about
11 it. If we can find a way to get it reasonably done,
12 we will try and accommodate you, but you are taking a
13 risk by ending the deposition now and leaving to catch
14 a plane.

15 THE WITNESS: Can I say something about my
16 daughter's surgery coming up?

17 MS. KAHN: Sure.

18 THE WITNESS: My daughter's having surgery
19 week after next and we have to prepare her next week
20 for her upcoming surgery, which is fairly serious, and
21 so I don't see how I can be available.

22 MR. HANLEY: Okay, I certainly appreciate
23 that, Doctor, and I appreciate the offer to meet and
24 confer. I would be glad to do it by phone. Obviously
25 we need to work out the logistics with the documents

1 to the extent that I need to ask him about them, but I
2 appreciate the --

3 MS. KAHN: It's up to you. You ordered the
4 court reporter.

5 MR. HANLEY: I appreciate the effort to --
6 for everyone to do their best. Thank you.

7 Thank you, Doctor. You know, I owe you some
8 money here. Let me see if we can get that.

9 MS. KAHN: It's going to be 5.5 hours' worth
10 since we had about half an hour for lunch. Actually,
11 we were here at 9 o'clock. It's a little more than
12 5.5 hours' worth.

13 MR. HANLEY: All right. I have checks for
14 450 unfortunately. I'm going to give you the four
15 checks I have.

16 THE WITNESS: It's made out to Washington
17 Occupational Health, and you have the correct tax ID.

18 MR. HANLEY: It is.

19 MS. KAHN: I wish you would reconsider and
20 try and finish the deposition today or tomorrow since
21 we're here.

22 MR. HANLEY: I simply can't do it. I'm
23 absolutely unavailable. I've been out here for a
24 week. It's been lovely, but I do need to get home.

25 I owe you for 5.5 hours at a rate of 550.

1 I've given you four checks for 450 each. We will send
2 out tomorrow that balance.

3 MS. KAHN: I also live 3,000 miles away. I
4 also have been out here the same length of time you
5 are. I came to do a job. I would like to finish the
6 job. I'm disappointed that we cannot do that.

7 (Signature having not been waived, the
8 deposition of JOHN WHYSNER, M.D., Ph.D., D.A.B.T. was
9 concluded at 3:25 p.m.)

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9 I, JOHN WHYSNER, do hereby declare
10 under penalty of perjury that I have read the foregoing
11 transcript; that I have made any corrections as appear
12 noted, in ink, initialed by me, or attached hereto;
13 that my testimony as contained herein, as corrected, is
14 true and correct.

15 EXECUTED this _____ day of _____,
16 20____, at _____, _____.
(City) (State)

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19
20 _____
21 JOHN WHYSNER, M.D., Ph.D., D.A.B.T.
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1 CERTIFICATE OF SHORTHAND REPORTER-NOTARY PUBLIC

2 I, Joan V. Cain, Court Reporter, the officer
3 before whom the foregoing deposition was taken, do
4 hereby certify that the foregoing transcript is a true
5 and correct record of the testimony given; that said
6 testimony was taken by me stenographically and
7 thereafter reduced to typewriting under my direction
8 and that I am neither counsel for, related to, nor
9 employed by any of the parties to this case and have
10 no interest, financial or otherwise, in its outcome.

11 IN WITNESS WHEREOF, I have hereunto set my
12 hand and affixed my notarial seal this 7th day of
13 April, 2008.

14
15 My commission expires:

16 June 15, 2009
17

18 _____
19 NOTARY PUBLIC IN AND FOR THE
20 DISTRICT OF COLUMBIA
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