

REPORTER'S RECORD

TRIAL COURT CAUSE NO. 01-454-D

LOUIS BARLETTA AND MARY * IN THE DISTRICT COURT
JANE BARLETTA *
VS. * KLEBERG COUNTY, TEXAS
AMERICAN CYANAMID, ET AL * 105TH DISTRICT COURT

TESTIMONY OF DR. ERIC JOHN CHATFIELD

On the 28th day of July 2003, the following proceedings
came on to be heard in the above-entitled and numbered cause
before the Honorable J. Manuel Banales, Judge Presiding, held
in Kingsville, Kleberg County, Texas.

Proceedings reported by machine shorthand.

ORIGINAL

1 A P P E A R A N C E S:

2 MR. KETAN KHAROD
The Hendler Law Firm
3 816 Congress Avenue, Suite 1100
Austin, Texas 78701
4 Telephone: (512) 473-3672

5 AND

6 MR. DARRELL BARGER
Hartline, Dacus, Barger & Dryer & Kern, L.L.P.
7 One Shoreline Plaza
800 N. Shoreline Blvd.
8 Suite 2000
North Tower
9 Corpus Christi, Texas 78404
Telephone: (361) 866-8009

10 AND

11 MR. CHRISTIAN HARTLEY
12 Richardson, Patrick, Westbrook & Brickman, L.L.C.
174 East Bay Street
13 Charleston, South Carolina 29402
Telephone: (843) 727-6500

14 COUNSEL FOR PLAINTIFFS

15 MR. DOUGLAS CHAVES
16 Chaves, Gonzales & Hoblit
802 N. Carancahua
17 Corpus Christi, Texas 78407
Telephone: (361) 888-9392

18 AND

19 MR. JOHN KUROWSKI
20 MR. CURTIS BAILEY
Kurowski, Bailey & Schultz, P.C.
21 24 Bronze Pointe
Swansea, Illinois 62226
22 Telephone: (618) 277-5500

23 AND

24

25

1 A P P E A R A N C E S (Cont'd)

2 MR. ROBERT E. THACKSTON
3 Hawkins, Parnell & Thackston, LLP
4 4514 Cole Avenue, Suite 550
5 Dallas, Texas 75205
6 Telephone: (214) 780-5100

7 COUNSEL FOR A. W. CHESTERTON COMPANY

8 MR. KENNETH BAKER
9 MR. THOMAS RAMSEY
10 Baker & Patterson, L.L.P.
11 12600 Featherwood, Suite 225
12 Houston, Texas 77034
13 Telephone: (281) 481-0083

14 COUNSEL FOR DEFENDANT HOMASOTE

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1 MR. KUROWSKI: Your Honor, the Court will recall
2 I believe the Plaintiffs had finished with Dr. Longo. We would
3 like to call Dr. Eric Chatfield.

4 THE COURT: All right. Sir, would you take the
5 oath, please. Would you raise your right hand.

6 (Oath administered.)

7 DR. ERIC CHATFIELD,
8 having been first duly sworn, testified as follows:

9 DIRECT EXAMINATION

10 BY MR. KUROWSKI:

11 Q. Please state your name for the record, sir.

12 A. My name is Eric John Chatfield.

13 Q. And it's Dr. Chatfield, is that correct?

14 A. Yes, it is.

15 Q. And you're not a physician, but what do you -- how is
16 it that you are called Doctor?

17 A. I have a Ph.D.

18 Q. In what subject?

19 A. It's in colloid science.

20 Q. We'll return to that in a second. Dr. Chatfield,
21 could you tell Judge Banales where did you come from today?

22 A. Today I came from Corpus Christi, but yesterday --

23 Q. Where do you reside?

24 A. Yesterday I came from Mississauga, Ontario, Canada.

25 Q. That's a suburb of Toronto, is that correct?

1 A. Yes.

2 Q. Could you tell us, what do you do there? What is
3 your business?

4 A. I run a small company called Chatfield Technical
5 Consulting Limited.

6 Q. And could you tell us generally what is the business
7 of Chatfield Consulting?

8 A. Basically to do asbestos analysis and basically
9 consulting and any problem solving that microscopy can solve.

10 Q. And, Doctor, you have prepared a Curriculum Vitae?

11 A. Yes.

12 Q. All right, and I will hand you what has been marked
13 as Defendant Chatfield Exhibit Number 1.

14 MR. KUROWSKI: Just for the Court's edification,
15 we have a series of exhibits for Mr. Spencer's depo, and I will
16 designate those Spencer and these Chatfield by number, if
17 that's okay.

18 THE COURT: Well, why don't we just number them
19 as your exhibits Defendant Chesterton 1 through whatever, and
20 when you get to the other one, you pick it up right there and
21 keep on going.

22 MR. KUROWSKI: I already numbered those. I
23 should start with that number, I guess.

24 THE COURT: Okay.

25 MR. KUROWSKI: What number were we on?

1 THE COURT: This is with -- Had you offered any
2 exhibits at the last hearing?

3 MR. KUROWSKI: I did not.

4 THE COURT: Okay. Then this will be Number 1.

5 MR. KUROWSKI: Okay. The only thing is I may
6 have to -- I don't want to get too technical. I have to
7 renumber the other ones, though, because they start with 1 also
8 from the depo. That's what I'm getting at.

9 THE COURT: That's fine.

10 MR. KUROWSKI: Okay.

11 THE COURT: This will be Number 1.

12 MR. KUROWSKI: As long as you know.

13 Q. (By Mr. Kurowski) Is that your Curriculum Vitae, Dr.
14 Chatfield?

15 A. Yes, it is.

16 Q. Current as of when?

17 A. As of August 20, 2002.

18 Q. Okay, and have you listed on there your formal
19 education and your publications and various other important
20 professional activities?

21 A. Yes.

22 Q. Have you also listed where you have testified in
23 court as well?

24 A. Yes.

25 Q. Is that something that you choose to do?

1 A. Yes.

2 Q. All right. Now Dr. Chatfield, can you tell the Court
3 where did you get your formal education?

4 A. In Cambridge in the United Kingdom.

5 Q. And were you born and raised in the United Kingdom?

6 A. Yes.

7 Q. All right, and did you then, as we say in America,
8 did you go to college?

9 A. Yes.

10 Q. Tell us about your, what we would consider to be
11 equivalent to your undergraduate and your graduate work in
12 England, in the UK.

13 A. I went to Cambridge and did what is known as the
14 natural sciences Tripos course which requires study of three
15 experimental sciences plus mathematics, and then I specialized
16 my final year in physics.

17 Q. All right, and the study of your degree then, your
18 Ph.D., if you will, is in what subject again?

19 A. It's in colloid science.

20 Q. C-o-l-l-o-i-d, is that correct?

21 A. That's correct.

22 Q. Would you tell the Court what that is.

23 A. That's the study of small particles in water and air.

24 Q. And your Ph.D. degree came in what year?

25 A. 1971.

1 Q. And from Cambridge University in England?

2 A. Yes.

3 Q. All right. Now Dr. Chatfield, before -- When did you
4 come then to Canada, to North America?

5 A. I came to Canada in, I believe, '68, 1968.

6 Q. Before you came to Canada, we'll talk briefly about
7 that, what kind of work did you do in the UK?

8 A. I worked for the Atomic Energy Authority.

9 THE COURT: Let me ask this: Is there any
10 objection to the exhibit DX-1?

11 MR. HARTLEY: That being his CV, Your Honor?

12 THE COURT: Yes, sir.

13 MR. HARTLEY: No objection to his CV.

14 THE COURT: It's admitted, and I would like to
15 take a look at it as he testifies.

16 MR. KUROWSKI: Oh, sure.

17 THE COURT: Unless you need it, Doctor.

18 THE WITNESS: No.

19 THE COURT: Go ahead.

20 Q. (By Mr. Kurowski) Generally what did you do for the
21 Atomic Energy Commission?

22 A. I worked in the nuclear safety section. Our work was
23 microscopy and air dispersion of particulate.

24 Q. All right. Now in 1968 you came to North America.
25 Where did you become employed?

1 A. I came to work at the Ontario Research Foundation
2 just outside Toronto.

3 Q. And can you tell the Court generally what was the
4 nature of your work there.

5 A. The -- I came as head of the electron optics
6 laboratory. The lab had electron microscopes and optical
7 microscopes.

8 Q. All right, and generally what kind of work did you
9 do, clients did you serve?

10 A. Started out as industrial problem solving. Whenever
11 microscopy could solve an industrial problem, the company might
12 bring it to us and we would work with the company under
13 contract, but we also did government contract work as well, and
14 the provincial government gave us a grant to support research
15 work.

16 Q. Now in 1986 you basically started your own firm, if
17 you will, is that correct?

18 A. Yes, that's correct.

19 Q. Now since you have been in North America, have you
20 done work related to asbestos, using that as a very broad term?

21 A. Yes.

22 Q. How did that come about?

23 A. Well, it came about originally with the Ministry of
24 the Environment in Ontario wanting water samples analyzing and
25 also air samples taken in a school playground. Later on the

1 water analysis work expanded and we did work for the EPA in
2 that area.

3 Q. Now when you were working for the Ontario Research
4 Foundation, did you begin to do work for the United States EPA?

5 A. Yes.

6 Q. When we say EPA, we're talking about --

7 A. U.S.

8 Q. -- the U.S. EPA?

9 A. Yes.

10 Q. Did the Ontario Research Foundation contract with the
11 U.S. EPA?

12 A. Yes.

13 Q. Can you tell the Court some of the projects you
14 worked on for the U.S. EPA both with the Ontario Research
15 Foundation and then later on your own.

16 A. Well, the very first project we had with EPA was to
17 look at the electron microscope specimen preparation methods.
18 It was a fairly short program, but it resolved the issue at the
19 time of some of the methods being used were not very good.
20 Following on from that we received a contract to develop the
21 analytical method for analysis of water samples for asbestos,
22 that's drinking water, and that method was produced, I believe,
23 in 1982. It still remains the analytical method for water in
24 the U.S. today.

25 Q. Did you also work on a project known as the AHERA?

1 A. Yes.

2 Q. Could you tell the Court what AHERA -- That's
3 actually an acronym, is that right?

4 A. Yes. It's the Asbestos Hazards Emergency Response
5 Act, and for clearance of school buildings after removal of
6 asbestos the U.S. EPA required an analytical method to analyze
7 air samples and to demonstrate clearance in the building.

8 Q. What did you have to do with that?

9 A. I was one of the committee that was convened to write
10 the method.

11 Q. When was that, approximately?

12 A. Would have been 1987, I think.

13 Q. All right. Now have you also done work more recently
14 for the U.S. EPA?

15 A. Yes.

16 Q. Tell us a little bit about that.

17 A. Couple of years ago I wrote an analytical method for
18 determination of asbestos in vermiculite and that was done for
19 Region 1 of the EPA, and just two weeks ago I was member of a
20 review panel doing a peer review of the measurements made by
21 EPA following the World Trade Center collapse.

22 Q. Just tell us briefly your work with respect to the
23 World Trade Center collapse on September 11, 2001. What
24 consultation have you done with respect to that in the area,
25 what generally speaking?

1 A. Well, it was on the Saturday after the collapse I was
2 contacted by a colleague who I have worked with some years. He
3 was campaigning to become member of the City Council, and he
4 asked me if I could go down to New York City and help interpret
5 some of the data.

6 Q. And did you do that?

7 A. Yes. I also took down with me a man by the name of
8 John Kominsky who I met, traveled from Cincinnati. We traveled
9 to New York City to look at the data. When we got there, we
10 found there wasn't any, so we had to make arrangements to make
11 some measurements.

12 Q. And the type of measurements that you were doing,
13 what specific areas were you looking at, were you assisting in?

14 A. I was looking at indoor air because that's where the
15 residents wanted to get back.

16 Q. People living near the World Trade Center?

17 A. Yes.

18 Q. Did you ultimately establish a continuing consulting
19 relationship with a governmental body in connection with this
20 person that had called you?

21 A. Well, first of all, I say that's not a consulting
22 relationship. We donated, everybody on that project, everybody
23 connected with that project donated that time.

24 Q. I was going to ask you that part, but in terms of the
25 group that you ultimately referred --

1 A. In terms of the group I did one little bit of extra
2 work and I appeared at the New York City Council meeting, but
3 nothing after that.

4 Q. All right. Now -- And, again, the data that you are
5 currently reviewing is with respect to EPA report on pollution
6 from the collapse of the World Trade Center, is that correct?

7 A. That's correct.

8 Q. How many people are on one of those reviewers, if you
9 will?

10 A. Seven people.

11 Q. I'm sorry?

12 A. Seven.

13 Q. Seven people? Now, Dr. Chatfield, tell us, what is
14 the International Standards Organization?

15 A. The International Organization for Standardization is
16 an organization based in Geneva which standardize -- produces
17 standards in most areas of international commerce such as
18 bicycle wheel diameters, that kind of thing. ISO also
19 establishes standards for air and water pollution and the
20 methods to measure it primarily because, of course, U.S. and
21 Canada in particular, we have a common border, and pollution
22 doesn't respect that border.

23 Q. All right. Had you had a relationship with the ISO,
24 the International Standards Organization, over the years?

25 A. Yes, I do.

1 Q. When did that begin?

2 A. I think it was 1978.

3 Q. What positions have you held with respect to the ISO
4 and do you hold today?

5 A. I'm a convener. I was originally a convener of the
6 working group for development of asbestos analytical methods.
7 That was supplemented about two years ago by another
8 convenorship, so I'm now convener of two working groups.

9 Q. And these groups, what do they do, generally
10 speaking?

11 A. Develop analytical methods for determination of
12 asbestos.

13 Q. How frequently do they meet?

14 A. Once a year.

15 Q. All right. When is the next meeting?

16 A. Next meeting is this coming September in Copenhagen.

17 Q. And is it -- This is an ongoing relationship, these
18 committees that you chair, you expect to continue that?

19 A. Yes.

20 Q. All right, and I have marked as Defendant's Exhibit 2
21 and 3 and 4 which I showed Mr. Hartley and purport to be
22 certain ISO standards. Can you tell the Court just generally
23 what those are.

24 A. I have got one in front of me which is ISO 10312,
25 Exhibit 2. It's direct transfer transmission electron

1 microscopy method for determination of asbestos in ambient air.
2 Exhibit 3 is ISO 13794 which is determination of asbestos in
3 ambient air using an indirect transfer method. ISO 1 -- ISO
4 8672 is Exhibit 4. I'm not the chairman of the committee that
5 wrote this one.

6 Q. What is it?

7 A. This is air quality determination of number of
8 airborne inorganic fibers by phase contrast microscopy membrane
9 filter method. I was a member of that working group, but not
10 chair.

11 Q. Now each of those methodologies, are they used in
12 different ways for the measuring and counting of asbestos
13 fibers, if you will --

14 A. Yes.

15 Q. -- in general? All right. Now, the Exhibits 2 and
16 3, who was the primary author or drafter of those methods?

17 A. I was.

18 Q. All right, and in terms of author and drafter, those
19 methods, do they have to be approved by this committee?

20 A. Oh, yes.

21 Q. And when we say "approved", what is that process,
22 briefly?

23 A. Well, the process is that the convener will, you kind
24 of shepherd the method through the process, so I produced the
25 first draft. I then go to a meeting, and all of the countries'

1 representatives discuss the first draft and make changes. The
2 convener goes home and makes the changes and submits it again,
3 perhaps to a second meeting, and eventually there's something
4 emerges from the committee called a committee draft. That goes
5 in for an international vote, so basically it's published and
6 all of the countries that are members of ISO then have to vote
7 yes or no.

8 Q. How many countries are members of ISO today?

9 A. Oh, depends what topic you're talking about. In the
10 air pollution arena --

11 Q. Let's confine it to that.

12 A. -- probably 30 or 40.

13 Q. Now Dr. Chatfield, you mentioned -- May I have those,
14 please.

15 THE COURT: Any objections?

16 MR. HARTLEY: No objections.

17 THE COURT: They're all admitted.

18 MR. KUROWSKI: Thank you.

19 Q. (By Mr. Kurowski) Dr. Chatfield, you mentioned you
20 have a background in physics. Does that include the field of
21 optics?

22 A. Yes, it does.

23 Q. What do we mean by "optics"?

24 A. Well, optics is the study of the behavior of light,
25 refraction and reflection of light, the design of optical

1 instruments, and the interface of those optical instruments
2 with the human eye taking account of the various properties of
3 the human eye.

4 Q. Now then, let's turn our attention to some of the
5 issues in this case. You understand that this case involves
6 occupational, the claim of occupational exposure?

7 A. Yes.

8 Q. Now can you tell the Court what is the -- First of
9 all, let me just start at a very basic level. We talked a lot
10 about asbestos, but just for everyone's edification briefly,
11 what do we mean by asbestos?

12 A. Well, there's a slide on the screen there which shows
13 the different types of asbestos. There are two basic group,
14 two basic minerals which can form asbestos. One is serpentine
15 and chrysotile asbestos is alternatively known in the industry
16 as white asbestos. That is most common. There's about 95
17 percent of the world's asbestos is chrysotile.

18 Q. All right, and what does this slide illustrate for
19 us?

20 A. Can we go back?

21 Q. Sure. Go back.

22 THE COURT: You need the light?

23 THE WITNESS: No, that's fine.

24 A. The amphibole asbestos, there are three different
25 types listed there: Crocidolite, amosite, and tremolite. Two

1 major commercial varieties are crocidolite and amosite.
2 Crocidolite is blue in color, and amosite is brown in color.
3 In terms of the amount, amosite is the most common variety
4 after chrysotile, and crocidolite comes a distant third.

5 Q. And these fibers are minerals?

6 A. They are minerals. They're mined.

7 Q. Now next slide. What does that slide illustrate then
8 with respect to asbestos?

9 A. That's chrysotile asbestos.

10 Q. In a magnification or under a microscope?

11 A. I don't know. It's not my picture. Very difficult
12 to tell what their -- there are paws (Phon) in the background.
13 That is on the thing known as a polycarbonate filter, but
14 without knowing the diameter of the holes in that filter, I
15 can't --

16 Q. Looks like it's under a microscope is what I'm
17 getting at.

18 A. That is a scanning electron microscope picture.

19 Q. Of chrysotile asbestos?

20 A. Yes.

21 Q. Next slide. And this is, again, a microscopic view
22 of amosite and crocidolite?

23 A. Yes, amosite which are generally long, straight
24 fibers, rigid. Crocidolite also tends to be straighter than
25 chrysotile, but it can have curly fibers as well.

1 Q. Okay. Now let me turn back to what we were
2 discussing. This is an occupational case. When it comes to
3 measuring asbestos in the workplace occupationally, what is the
4 world-wide method that is used to do that?

5 A. Well, phase contrast microscopy.

6 Q. What do we mean by that? Can you give the Judge sort
7 of a thumb nail sketch of what that means.

8 A. Phase contrast microscope is a microscope, an optical
9 microscope in which there has been a modification made to
10 increase the contrast of fibers. It has got a couple of extra
11 components in it over and above the normal microscope which you
12 use at high school.

13 Q. Okay. Now is there a particular method that is used
14 in the United States for occupational exposure, measurement of
15 occupational exposure to asbestos?

16 A. Yes.

17 Q. And what is that method?

18 A. That's method 74, NIOSH 7402.

19 Q. And --

20 A. Beg pardon. Let me retract that. 7400.

21 Q. And handing you again Exhibit 5, Defendant's Exhibit
22 5, is that a copy of what we call the NIOSH 7400 method?

23 A. It is a copy of a NIOSH 7400. I'm not sure that it's
24 the latest edition. This is dated Revision 3-1989. I think
25 there has been one since then.

1 Q. One more, but the revision didn't substantially
2 change the method, did it?

3 A. No.

4 Q. All right. Now, again, NIOSH, so we're clear, what
5 is that organization?

6 A. National Institute for Occupational Safety & Health.

7 Q. Which I understand is sort of the research arm of
8 OSHA, correct?

9 A. I wouldn't say it was a research arm of OSHA. It's
10 actually a research arm that belongs to the National Institutes
11 of Health.

12 Q. Okay. I stand corrected.

13 A. It's --

14 Q. Trying to move too fast.

15 A. NIOSH is not -- is used by OSHA as an advisory
16 organization.

17 Q. Okay, so it's an advisory research organization
18 versus a regulatory agency of OSHA?

19 A. Yes.

20 Q. This methodology that's used in the NIOSH 7400
21 method, how long has that been the methodology that has been
22 used for occupational exposure to asbestos in America?

23 A. It's interesting because the NIOSH started with a
24 method called P&CAM 239. That's physical and chemical
25 analytical method number 239. That was around 1970, I believe,

1 when that first came about, and the author, one of the authors
2 of this method used to attend our meetings in Canada and Europe
3 when method 7402 was being written, so many of the ideas that
4 were being discussed there were incorporated in 7402.

5 Q. All right.

6 A. 7400, sorry.

7 Q. So this method or its predecessors have been around
8 more than 30 years, approximately, is that fair to say?

9 A. Yes.

10 Q. Now Dr. Chatfield, you have indicated this is a use
11 of phase contrast microscopy which is generally referred to as
12 PCM by the initials, correct?

13 A. Yes, sir.

14 Q. There is also a microscopic method known as TEM or
15 transmission electron microscopy, is that correct?

16 A. Yes.

17 Q. Can you give the Judge short of a thumbnail sketch of
18 the difference between the two types of microscopes and how
19 they work.

20 A. Well, the optical microscope, whether it be phase
21 contrast or any other kind, there's a fundamental limitation to
22 the smallest item that you can see, and that is -- That
23 restriction is the wave length of light, so in a phase contrast
24 microscope we use the -- We use green light as giving the
25 optimum performance. You can push the resolution down a little

1 bit more than the phase contrast, but you're pretty well stuck
2 with the idea that anything thinner than about .2 or .25
3 microns, you will not be able to see by phase contrast.

4 Electron microscope, transmission electron microscopes are very
5 similar in concept. You still have condensed lens. You have
6 a -- which condenses the illumination onto the sample. You
7 then have an objective lens and you have an eye piece
8 essentially or in the case of a TEM you will have a projectile
9 lens which projects an image onto a fluorescent screen, but the
10 equivalent of wave length of electrons is much smaller than the
11 optical, than the optical wave length, and so you can push the
12 resolution of an optical micro -- of a TEM down to, well, about
13 two angstroms. No, that's another unit. Sorry.

14 Q. It's something real small?

15 A. It's very, very small, probably in terms of
16 chrysotile asbestos, smallest fiber you can get down to, that
17 would be about 50, yes, about 50 angstrom, 500 angstrom, sorry..
18 We can get down to five of those or two of those with a TEM, so
19 we're dealing with a resolution which is 100 or 200 times
20 better than is needed to see a single chrysotile fiber.

21 Q. Now why do we use the PCM method, if you will, rather
22 than TEM for occupational measurement?

23 A. Well, the reason is that it's rapid. If you have an
24 industrial situation, you want the answer quickly. Then you
25 can do something about it if things are out of hand, so that is

1 one reason. It's rapid. It's inexpensive. It can be done on
2 site. The other reason is that over the past 30 years or so
3 the epidemiology related to asbestos has been linked to the
4 output of that method, to the actual results from that method.

5 Q. And the epidemiology is the study of causes of
6 disease?

7 A. Yes.

8 Q. So is there any epidemiology that is any way linked
9 to any TEM method?

10 A. Not that I'm aware of.

11 Q. Now there's also -- The Court has heard testimony
12 about an indirect and a direct TEM preparation. First of all,
13 can you, again, tell us in simplest terms, first of all, how
14 are they different?

15 A. Well, in the direct transfer TEM preparation the
16 incentive or the intent is to produce a sample that goes into
17 the microscope where all of the particles that you see in the
18 image are in the same relative positions to each other as they
19 were on the original filter. In other words, minimum
20 interference with the nature of the particles. In an indirect
21 transfer method, you take the particles off the filter, put
22 them into water. You treat the water ultrasonically, and then
23 refilter a portion of that water to generate another filter, so
24 that's basically the difference.

25 Q. Okay. You have talked about the filter here, and I'm

1 going to, it's simpler here just to show you, and I'm going to
2 mark this as Exhibit 6. First of all, what is this device?

3 A. This is an air sampling cassette.

4 THE COURT: Was there an Exhibit 5? Excuse me.

5 MR. KUROWSKI: Yes, the NIOSH 7400.

6 MR. HARTLEY: You haven't offered it yet?

7 MR. KUROWSKI: I haven't offered it. I will
8 offer it.

9 THE COURT: It's admitted. You may continue.

10 Q. (By Mr. Kurowski) Go ahead, Doctor, and tell us what
11 that little device is.

12 A. It's an air sampling cassette. It holds a filter
13 which is approximately one inch diameter inside it, and you
14 take the little stand off and put a pipe on here and suck with
15 a pump and it pumps air through the filter, so any particles
16 that are in the air get collected on this filter.

17 Q. At a basic level, that's where the fibers, how the
18 fibers are collected that are then read by these PCM-TEM
19 methods, is that correct?

20 A. Yes.

21 Q. Now if we're doing an occupational sample like 7400
22 or PCM, where would that cassette be placed?

23 A. Generally it would be placed -- It's supposed to be
24 in the breathing zone, so it will be placed on somewhere like a
25 lapel.

1 Q. And if we were doing samples for other purposes, it
2 would be placed --

3 A. You might have a stand and have it sort of hanging,
4 pointing down like that so that the big stuff floating in the
5 air doesn't get into it.

6 Q. Okay, so the filter, that again is ultimately the
7 membrane filter that is taken from measurement and reading by
8 PCM or TEM, can you show that to the Judge so we understand
9 what we're talking about.

10 A. Actually, the filter is coming away with me with the
11 cowl, but you see a quarter of the filter is being taken out of
12 this. This is a filter that has been analyzed by PCM.

13 Q. All right, so the quarter of the filter would have
14 been taken out for analysis?

15 A. Yes.

16 Q. And that's what is looked at in the microscope, that
17 piece of membrane?

18 A. In a PCM what you do is you put that quarter of a
19 filter onto a microscope slide. You process it to make it
20 transparent, and then you put it on the microscope and count
21 fibers.

22 Q. And a direct TEM, what do you do with that filter?

23 A. In a direct TEM, I won't go too much into the detail,
24 but you collapse the filter. That means you render it
25 transparent by exposing it to a solvent vapor and then you

1 apply a thin film of carbon onto the surface and you dissolve
2 away the original filter, and that leaves you with a thin
3 carbon film with all the particles attached to it. That's what
4 goes into the microscope.

5 Q. When you read a filter PCM or TEM by the direct
6 method, do you actually read what is on the filter?

7 A. You're reading directly on the filter, yes.

8 Q. As it was collected in the air sample?

9 A. Yes.

10 Q. All right. Now the indirect TEM method would be
11 collected in a similar fashion on that kind of a filter, is
12 that accurate?

13 A. Yes.

14 Q. But then what would you do in terms of reading it?
15 How would that be different?

16 A. Well, there would be two ways of dealing with it.
17 ISO 1, sorry, ISO 13794, the indirect ISO method, you would
18 take a portion of this filter, it might be, might be a quarter
19 or it might be a half, and you place it into a device called an
20 plasma asher which would burn away at low temperature, it would
21 burn away the filter, leave the particles, and then you
22 disperse those particles in water and you would filter those
23 through another filter which you would then prepare for the
24 TEM. There is another way, and that is you can take a piece of
25 the filter and wash the particles off it if you don't want to

1 go through the ashing step.

2 Q. All right. Is there another method?

3 A. Yes.

4 Q. What is it? Another indirect method?

5 A. Well, there is no published method for washing the
6 filter other than the dust method of ASTM.

7 Q. Is there a certain American, ASTM, American Society
8 of Testing Materials method 5755 for indirect preparation?

9 A. Yes.

10 Q. Okay. What does that method involve?

11 A. That's a method for determining the concentration of
12 non-airborne dust on surfaces.

13 Q. All right. Now is Exhibit 7 a copy of that method?

14 A. Yes.

15 Q. Now Dr. Chatfield, you have had an opportunity to
16 review Dr. Longo's gasket studies that have been offered in
17 this case, have you not?

18 A. Yes.

19 Q. You reviewed gasket tests one through five, what is
20 known as gasket tests one through five, is that correct?

21 A. Yes.

22 Q. Have you reviewed all of the written materials and
23 the accompanying data and seen all the videotapes?

24 A. Yes.

25 Q. All right. Over what period of time have you

1 reviewed that material?

2 A. Well, three or four years.

3 Q. All right. Now does the -- And as part of the data
4 that was generated, did Dr. Longo do indirect TEM analysis of
5 his gasket samples?

6 A. Yes, he does.

7 Q. And what method did he follow?

8 A. He uses the specimen preparation portion of the
9 method on the screen, D-5755.

10 Q. All right, and that is the dust collection method,
11 right?

12 A. Yes.

13 Q. Even though the samples were taken from the air,
14 correct?

15 A. That's correct.

16 Q. Now this method, we have got part of it up here on
17 the board. First of all, this methodology, were you on the
18 committee that developed this?

19 A. Yes, I was.

20 Q. And Dr. Longo, I think he told us he was the author
21 of this, right?

22 A. Yes, he shepherded --

23 Q. He shepherded it through like you do with the ISO, as
24 you will?

25 A. Yes.

1 Q. Now this particular methodology, does it indicate the
2 purpose of its use or its significance and use, if you will?

3 A. Yes, it does.

4 Q. All right, and that's in Section 5?

5 A. Yes.

6 Q. And this is for the general testing of non-airborne
7 dust for asbestos, correct?

8 A. That's correct.

9 Q. And the next one, does it also indicate whether or
10 not this type of method should be used or should this method be
11 used for the occupational measurement of asbestos?

12 A. It's not intended for that, no.

13 Q. And should it be used for that?

14 A. No.

15 Q. All right. Does the method speak to that?

16 A. It doesn't speak to it, no, not directly.

17 Q. It says the method does not describe procedures or
18 techniques to evaluate safety or habitability of buildings or
19 compliance with regulations, is that correct?

20 A. Yes.

21 Q. All right, and in Section 512 it says the
22 relationship, single direct relationship between
23 asbestos-containing dust and potential human exposure does not
24 exist, so in terms -- Can you correlate anything that you used
25 from this method to how it affects a human exposure?

1 A. No.

2 Q. But you can do that through the PCM method, the
3 occupational method we discussed, is that right?

4 A. Yes.

5 Q. Now next section is once a sample is collected on a
6 filter as you have shown us there, you have told us that in the
7 direct method you read it directly what is from the air. Is
8 what is read in the indirect sample representative of what was
9 taken from the air or even from the surface dust?

10 A. No.

11 Q. All right. Does the method speak to that?

12 A. Yes, it does.

13 Q. And that's in Section 1.2 and 1.4.1, is that right?

14 A. That's correct.

15 Q. And this method, like your ISO method, was voted on,
16 again had to be shepherded through a lot of people and voted
17 on, is that right?

18 A. Yes. It's shepherded through with a group of, the
19 group of people who attend the meetings.

20 Q. Section 1.4, 1.4.1 says the procedure outlined in
21 this test method employs an indirect sample preparation
22 technique, stop me if I go too fast. It is intended to
23 disperse aggregated asbestos into fundamental fibers, fiber
24 bundles, clusters, or matrices that can be more accurately
25 quantified by transmission electron microscopy; however, as

1 with all indirect sample preparation techniques, the asbestos
2 observed for quantification may not represent the physical form
3 of the asbestos as sampled. So we're clear, that was voted on
4 by this ASTM committee, correct?

5 A. Yes.

6 Q. And when we talk -- In essence, what does that mean,
7 Doctor?

8 A. It means that the procedure will break up clumps of
9 asbestos material into smaller units so that you can, in that
10 particular case, quantify them better, but it also is saying
11 that what you measure on the microscope isn't the way it was on
12 the surface.

13 Q. Next slide. Now the ISO-13794 method which, I think,
14 is one of those exhibits, Judge, 2, 3, or 4, this is an
15 indirect sample preparation method for air, is that right?

16 A. Yes, it is.

17 Q. And, again, Dr. Longo didn't use this in any of his
18 studies, did he?

19 A. No.

20 Q. Does this, again, method also speak to the fact that
21 the asbestos that is produced by the indirect method also
22 breaks up into clusters and aggregates?

23 A. Yes, it does.

24 Q. And that's a method that you were involved in in
25 approving, is that right?

1 A. Yes.

2 Q. All right, so these indirect preparation methods, the
3 ASTM that we have talked about and the ISO-13794, what is their
4 purpose? Why were they -- What were they created to do in the
5 scientific field?

6 A. Well, the 13794 was for the situation where you have
7 a lot of other particulate in the air. If you take a sample
8 downtown New York City, you will have a very black filter after
9 you have collected 2,000 liters of that. That black filter
10 cannot be analyzed by any direct transfer method, and so since
11 most of the material is either acid soluble like gypsum and
12 concrete dust or, alternatively, it's organic like the smoke
13 and stuff from automobile exhausts, you can burn off all of
14 that stuff and selectively concentrate the asbestos in the
15 sample, so you can, you can aim for a much higher sensitivity,
16 a much lower detection limit.

17 Q. Now how is that different from what is done in an
18 occupational setting?

19 A. In an occupational setting you're usually dealing
20 with asbestos being a major component of the sample, and in
21 that case you also have very large clusters of material,
22 something you don't usually find in the outside atmosphere.

23 Q. Again, are any of these indirect methods designed for
24 measurement of occupational exposure?

25 A. No.

1 Q. Now with respect to your testimony that these fibers
2 break up and what is ultimately on the indirect is not what is
3 taken from the air in the dust, did you set out to do some
4 experiments to demonstrate that and further prove that in the
5 last few years?

6 A. Yes, I did.

7 Q. Okay. The first one I'd like to talk about and we
8 have it on the board here.

9 MR. KUROWSKI: We move Exhibit 6, Your Honor,
10 the cassette, and I move Exhibit 6, the cassette, and Exhibit
11 7, the ASTM-5755 method.

12 MR. HARTLEY: No objection.

13 THE COURT: They're both admitted.

14 MR. HARTLEY: Your Honor, for clarification
15 purposes, as we move these are in -- Are they just with respect
16 to the actual hearing?

17 THE COURT: For the hearing today.

18 MR. HARTLEY: Yes, as are the materials that we
19 moved in from our motion, correct?

20 THE COURT: That's correct.

21 MR. HARTLEY: Thank you, Your Honor.

22 THE COURT: All right.

23 Q. (By Mr. Kurowski) Now Exhibit 8, what is that?

24 A. This is a paper I wrote for the Boulder conference
25 which was held, I think, in 1997. The result, the book on that

1 conference was published in the year 2000.

2 Q. This is a copy of the book which I'm not going to
3 offer as an exhibit. The Boulder conference generally was
4 what?

5 A. It's organized by ASTM. It was a conference -- There
6 are two conferences organized by ASTM. There's one in Johnson,
7 Vermont where people can report early results, and there's no
8 publication emanates from that. Boulder is the other kind of
9 conference which results in a published proceeding.

10 Q. And the paper that you published, we've got the title
11 page up there on the screen, is that right?

12 A. That's correct.

13 Q. Is that a peer reviewed publication?

14 A. Yes.

15 Q. Are all the publications in this book peer reviewed?

16 A. Yes.

17 Q. Now this publication -- With respect to this
18 publication, tell us, first of all, what you did in the
19 experiment you conducted that led to that publication.

20 A. I was interested in looking at the nature of the
21 particulate from asbestos-containing materials and what happens
22 to it during the different kinds of analysis, so I set up a
23 thing called a vertical elutriator which is nothing more than a
24 vertical pipe and established in it a vertical air flow, an
25 upwards air flow sufficient to suspend the largest respirable

1 particle, so in other words if it's respirable, it would go up.
2 If it was too big to be respirable, it would fall down. At the
3 bottom of the elutriator I took certain kinds of
4 asbestos-containing material and abraded them with a scalpel
5 blade to get some dust from them, and the intention then was to
6 look at the airborne material and see what it looked like. I
7 put in the original publication as strictly qualitative paper
8 saying this is what the dust looks like on the floor if you put
9 it through ASTM D-5755, and this is what it looks like on the
10 air sample which was the respirable material emitted from that
11 operation. One of the reviewers approached me, actually it was
12 the editor, first editor, Harry Rook, the editor of the book
13 approached me at the ASTM meeting and said he would find it
14 better if I also did the indirect analysis on the air filters,
15 so I went home and did the indirect analysis so it gave me then
16 two analyses on the same filter. Each filter had a direct
17 analysis and an indirect analysis.

18 Q. Side by side?

19 A. Side by side. I was able, then, to do a comparison.

20 Q. And as a result of that side by side analysis, what
21 did you conclude?

22 A. It showed me that any method, any specimen produced
23 by indirect method did not represent the particles and fibers
24 as they existed in the air.

25 Q. All right. And, again, what does this slide

1 illustrate?

2 A. Well, these are two TEM micrographs which I took, and
3 you do have the magnifications on these. This is from a
4 chrysotile compound which is used to insulate steam valves, and
5 on abrading it, the, on the left side you see there is two
6 larger pieces of material. That is the nature of the material
7 which as it exists in the air, that's what is collected and
8 analyzed by direct transfer.

9 Q. That is this side here?

10 A. Yes.

11 Q. And this side is --

12 A. That side is the indirect, and that's what the
13 material looks like in the indirect analysis.

14 Q. After the preparation has been applied?

15 A. After the indirect preparation.

16 Q. Which is a liquefying process?

17 A. Dispersion in water and then ultrasonic treatment.

18 Q. Ultrasonication? Next slide. So Dr. Longo has
19 testified that what appears in his indirect method is simply
20 what actually comes from the air. Do you agree with that?

21 A. No.

22 Q. All right. And, again, why not?

23 A. Well, because the indirect preparation gives results
24 and data which don't represent the material as it existed in
25 the air.

1 Q. Have you seen any, Dr. Longo prepare any side-by-side
2 samples as you have?

3 A. No.

4 Q. All right. Next slide. Now did you also as part of
5 this study, is this graph taken from your study, by the way?

6 A. Yes.

7 Q. All right. Did you actually count the number of
8 fibers in certain size ranges in the indirect and direct
9 method?

10 A. Yes, I did.

11 Q. And is that what this slide illustrates?

12 A. Yes.

13 Q. Okay, and, again, the size range, what is the
14 significance of that? Explain to the Court what these
15 individual size ranges in your direct and indirect findings
16 are.

17 A. What I have done there is to collect the asbestos
18 structures and I call them structures at this point because it
19 includes fibers, bundles, clusters, and matrices, and --

20 Q. So we're clear, what is the difference between all of
21 those things: Fibers, bundles, matrices?

22 A. Well, a single fiber of chrysotile is an ultimate
23 fibril. It doesn't go down any thinner than that. A fiber
24 bundle is a number of those stuck together. They have never
25 been apart. When they were mined, and the material was

1 processed, you got a fiber bundle which you can break down into
2 single fibers, but in general it doesn't happen. You've got a
3 single, you've got a fiber bundle, and then there's a situation
4 where material has either aggregated at some point or it never
5 came apart and you may have lots of these fiber bundles sort of
6 going at all different angles at each other and then the matrix
7 is a situation where there is non-asbestos particles involved
8 where you can see a particle but with asbestos fibers attached
9 or stuck into it.

10 Q. All right. In terms of this chart, then what does it
11 illustrate?

12 A. It shows the size range of asbestos structures
13 between .5 microns and 1.08 which is the first line of numbers.
14 If you make a measurement of that in that size range by direct
15 method you get 1.08 structures per cc. That was in the
16 elutriator. If you analyze that same filter by indirect
17 method, it will give you 42.5 structures per cc which is a
18 factor of 39.4 times higher. On the other hand, if you go down
19 to the bottom row of data, the bottom blue row of data, that's
20 the size range between 5 and 34.06 microns. The direct
21 transfer gave you 1.08 again, but the indirect was .63, so the
22 --

23 Q. What did you attribute that to?

24 A. The big structures were reduced so you see a, you see
25 an increase in the short structures, but a corresponding

1 reduction in the big ones which means that the distribution as
2 it existed has been broken down into smaller units.

3 Q. Okay. Next slide. So then did you --

4 A. And this is the same --

5 Q. -- do an accumulation of everything?

6 A. Yes.

7 Q. Tell us what you concluded.

8 A. This is an accumulation of the data. If you take the
9 previous slide and add up all of the size ranges for all sizes
10 of structure, the direct transfer would give 5.93 and the
11 indirect would be 71.26. Now the other structures that you're
12 counting on the indirect, bearing in mind these two
13 measurements made on the same filter, so what you can say is
14 that 91.68 percent of those, in other words, the difference
15 between direct and indirect were actually generated by the
16 method itself. The same sort of thing appears if you just look
17 at only fibers and bundles. Fibers and bundles form the vast
18 majority of Dr. Longo's data. Here we have got a direct
19 transfer measurement of 1.8. The indirect measurement on the
20 same filter is 62.5, and we're only considering here fibers and
21 fiber bundles. What you're saying is that 97.12 percent of
22 those fibers and bundles appeared as a result of the
23 application of the indirect analytical method.

24 Q. So if we apply your conclusions to Dr. Longo's data,
25 97 percent of what he found on his indirect sample was produced

1 by his method rather than what was in the air from the gasket,
2 is that fair?

3 A. Yes.

4 Q. Now Dr. Chatfield, first of all, this study, this
5 wasn't funded by anyone?

6 A. No.

7 Q. You did it on your own, right?

8 A. Yes.

9 Q. Okay. No lawyer or litigation was connected with
10 that?

11 A. No.

12 Q. All right. Did you also, after that, then also do a
13 study of this preparation process with indirect TEM with a
14 hygienist named Fred Boelter?

15 A. Yes, I did.

16 Q. And you did that when?

17 A. I would say about -- It was 2001. It was late in
18 2001.

19 Q. Okay, and this particular -- First of all, I'm
20 handing you Defendant's Exhibit Number 9. Is that a copy of
21 the report generated by that experiment?

22 A. Yes, it is.

23 Q. All right. Tell the Judge then, briefly, what you
24 did and Mr. Bolter. I believe there was a third person
25 involved as well?

1 A. Yes. There was a Mr. Peter Cooke who provided the
2 facilities for us to do the experiment.

3 Q. And Mr. Boelter is a certified industrial hygienist,
4 correct?

5 A. Yes.

6 Q. So now tell the Court what this study was designed to
7 do.

8 A. Basically the study was set up to show visually the
9 breakup of a piece of chrysotile asbestos in water and to
10 visually show that.

11 Q. Did it also involve the sonication process?

12 A. Yes, it did.

13 Q. Which is basically -- What is that? It's a shaking?
14 Describe that for the Court.

15 A. It's an ultrasonic bath. It has devices on the
16 underside which transmit sound at the frequency of around 20
17 kilohertz into the water. It's often used for cleaning
18 jewelry. That's the place where most people have encountered
19 it.

20 Q. Then did you -- Where was this experiment done?

21 A. It was in Chicago.

22 Q. You were present for it?

23 A. Yes.

24 Q. And you and Mr. Boelter, as I understand, designed
25 this together?

1 A. Yes.

2 Q. Was it videotaped then?

3 A. Yes, it was.

4 Q. Okay. We have a copy of the video here?

5 A. Yes.

6 MR. KUROWSKI: Your Honor, I move for admission
7 of Exhibits 8 and 9.

8 THE COURT: Admitted, there being no objection.

9 MR. HARTLEY: Is this the video?

10 THE COURT: 8 and 9.

11 MR. HARTLEY: No objections, Your Honor.

12 MR. KUROWSKI: Report and the video and the
13 tape.

14 MR. HARTLEY: No objections.

15 MR. KUROWSKI: Judge, we'll mark the tape as
16 Exhibit 10.

17 THE COURT: Any objection to 10?

18 MR. HARTLEY: No objection, Your Honor.

19 THE COURT: Admitted.

20 Q. (By Mr. Kurowski) This tape would fairly and
21 accurately depict the experiment? This is a video of the
22 experiment you conducted?

23 A. Yes.

24 Q. I want to ask then Mr. Bailey to start the tape and
25 then explain to the Court what we're seeing and what you did.

1 A. Grade 7-M chrysotile is one of the smallest grades,
2 and you're looking at the top of the beaker and the water in it
3 and that's a needle being used to place some fragments of the
4 chrysotile into the water, and you see they're sitting there at
5 the bottom now in two or three pieces and a small portion of
6 that liquid was filtered, and that's looking at it with the
7 videotape, with the video camera. There was no particles
8 visible and floating around, so this is where it was filtered
9 and this is looking through a phase contrast microscope
10 looking at the field of view of a filter that was prepared from
11 the liquid before the ultrasonic treatment.

12 Q. What do we see there?

13 A. What we're seeing is a few particles, there's the odd
14 fiber, but not much.

15 Q. And that's what you expected?

16 A. Yes, and the graticule there is the normal phase
17 contrast counting graticule.

18 Q. So that illustrates that?

19 A. Then we turn on the ultrasonic valve and you see the
20 water is beginning to shake a little and you see the material
21 beginning to break up.

22 Q. Now is this essentially how Dr. Longo did his
23 preparation?

24 A. Yes. It was left for three minutes, which is what
25 the method specifies.

1 Q. What are we beginning to see then with the particles?

2 A. You're beginning to see the big particles at the
3 bottom beginning to generate smaller ones and you see them
4 floating around in the water now.

5 Q. So can you say this particle as it was intact, is
6 that the way we would see it in a direct transfer method?

7 A. Well, it's very big, of course. It's much bigger
8 than --

9 Q. Conceptually?

10 A. Conceptually that's what you would have. You would
11 have a piece and then in the ultrasonic treatment this kind of
12 thing would happen no matter what the size of the aggregate of
13 material.

14 Q. Let us know if there's anything we need to stop and
15 see.

16 A. This is when we're getting close to the end.

17 Q. What do we see near the end?

18 A. You're now seeing fibers and other particles, but
19 basically fibers and clusters floating around. The original
20 large pieces are no longer there.

21 Q. All right. So, in essence, back to our little chart
22 here, does this account for the difference between 5.93 and
23 71.26, direct and indirect?

24 A. Conceptually, yes.

25 Q. Conceptually? Now, Doctor, let's turn our attention

1 to a few shorter, final topics here. The Longo test also
2 included some measurements from clothing, did they not?

3 A. From clothing, yes.

4 Q. And what did Dr. Longo do with respect to those
5 measurements?

6 A. He used a method which has become known as the
7 Chatfield Method.

8 Q. That's you, right?

9 A. Yes.

10 Q. You created that method?

11 A. Yes, I did.

12 Q. What did Dr. Longo purport to do with that method?

13 A. He took some of the fabric that the worker was using
14 during his tests and analyzed it to determine how much asbestos
15 there was on the clothing.

16 Q. Now what was -- How did this method briefly come
17 about?

18 A. I don't recall the date, but it was a point where
19 someone was doing a renovation in a mall in Denver, Colorado
20 and EPA called me and asked if I would assist them because what
21 had happened was that although the samples from the mall had
22 been thought of as not containing asbestos, a later bulk
23 analysis showed that, showed that it did, indeed, contain
24 asbestos, and by that time all the clothing in a number of
25 stores in the mall were potentially covered with dust, so they

1 needed to be able to demonstrate that the clothing was either
2 clean or dirty, they just didn't know, and I was asked by EPA
3 if I would have a look at the lab that was actually doing the
4 analysis of the clothing. That was in Chicago. I did so, and
5 I reported to EPA the method was not suitable, and the
6 analytical method for fabrics was developed in something like a
7 half hour phone call to get this problem in Denver resolved as
8 soon as possible. The method consisted of simply washing the
9 clothing with or a portion of the clothing using a soap-like
10 material, sofacta (Phon), and then treating that liquid as you
11 would treat a water sample. You analyze it just the same as a
12 water sample, the intention being to say is this clothing
13 contaminated or not? It was never intended -- It was designed
14 to break down the material as much as possible, and that's why
15 we were using the surface active agent.

16 Q. Okay. I'm not sure that there was testimony from Dr.
17 Longo, but anticipating that he may testify that this method
18 can illustrate a potential occupational exposure from clothing
19 in the workplace, is the method designed to do that?

20 A. No, it's not.

21 Q. Next slide. So, again, is an indirect preparation
22 method used here?

23 A. Yes.

24 Q. So what do you -- Again, what does this slide show us
25 in terms of how this method was to treat the asbestos

1 particles?

2 A. The method was designed to break down
3 asbestos-containing particles as much as possible to make
4 asbestos as easy to detect as possible. In other words, the
5 maximum possible sensitivity to be able to say the clothing was
6 clean or it had something on it, and what you see in the
7 pictures, my best diagram, that's my depiction of what
8 particles on clothing might look like and followed by what
9 happens when you completely break them down.

10 Q. Prior to Dr. Longo's report, did anybody ever use
11 this method to quantify what asbestos fibers had come from
12 clothing that could be a personal or occupational exposure,
13 health risk exposure?

14 A. Not to my knowledge.

15 Q. Should it be used for that?

16 A. No.

17 Q. Next slide. Just for the record, Exhibit 11, is this
18 a copy of the, printed copy of the method, the protocol?

19 A. Yes.

20 Q. The Chatfield Method?

21 A. Yes.

22 Q. Finally, Dr. Chatfield, there has been testimony and
23 illustrations regarding the use of what has been referred to as
24 Tyndall lighting. Have you reviewed and examined Dr. Longo's
25 various tapes with respect to Tyndall lighting?

1 A. Yes, I have.

2 Q. All right. Now does the -- Do you have certain
3 criticisms of that?

4 A. Yes.

5 Q. Tell us generally what they are.

6 A. My criticisms are that it distorts the appearance of
7 the particulate in the air. Tyndall lighting is used as a
8 means of demonstrating that there are suspended particles in
9 the air. Anybody who has ever been in a movie house where
10 people have smoked can see the projector going to the screen
11 and you see it. That's Tyndall lighting. Or a shaft of
12 sunlight coming into a room through the curtains. You can see
13 all the dust in the air. That's a -- It's a useful technique.
14 It's -- There are instruments based on that. There's a thing
15 called a Tyndalometer which is used for measurement of dust.
16 Indeed, it's used by the asbestos industry to determine whether
17 the back houses are broken or not. It's a useful instrument
18 but what we see here is videotaping of the Tyndall effect, and
19 it's videotaping under reasonable and low light conditions and
20 that means that the aperture of the video camera would have
21 been relatively wide open which in photography means that you
22 have --

23 MR. HARTLEY: Your Honor, I have to object. I
24 don't think that there is any foundation that's been laid for
25 his expert testimony on the use of video techniques or the

1 Tyndall light. In fact, at a prior deposition in litigation he
2 didn't even know when the Tyndall effect was first derived or
3 the origins of it or who was responsible for coming up with it.
4 I think that we established this in his deposition in this case
5 as well.

6 THE COURT: Your response to the objection?

7 MR. KUROWSKI: First of all, I don't know what
8 the reference is. I need to see it. I don't believe that's
9 the case, Your Honor. We qualified him in the area of physics
10 and optics. We specifically asked those questions about his
11 knowledge in that particular area, and he indicated that he had
12 formal training in that. I think that's the foundation.

13 THE COURT: Well, are you addressing the
14 specific objection to the use of this particular method?

15 MR. KUROWSKI: I think that what he has
16 explained, he explained the method, but he's explaining how the
17 video camera affects it and how the light affects it, and
18 that's really what optics are about.

19 THE COURT: Mr. Hartley, anything else?

20 MR. HARTLEY: Well, Your Honor, again, we have
21 heard nothing about his background in explaining apertures of
22 cameras, the use of videotapes. I think he's unqualified to
23 testify about that, and perhaps he can qualify him with some
24 additional testimony, but I don't think so.

25 THE COURT: That's my understanding of the

1 objection. Do you have anything else?

2 MR. KUROWSKI: I'm sorry. I didn't hear.

3 THE COURT: That's my understanding of the
4 objection, that it is limited to the witness' knowledge of
5 these cameras and apertures and all those things.

6 MR. KUROWSKI: Okay.

7 THE COURT: Do you have a response?

8 MR. KUROWSKI: I think, Your Honor, that really
9 goes to the weight of his testimony more than whether he is
10 qualified to give the testimony. Dr. Longo didn't have any
11 more qualification of his knowledge of the video either. He
12 simply testified that what you see is what you get, and we
13 don't agree.

14 MR. HARTLEY: Well, Your Honor, again, they
15 didn't object to Dr. Longo's testimony. I do object to Dr.
16 Chatfield. He's not qualified to make the explanations that
17 he's making. He's qualified as a microscopist. We're not --
18 Dr. Longo considers Dr. Chatfield a peer as does Dr. Chatfield
19 consider Dr. Longo a peer as a microscopist, but this is a
20 different issue. This is about explaining the Tyndall effect,
21 and he's not qualified to explain why this video monitoring is
22 somehow, in their, it supports their position that they say
23 it's misleading.

24 THE COURT: Do you want to qualify the witness
25 further on that area, Mr. Kurowski?

1 MR. KUROWSKI: Yes, sir. I'll be happy to do
2 that.

3 THE COURT: Go ahead.

4 Q. (By Mr. Kurowski) Dr. Chatfield, you have indicated
5 that you have experience in optics.

6 A. Yes.

7 Q. Describe what that means. Tell us again what that
8 means.

9 A. Well, every microscopist has experience in optics.

10 Q. How is that?

11 A. Because as part of the whole process of microscopy,
12 you're taking photographs.

13 Q. All right. And in terms of how a camera, the
14 aperture camera captures that is the same as what you do with
15 a microscope?

16 A. I have to insure that the item that I'm trying to
17 photograph, that all of those items are in focus, so I have to
18 adjust the parameters of the photography on a camera to have
19 all of those items in focus that I want in focus.

20 Q. Is that what you do when you look into a microscope?

21 A. Yes.

22 Q. And when a video camera captures that, is that the
23 same concept?

24 A. It's exactly the same concept, yes.

25 THE COURT: Anything else?

1 MR. KUROWSKI: No, Your Honor.

2 THE COURT: Does that meet your objection?

3 MR. BARGER: We're not in front of a jury. Can
4 I make an objection?

5 THE COURT: Sure.

6 MR. BARGER: Judge, there is no predicate laid
7 that the witness can testify as to the optical scientific
8 aspect of looking through a video camera. I can testify I can
9 look through a video camera and adjust it. It doesn't make me
10 an expert. No predicate laid. He cannot testify as to that
11 issue.

12 MR. KUROWSKI: Judge --

13 THE COURT: Any other response?

14 MR. KUROWSKI: He has more expertise than Mr.
15 Barger or I because he is a microscopist, and that's what he
16 does and that the concept is similar. He just testified to
17 that, and it's, I think, as simple as that.

18 THE COURT: Are you saying that -- Are you
19 saying that looking through a microscope is the same thing
20 essentially or knowing how to adjust the viewing glass in the
21 microscope is the same, is the same as working with a camera
22 and adjusting the lens for appropriate focus or aperture? I
23 think that's the same thing.

24 MR. KUROWSKI: I think conceptually that's what
25 the witness is saying.

1 MR. CHAVEZ: Your Honor, if I could, since we're
2 not in front of a jury --

3 THE COURT: Right. Go ahead.

4 MR. CHAVEZ: I think it is significant we're not
5 in front of a jury. This Court has discretion to listen to the
6 testimony and if it's not appropriate, can do what it feels is
7 appropriate, but the witness has testified that he has unique
8 knowledge as to how these things are viewed, how they can be
9 distorted if the angle is not appropriate. That is the area of
10 his expertise. That is the area that he's familiar with, not
11 only looking through a camera like Mr. Barger would do, but
12 knowing the effect of when you look through a camera, Mr.
13 Barger wouldn't know what the effect would be. Dr. Chatfield
14 does, and that's the purpose of this testimony, and this Court
15 can certainly discern if at the end of the day it's not
16 relevant or he's not qualified, this Court can evaluate that.

17 THE COURT: Very well. Anything else from the
18 Plaintiffs?

19 MR. HARTLEY: No, Your Honor. I think we made
20 our objection and you can sort that out yourself.

21 THE COURT: All right. I'll hear the evidence
22 at this time and I will decide its relevancy and materiality
23 later on.

24 MR. KUROWSKI: Thank you, Your Honor.

25 Q. (By Mr. Kurowski) Now the Tyndall lighting, first of

1 all, does it -- When we look into what is being videoed and we
2 will show that in a second, is there -- Can we tell what is an
3 asbestos fiber and what is not?

4 A. No.

5 Q. Is there any way you can measure one way or the other
6 or you can tell or is there any way you can measure one way or
7 the other what percentage of what is seen in that videotape
8 could be asbestos?

9 A. No.

10 Q. All right. Is there any way to tell whether it's
11 respirable or not, what you see in those images?

12 A. You can't tell whether they're respirable.
13 Obviously, if they're too large, they will fall down, but you
14 cannot discriminate whether a particular particle is respirable
15 or not.

16 Q. All right. Now Dr. Chatfield, did you take gasket
17 exhibit 4, the videotape that was shown by the Plaintiffs the
18 other week, and attempt to illustrate how the video distorts
19 the particle size?

20 A. Yes, I did.

21 Q. All right. Is this video 4? Can we just run that?
22 Try again. Here we go. So what are we seeing here again?

23 A. We're seeing an operator cleaning a gasket off a
24 flange, and we're seeing the particles in the air illuminated
25 by the Tyndall lights.

1 Q. Okay. Now next slide, please. What did you attempt
2 to do here with this slide?

3 A. What I tried to do is in the image I tried to capture
4 a still image in which there is something in the image against
5 which the size of the particles in the air can be compared, and
6 the green circle there is indicating the cassette on the lapel
7 of the operator and the red circle has picked out one of the
8 particles in that dust cloud for comparison.

9 Q. So the green would be this cassette, is that correct?

10 A. Yes.

11 Q. Okay, and then this particular particle, how would
12 you describe the size of that?

13 A. Well, it's a fair fraction of the diameter of that
14 cassette on the image.

15 THE COURT: It's a what, sir?

16 THE WITNESS: A fair fraction.

17 Q. (By Mr. Kurowski) What do you mean by that?

18 A. Well, some fraction perhaps maybe an eighth to a
19 quarter of an inch.

20 Q. Which means what to you?

21 A. It means it should not be there. It should not hang
22 around in the air.

23 Q. If it's that large, it couldn't be airborne?

24 A. It's so large it could not be airborne.

25 Q. I've got a pebble here which you brought. Is that

1 sort of representative of what size this would be?

2 A. Yes.

3 Q. So if you hold the pebble there, I can do that,
4 that's similar in size to what is seen on the video?

5 A. I believe so. I can't see from here but --

6 Q. Is that -- Did you perform that little test yourself
7 before you came?

8 A. What?

9 Q. Did the pebble appear to be the size of what is shown
10 in the red circle?

11 A. Yes.

12 Q. So what is in the red circle, is it floating in the
13 air?

14 A. That's floating in the air, yes.

15 Q. Of course, we know the pebble will not float in the
16 air?

17 A. That's correct.

18 Q. It would drop to the ground?

19 A. Yes.

20 MR. KUROWSKI: That's all I have at this point.

21 THE COURT: All right. Let's do the
22 cross-examination after lunch, and we'll pick it up at 1:30
23 this afternoon. We're in recess until 1:30.

24 (Recess.)

25 THE COURT: The Court is ready to resume the

1 Barletta hearing.

2 MR. BARGER: We have talked over the lunch hour
3 and I think there are a few more questions they have of this
4 witness.

5 MR. KUROWSKI: I would like to reopen for two
6 minutes.

7 -o0o-

8 DIRECT EXAMINATION (Cont'd)

9 BY MR. KUROWSKI:

10 Q. Dr. Chatfield, resuming the Direct, just a couple
11 more questions. The science we talked of this morning of
12 light, optics and photography, what science is that?

13 A. That's physics.

14 Q. Okay, and you have applied concepts of physics in
15 this area throughout your career?

16 A. Yes.

17 Q. All right. Now just a couple more questions. On the
18 Tyndall illumination that we talked about this morning, the --
19 Once the particles are illuminated, what does the video camera
20 show us or do to them?

21 A. Well, the particles are illuminated and the problem
22 with any camera operated in low light conditions is that the
23 aperture will be wide which decreases the depth of focus, so
24 any illuminated particle which is outside of that focal plane
25 will be defocused and it will be appear to be much bigger than

1 it really is.

2 Q. And that's what we showed this morning with the two
3 circles and then the pebble?

4 A. That's correct.

5 Q. Did that illustrate that?

6 A. Yes.

7 Q. Final area of questioning, next slide, Curt, how does
8 the human eye -- How is what the camera shows different from
9 what the human eye actually sees? In other words, what does
10 the camera do and show on the screen versus what you and I
11 would see if we were in that room with Dr. Longo?

12 MR. HARTLEY: Objection, Your Honor. Again, not
13 a medical doctor. He's not qualified to testify about the
14 human eye versus the camera. I don't think he's qualified to
15 testify about cameras, and I don't think the proper predicate
16 has been laid for this testimony. I don't think he has
17 expertise in this area with that.

18 THE COURT: Does that require expert testimony?

19 MR. KUROWSKI: I don't think it does, number
20 one, Judge, but I think we've laid it.

21 THE COURT: So you're asking for his opinion as
22 you would ask anyone else of his opinion?

23 MR. KUROWSKI: Right, and in addition, as an
24 expert, he's experienced in physics and optics.

25 THE COURT: So the jury would not need any

1 expert testimony on that, would it?

2 MR. KUROWSKI: Sorry, Judge?

3 THE COURT: The jury would not need any expert
4 testimony on that?

5 MR. KUROWSKI: It may not, but it would have it
6 anyway.

7 THE COURT: I'll sustain it for the purposes of
8 this hearing.

9 MR. KUROWSKI: That's all the questions I have.

10 THE COURT: All right.

11 MR. KUROWSKI: Can I ask him to answer it for
12 purposes of an offer of proof?

13 THE COURT: Certainly. Go ahead.

14 Q. (By Mr. Kurowski) Can you go ahead for purposes of
15 an offer of proof and tender for the record can you answer the
16 last question.

17 A. Yes. The eye has an ability to accommodate changes
18 in depth of view, so the minute you -- You perceive everything
19 in this room as fully focused, but in actual fact what is
20 happening is your eye is refocusing the minute you pass
21 attention to that object, so everything appears to be in focus.
22 A camera, whether it be a video camera or an ordinary camera,
23 doesn't do that.

24 MR. KUROWSKI: Your Honor, we move for admission
25 of Defendant's Exhibit 10 which is the video and 11 which is

1 the clothing protocol.

2 THE COURT: 10 is already in.

3 MR. KUROWSKI: I'm sorry.

4 THE COURT: Unless there is an objection to 11

5 --

6 MR. HARTLEY: No objection to any of the

7 exhibits.

8 THE COURT: All right. DX-11 is admitted.

9 MR. KUROWSKI: If it pleases the Court, I would
10 like leave to remove 10 and substitute it because I don't have
11 an extra copy.

12 THE COURT: Sure. We can make a copy right now.

13 MR. KUROWSKI: No, I mean, no, the video.

14 THE COURT: Oh, the video.

15 MR. KUROWSKI: That's the only copy I have of
16 that.

17 THE COURT: All right.

18 MR. KUROWSKI: We'll return it tomorrow.

19 THE COURT: Sure.

20 MR. KUROWSKI: Thank you. That's all I have.

21 Thank you, Dr. Chatfield.

22 MR. HARTLEY: Your Honor, I'm just going to
23 change the video. We had a little change of plans over lunch,
24 but it's ready to go. May it please the Court?

25 THE COURT: Yes, sir. Go ahead.

CROSS EXAMINATION

BY MR. HARTLEY:

Q. Dr. Chatfield, my name is Christian Hartley. We met before via the telephone and then here in the courtroom in the false start we had the last time, right?

A. Yes.

Q. Now you recall that we met to discuss your criticisms of MAS's work, correct?

A. Yes.

Q. Now I want to just go over a few of the things that we previously talked about and confirm some things with you. First, Doctor, you're of the opinion, having reviewed MAS's tests including the one that was peer reviewed and published, that those tests showed the release of asbestos fibers from asbestos-containing gaskets, correct?

A. They do.

Q. All right. Now one of the things we talked about, you talked about today when you were on Direct, was you showed us that sonification of the asbestos material where you took some raw asbestos, Canadian asbestos, and put it in water, correct?

A. Yes.

Q. And that's basically asbestos powder, isn't it?

A. A grade 7 asbestos wouldn't be described as powder.

Q. Well, it's certainly not bound by a rubber matrix

1 like a gasket, is it?

2 A. It did not have any matrix, no.

3 Q. Now you know that in this particular case you're
4 being asked to testify on behalf of A.W. Chesterton who made
5 gaskets which they maintain were backed where the asbestos is
6 bound by rubber, correct, or other materials?

7 A. Yes.

8 Q. You understand that it's their argument and you have
9 probably helped them make it in the past that no significant
10 asbestos can be released from that because of that binder
11 material, correct?

12 A. I don't believe I have made that argument.

13 Q. Well, do you believe that, sir?

14 A. I believe that there are products which the matrix
15 material is very relevant in holding the particles together,
16 but I'm not sure that gaskets are completely that way. Floor
17 tile would be one extreme. What we used in the test was
18 another extreme. I imagine gaskets come somewhere in the
19 middle.

20 Q. So the material that you showed the Judge in the
21 video, that's one extreme where that little vibration from the
22 sound spread all that asbestos all over that water, correct?

23 A. Yes. It was raw asbestos.

24 Q. Now, certainly you would agree with me that if you
25 took a brand new piece of A.W. Chesterton's asbestos-containing

1 gasket or packing and you sonicated it, that wouldn't spread
2 out all over there like that, would it?

3 A. The original piece would still be there, but there
4 would be bits fall off still.

5 Q. That's because the matrix material from that brand
6 new gasket doesn't hold in all that asbestos and some will get
7 out just from that water and that sound, correct?

8 A. It would be material on the outside, yes.

9 Q. So you understand that these gaskets that we are
10 talking about, they actually are exposed to things that may be
11 more powerful than a little bit of vibration and sound,
12 correct, forces like high pressure steam and high temperatures?

13 A. Yes.

14 Q. Okay. Now you're familiar with Dr. Longo's work
15 here, correct?

16 A. Yes, I am.

17 Q. You've reviewed it and it's peer reviewed, am I
18 right?

19 A. Yes.

20 Q. Dr. Longo also worked with some other scientists in
21 this case, correct?

22 A. Yes.

23 Q. Do you know who Larry Newton is?

24 A. I do.

25 Q. What is his role? What does he do for a living?

1 A. I believe he's a CIH.

2 Q. Okay, and you know Richard Hatfield, correct?

3 A. Yes.

4 Q. You would agree with me, wouldn't you, sir, that
5 Doctor or Mr. Hatfield, rather, is a, I didn't mean to bestow
6 upon him a doctorate, he doesn't want one, he's an expert in
7 the area of asbestos, isn't he?

8 A. Yes, he is.

9 Q. Okay. Now you say the same thing about Dr. Longo,
10 too, wouldn't you?

11 A. Yes.

12 Q. All right. Now Dr. Longo has worked -- You consider
13 him a peer, in fact?

14 A. Well, he started later than I did, but he's, he's one
15 of the group of people in the U.S. who is experienced in
16 asbestos.

17 Q. So what we have here is we have two people who are
18 expert microscopists, you and Dr. Longo, correct?

19 A. Yes.

20 Q. You say what he does isn't right and he says as a
21 peer of yours that what he did is a correct and true method,
22 correct?

23 A. Yes.

24 Q. Now Dr. Longo, of course, subjected his methodology
25 to other people like yourself who took that, looked at it, and

1 said "Yes, we think this is worthy of publishing. This meets
2 the criteria of science," correct?

3 A. I can't say who the reviewer, peer reviewers of that
4 article were. There's no guarantee that a peer reviewer was
5 actually qualified to review that document.

6 Q. Good point. Now you have published some work that
7 was in peer, what you think is a peer reviewed journal, but
8 you're not so sure about the peer, the quality of the peer
9 review as well?

10 A. When they're anonymous, nobody ever is.

11 Q. Let's talk a little bit about some of your work that
12 you have published that comes out of your litigation work.
13 You're familiar with the Journal the Indoor Built Environment,
14 correct?

15 A. Yes.

16 Q. And you had your name on some publications in that
17 journal, haven't you?

18 A. Yes.

19 Q. And those are publications for which you actually did
20 no work?

21 A. Those particular ones, yes.

22 Q. And those publications, of course, they appear on
23 your CV as if you had actually done work for those studies,
24 correct?

25 A. It needs a little explanation. There is a third

1 paper on the way. It was originally all supposed to be
2 published as one paper, and the --

3 Q. Sure. I'm sorry. Were you finished>?

4 A. And the publishers of the journal decided that it was
5 too much for one paper. The biological part of it was done.
6 The size distribution part of it, which is my part of that
7 project, will be published.

8 Q. Well, of course, that first paper that your name
9 appears on where you didn't do any work, that was submitted
10 back in 1996, wasn't it, or 1995?

11 A. Somewhere like that, yes.

12 Q. And in that paper you, in fact, told the readers that
13 your paper that you haven't published yet was forthcoming and
14 relied on it as a source, right?

15 A. Yes.

16 Q. Okay. Now one of the things that is not mentioned in
17 that paper which I think is pretty important, isn't it, is the
18 fact you were actually engaged as an expert testifying on
19 behalf of someone who had a pecuniary interest in the findings
20 in that paper, am I right?

21 A. I don't know that I was ever actually paid for work
22 on that project.

23 Q. Oh, of course not, but you were paid, in fact, by
24 Union Carbide to represent them over the years, correct?

25 A. Oh, yes.

1 Q. And you, of course, know that Union Carbide is the
2 only company out there that sold, that's still in existence,
3 that sells coalinga chrysotile under their trade name Calidria,
4 right?

5 MR. KUROWSKI: Objection. Again, the scope.

6 THE COURT: I can't hear you, sir. You need to
7 stand.

8 MR. KUROWSKI: Sorry. Objection. It's not
9 relevant or material. It's beyond the scope as to what the
10 test is.

11 MR. HARTLEY: Again, we went through this with
12 Dr. Longo. There's some issues about bias, there's some issues
13 about credibility, and I think we can go right to it.

14 THE COURT: Overruled. You may continue.

15 Q. (By Mr. Hartley) Now again, let's go back because I
16 want to come back to the issues that we were just talking about
17 but, again, what we have is we have some scientists, presumably
18 this is a reputable journal, correct, although it's not one
19 that you take?

20 A. Yes, it's a reputable journal.

21 Q. And you're not an industrial hygienist. Like Dr.
22 Longo you haven't gone through the certification process.

23 A. No.

24 Q. Okay. Now I ask you that because there was some
25 point, there was a point made of that with Dr. Longo, and I

1 want to make sure that reputable scientists don't have to have
2 CIH behind their name. Am I right?

3 A. That's correct.

4 Q. Okay. Now, of course, you don't offer yourself as an
5 industrial hygienist, do you?

6 A. No.

7 Q. You're just a microscopist?

8 A. Microscopist, physicist, and chemist.

9 Q. All right. I want to go a little bit quickly. You
10 haven't any, you haven't consulted with any companies that
11 manufacture video equipment to help them understand how their
12 machines work, correct?

13 A. No, I haven't.

14 Q. You never offered any expert testimony in court about
15 that, have you?

16 A. No.

17 Q. You wouldn't hold yourself up as an expert in that
18 area, would you?

19 A. I would hold myself as an expert in physics and in
20 optics.

21 Q. Well, we'll move on. Now one of the reasons to use,
22 and I have this up here and I don't know if you can see that.
23 Can you see that from here?

24 A. Yes.

25 Q. I asked -- It's a question that I asked Dr. Longo and

1 one of the reasons to use indirect preparation, you talked
2 about it today, it's when filters become so overloaded that you
3 need to spread out the material that's on those filters, am I
4 right?

5 A. That's correct.

6 Q. And the reason in certain circumstances filters
7 become overloaded is because there's too much dust in the air
8 and what basically happens is if you looked at it in the
9 microscope without spreading it out as you showed in the
10 sonification, what you're going to have is you're going to have
11 particles hidden behind each other, particles treated as one
12 fiber, for instance, that may be many, am I right?

13 A. Yes.

14 Q. All right. Now of course, you're familiar, as you
15 said with the United States EPA. They're an entity that has a
16 lot of concerns about asbestos, correct?

17 A. Yes.

18 Q. Now you're aware that the United States EPA uses
19 methods that have indirect preparation as well as methods that
20 have direct preparation, am I right?

21 A. The superfund method would be the only indirect one
22 that I'm aware of.

23 Q. Now, of course, the United States EPA isn't making
24 comparisons between the indirect preparation method and any of
25 those, any of that epidemiology that you talked about, right?

1 A. I don't believe so.

2 Q. Now -- And you're also aware that not in the peer
3 reviewed paper does Dr. Longo in any way try to compare the
4 indirect preparation method results to any epidemiology, any
5 health-based numbers, am I right?

6 A. Not that I recall.

7 Q. Okay, so as long as Dr. Longo doesn't take that
8 indirect preparation method and compare it to the epidemiology,
9 he's just reporting data, am I right?

10 A. That's correct.

11 Q. And there's nothing misleading about data, is there?

12 A. No.

13 Q. So in truth, there's nothing misleading about Dr.
14 Longo using the indirect preparation method in this case, am I
15 right?

16 A. That's correct. Data is data, as you say.

17 Q. And, of course, you respect Dr. Longo's ability to
18 look through an electron microscope and count the fibers that
19 he sees from the results that come into the air sampling little
20 cassettes that we saw, right?

21 A. Yes.

22 Q. There's no doubt in your mind that MAS and the
23 scientists there are qualified and capable of doing that work?

24 A. That's correct.

25 Q. All right. Now one of the things that we talked

1 about in this case and I think this is already in evidence by
2 the Defendants and we have also submitted in our papers is the
3 NIOSH 7400 method. You're familiar with it, of course.

4 A. Yes.

5 Q. As a microscopist, this is a microscopic method for
6 analyzing air samples?

7 A. That's right.

8 Q. All right. Now the 7400 method has a limitation
9 which I think you may have alluded to and Dr. Longo talked
10 about it. It can't see thin fibers, right?

11 A. That's correct.

12 Q. Now, of course, you know from your work for Union
13 Carbide and others that the chrysotile fibers and probably just
14 from your work elsewhere, chrysotile fibers, an individual one,
15 is too small to see with that microscope?

16 A. That's correct.

17 Q. Most of them, in fact?

18 A. Yes.

19 Q. All right. So you only -- When it comes to
20 chrysotile, if you see it in this method, it's only those big
21 clumps, am I right?

22 A. No, it'd be fiber bundles bigger than about .25
23 micrometers in diameter.

24 Q. Fair enough. And you also know that you recently
25 attended a peer review consultation out in California where the

1 EPA was talking about what kinds of fibers are important to
2 look at, am I right?

3 A. Yes.

4 Q. And while you weren't on the panel there, you did
5 stand up from the gallery and make some comments, didn't you?

6 A. Yes, I did.

7 Q. Now, of course, your comments were and your ideas
8 about whether thin fibers and short fibers should be looked at,
9 they weren't accepted by the peer review panel, were they?

10 A. I don't know. I don't know what they accepted and
11 what they didn't.

12 Q. Okay. Well, we may look at that. I'm not sure if we
13 need to do that, but one of the questions out there that was
14 being considered by that group was whether short fibers matter
15 and you understand there's a controversy about that, right?

16 A. The data that was produced at that peer review, the
17 actual risk estimation procedure being proposed would assign
18 zero potency to anything shorter than five.

19 Q. That's true. That's what they were saying, but the
20 controversy is out there, and it wasn't decided to assign zero
21 risk. They're basing it on a methodology that hasn't been
22 approved by anyone?

23 A. Yes.

24 Q. Now what is important, I think, from our purposes is
25 explaining and what we want to explain to the jury in this case

1 is there is a controversy. For instance, Dr. Dodson, you're
2 familiar with him. He's a microscopist of some note, of some
3 repute in the world of asbestos, am I right?

4 A. Yes, I know him.

5 Q. And you respect his work?

6 A. Yes.

7 Q. You see this as excerpts from one that is going to be
8 published in the American Journal of Industrial Medicine.
9 That's an area where, a reputable journal where you might find
10 information that the jury could be comfortable with, would you
11 agree?

12 A. Yes.

13 Q. Now you understand that a lot of those fibers that
14 people like Dr. Dodson who do this kind of research, a lot of
15 those fibers, they won't be visible with that old-fashioned
16 light microscope?

17 A. They would certainly, the ones he's talking about,
18 wouldn't be seen, but I wouldn't characterize the microscope as
19 old-fashioned.

20 Q. Well, okay, that's fair enough. I don't mean to --
21 Now, of course, there -- Since the creation of TEM, I think we
22 talked about this at your deposition, there really hasn't been
23 any, there hasn't been any watershed events in your field,
24 microscopy, in a long time?

25 A. There have been events, but with respect to

1 measurement of asbestos, nothing has changed very much in the
2 last 20 years.

3 Q. Another thing that's important, you heard about,
4 well, at least even while you were out in California you heard
5 about the Suzuki paper and how Dr. Suzuki had identified short
6 fibers and also thin fibers that wouldn't be resolved by the
7 NIOSH 7400 microscope as ones that should be considered, you
8 should consider as hazardous to the health, correct?

9 A. I do have a few concerns with respect to Suzuki's
10 work.

11 Q. I understand. You're not a medical doctor, and
12 you're really not qualified to criticize Dr. Suzuki's medical
13 opinions, but you did hear about this out at the EPA
14 conference, correct?

15 A. Yes, I did.

16 MR. KUROWSKI: Objection, Your Honor. Relevance
17 about what he has heard about.

18 THE COURT: Overruled. Go ahead.

19 Q. (By Mr. Hartley) All right. Let's talk a little bit
20 about something else. You're familiar with the Asbestos
21 Institute? That's an organization up in your home country of
22 Canada that promotes the use of chrysotile asbestos mined in
23 Canada, am I right?

24 A. Yes, it's in Montreal.

25 Q. It's part of McGill University now, isn't it?

1 A. I didn't know that.

2 Q. All right. Well, have you ever looked at their web
3 site?

4 A. Occasionally I go to their web site to search
5 articles in their library.

6 Q. Okay. Now as someone -- And do you think it would be
7 important for the Court to know what a competitor of A.W.
8 Chesterton says about whether the ability of gaskets to release
9 fibers -- Because that's really, ultimately, what Dr. Longo is
10 talking about in his presentation, isn't it?

11 MR. KUROWSKI: Your Honor, I object to this line
12 of questioning. First of all, it's beyond the scope of my
13 Direct Examination, and it's irrelevant. Basically what he's
14 attempting to do here is to infuse this hearing with issues of
15 liability. This has nothing to do with the methodology. Our
16 challenge is to the methodology, the Tyndall lighting, indirect
17 preparation, the clothing. It's not to whether or not other
18 people say about our gaskets. That may or may not be relevant
19 to the issue of liability.

20 THE COURT: Response?

21 MR. HARTLEY: My response, first, number one,
22 it's not talking about their gaskets. I don't mean to, but
23 throughout as you will see in the next deposition that you
24 read, there is a concerted attack, not just on the methodology
25 of Dr. Longo, but on his, whether he's trustworthy, whether the

1 results are so unreasonable that no one should believe them,
2 and that's what they basically argue and that's what they are
3 going to argue to you, and that's what they have argued to you
4 in their papers, and unfortunately there is more than one
5 motion out there. There was a motion, much greater detail,
6 filed by Garlock, but that information is out there. I think
7 this is certainly within the realm of things based on the fact
8 they have raised these issues so that no one in the world has
9 seen anything like this and then I think what you will see
10 here, Your Honor, is that this asbestos industry group which is
11 comprised of Canadian companies who want to sell this stuff
12 says, you know, gaskets just like the ones we're talking about
13 that Dr. Longo tested that showed fiber release, you shouldn't
14 do the things that the Plaintiff did because they will release
15 fibers.

16 THE COURT: What you're trying to do is to offer
17 testimony with regard to what Chesterton is objecting to?

18 MR. HARTLEY: Yes, Your Honor.

19 THE COURT: All right. Anything else?

20 MR. KUROWSKI: Yes, Your Honor. He's basically
21 -- These -- This is not the issue in this hearing. We didn't
22 offer any other testimony regarding what we think about Dr.
23 Longo's results. We are not challenging for purposes of this
24 hearing although there is a dispute in the testimony, for
25 example, his PEM and other results and fiber release. We're

1 challenging the way he got to the release and what he's showing
2 on the tapes, and none of that has anything to do with it.

3 THE COURT: I will overrule the objection. You
4 may continue.

5 MR. HARTLEY: Thank you.

6 Q. (By Mr. Hartley) Now, again, you see on here they
7 have a manual for safe use of chrysotile asbestos?

8 A. I can't see it, but I'll take your word for it.

9 Q. We'll go to the next page and if you can see here,
10 there is in that manual for safe use on their web site and,
11 again, you could check this out for yourself and I can tender
12 it to the Court as well. I don't think there is any dispute
13 that this is out there. There's a page about gasket removal.
14 You understand that one of the products that Dr. Longo tested
15 in his work practice simulation was gaskets, right?

16 A. Yes.

17 Q. And one of the issues as you know from your work
18 testifying in these cases is whether those gaskets can release
19 fibers in levels that could cause disease?

20 A. Yes.

21 Q. All right. You understand that Dr. Longo, in the
22 work practice simulation, did some things including wire
23 brushing using a power wire brush and the like and showed that
24 they, in fact, did release fibers and measured those fibers?

25 A. Yes.

1 Q. And you also -- You don't dispute the results that he
2 got in the PCM method with the light microscope, the NIOSH 7400
3 method, correct?

4 A. I don't dispute the data, no.

5 Q. And you see here, and again, I've blown it up to help
6 you see there as we go through the web site it says gasket
7 removal there and then, and I guess you're going to have a hard
8 time seeing this so I'm going to show it to you, you see that
9 and you know that Durabla, Canada is a gasket manufacturer in
10 Canada, correct?

11 A. I didn't know that.

12 Q. You've never consulted for Durabla?

13 A. Not to my knowledge.

14 Q. You have never heard of Durabla?

15 A. I have heard of it, but only in Dr. Longo's report.

16 Q. All right. Well, let me just ask you, based on --
17 Would it surprise you having reviewed Dr. Longo's work to find
18 that as it says here in this blown up box that all dust
19 producing processes such as drilling, grinding, sanding, and
20 sawing should not be used on any gasket materials? This is
21 particularly applicable with compressed gasket materials as
22 this will render the material friable?

23 MR. KUROWSKI: Your Honor, I object. It's
24 beyond the scope. It's not relevant whether it would surprise
25 him or not. It's really not the subject of this hearing.

1 MR. HARTLEY: I'll --

2 THE COURT: One at a time, please. Let him
3 finish.

4 MR. KUROWSKI: He said he's not familiar with
5 the document.

6 THE COURT: Anything else?

7 MR. HARTLEY: I'll ask him another question
8 about this because I think that the point is made and then I'll
9 move on.

10 Q. (By Mr. Hartley) Is this statement made and
11 attributed to Durabla, Canada consistent with what you saw in
12 Dr. Longo's studies?

13 A. Yes.

14 Q. Now another thing. This -- You showed some earlier
15 micrographs. You have seen Garlock gaskets before, haven't
16 you?

17 A. I have seen them in Dr. Longo's report.

18 Q. Okay. Well, let me ask you, you have testified on
19 behalf, offered testimony in hearings such as this one for
20 Garlock before, haven't you?

21 A. I don't recall.

22 Q. All right. Well, you testified for a lot of
23 different manufacturers over the years?

24 A. Yes.

25 Q. You never testified for a Plaintiff, am I right?

1 A. Not in an asbestos-related matter, no.

2 Q. Okay. Fair enough, and now over here on the right,
3 that picture is one that looks kind of familiar to you because
4 it's in the MAS work practice simulation that was published,
5 right?

6 A. Yes, I believe so.

7 Q. And you recognize that as an electron micrograph,
8 don't you?

9 A. Well, it's clearly been taken on an electron
10 microscope of some kind. I believe it's a scanning micrograph.

11 Q. Well, if I represent to you -- You'll defer to what
12 it says in the paper, right?

13 A. Yes.

14 Q. And this also, again, is another, and Dr. Longo
15 testified about these and I just want -- And they're in
16 evidence. I just wanted to ask you, this picture here is
17 another electron micrograph, isn't it? This information here
18 would give the Court and anyone who knew how to read it the
19 size of the picture, correct?

20 A. Yes, it would.

21 Q. The magnification?

22 A. Yes.

23 Q. That's at 1,000 times according to that. 1.00K here
24 is 1,000 times?

25 A. One thousand times on the original micrograph, yes.

1 Q. All right. Now one of the things that, one of the
2 things that comes out in the work practice simulation that was
3 published by Dr. Longo and others is the fact that they looked
4 at a new piece of gasket under the microscope and looked at it
5 after looking at an old one that was represented by the people
6 in the chain of custody as being a used Garlock gasket. Do you
7 remember that?

8 A. Yes.

9 Q. All right, and you don't have any reason to dispute
10 the fact that this is a picture of a new gasket, right?

11 A. I have no reason to dispute it.

12 Q. Okay. Again, you're not questioning that part of the
13 information that Dr. Longo offers either in his work practice
14 simulation or the published work?

15 A. No.

16 Q. All right. And, again, this -- You understand from
17 reading the paper that that is a representation of the gaskets
18 that had been removed and that were published in the study,
19 MAS, I think it's gasket study 3.

20 A. Yes. I'm not -- I was not able to determine whether
21 that was a gasket which had been removed by some means, some
22 mechanical means, or whether that was the original surface.

23 Q. You could certainly, you could certainly recognize
24 this as asbestos fibers here, can't you?

25 A. Yes.

1 Q. And here you can also see them in this picture at the
2 same magnification in what Dr. Long told the Court was a new
3 gasket?

4 A. Yes.

5 Q. And you don't dispute the fact that the wearing
6 process, use in a gasket in a flange where there's high
7 pressure steam can, in fact, degrade the matrix material that
8 binds those asbestos fibers so that they can't become airborne?

9 A. I don't have any experience in that area, but I don't
10 dispute it.

11 Q. All right. Fair enough. Let's move on. Now I've
12 got a couple more things. We -- You have been called upon
13 many, many times to offer testimony in opposition to the use of
14 Dr. Longo's work in court, haven't you?

15 A. I don't know that I would characterize it as many
16 many. I don't recall how many, but I have issued that
17 affidavit a number of times.

18 Q. Well, you have worked for Garlock in this capacity
19 before, haven't you?

20 A. Yes.

21 Q. All right. You have worked for A.W. Chesterton in
22 this capacity before?

23 A. Yes.

24 Q. And you understand that in this case from when we met
25 at our deposition that they submitted an affidavit on your

1 behalf?

2 A. Yes.

3 Q. Or not on your behalf, but with your name on it,
4 correct?

5 A. That's correct

6 Q. All right, and the -- In that affidavit you
7 understood when you signed it, at least the one that you did
8 sign, that one, you knew it was going to be offered to attack
9 the credibility of Dr. Longo's study?

10 A. Yes.

11 Q. Okay, and nowhere in that affidavit that you
12 submitted did it talk anything about your criticisms of the
13 Tyndall lighting and how it was, how it was misleading and
14 created issues of confusion, right?

15 A. It did deal with Tyndall lighting at the end, yes.

16 Q. We'll come back to that. I just want to -- I'm very
17 close to being done. I want to make sure I don't -- Now going
18 back again, we talked about Dr. Longo's studies a little bit.
19 You're also familiar with Mr. Bill Ewing, a certified
20 industrial hygienist?

21 A. Yes, I do know him.

22 Q. And Doug Fowler, you know him?

23 A. I know him.

24 Q. Now you -- It's true that you have published even
25 with Dr. Fowler, correct?

1 A. Yes, I have.

2 Q. Now you understand that Dr. Fowler has done some
3 studies where he showed that when gaskets were manipulated
4 they, too, released fibers, correct?

5 MR. KUROWSKI: Objection, Your Honor. The study
6 is irrelevant. The study deals with band sawing of gaskets
7 which has nothing to do with this case. I object to the
8 relevance and scope, beyond the scope.

9 THE COURT: Your response?

10 MR. HARTLEY: My response, Your Honor, is that
11 they, again, will state, their expert will come and they are
12 going to tell you the exact same thing that I have told you and
13 that they told you in their papers that this is impossible,
14 that nobody -- These results are faked. You're going to hear
15 that from Mr. Spencer in the videotape, and that's basically --
16 We offer and Dr. Longo testified about this, but I want to make
17 sure that we, the Court understood that Dr. Chatfield who they
18 are offering has worked with the same expert who showed that
19 fibers can be released.

20 THE COURT: Very well. Overruled. You may
21 continue.

22 MR. HARTLEY: Thank you, Your Honor.

23 Q. (By Mr. Hartley) All right. Now, as a scientist,
24 Doctor, you think it's important to be very careful, meticulous
25 and carefully go through all of the steps that you need to go

1 through to do something properly, am I right?

2 A. That's correct.

3 Q. All right. Now -- and one -- You understand from
4 your work that, you understand from your work that as a
5 consultant in the legal field, that that's also important for
6 lawyers, am I right?

7 A. Yes, I do.

8 Q. You understand that when you give testimony today
9 under oath, that your -- that that is something that gives that
10 testimony some credibility, am I right?

11 A. Yes.

12 Q. All right. Now when we met via the telephone at your
13 deposition, I showed you a couple of copies of your affidavit
14 that had been submitted both in this case and in other cases
15 around the country. Do you remember that?

16 A. I don't, but I will take your word for it.

17 Q. All right. Well, do you remember that -- You see up
18 here this is the front page of it, it has got the exhibit
19 sticker. I will show -- I have taken -- It's a multi-page
20 affidavit, but just for ease of operation here I have taken two
21 portions of it, of the two affidavits. All right. I'm going
22 to hand them to you and ask you to look at them. I think we
23 went through these at your deposition.

24 MR. HARTLEY: I guess with the Court's
25 permission I would have this be the next Plaintiff's exhibit,

1 but unfortunately I'm not familiar with the numbering, what the
2 number is. I apologize, Your Honor.

3 THE COURT: You have Plaintiff's Exhibit 4 as of
4 the 19th, so the next one would be PX-5.

5 Q. (By Mr. Hartley) Have you had a chance to look at
6 those?

7 A. Yes.

8 Q. And, again, I will represent to you that that
9 exhibit, that is not the complete affidavit and you see that,
10 correct?

11 A. Yes.

12 Q. Of course, both of those documents are, on the front
13 page of them, where do they indicate that they were signed?
14 What does the front page say? You see it says Province of
15 Ontario?

16 A. The front page says Province of Ontario, City of
17 Mississauga.

18 Q. And that's where you live, correct?

19 A. That's where I live.

20 Q. And when you -- Let's go to the next page. You see
21 this was Exhibit 3-A to your deposition. Do you see that one
22 up there where it says S/Eric J. Chatfield?

23 MR. KUROWSKI: Your Honor, I object to this.
24 This is improper. It's beyond the scope of Direct. These
25 affidavits were submitted by me in another court proceeding.

1 They weren't submitted here. It's a facsimile copy. He's
2 attempting to impugn the credibility, I don't know if it's me
3 or the witness, but this is not a proper subject of
4 cross-examination. The witness' affidavit hasn't been
5 challenged. The witness is here live, and there's nothing
6 improper about these affidavits.

7 THE COURT: Overruled. This is Cross
8 Examination. You may continue.

9 Q. (By Mr. Hartley) And for the record, Your Honor, I
10 will show for the Court, well, I will just represent to the
11 Court I am showing you, Dr. Chatfield, Defendant A. W.
12 Chesterton reply brief to Plaintiff's response in the Lewis
13 Barletta and Mary Jane Barletta V. Able Supply Company and ask
14 you to take a look at what is at Tab G, if you would. Look at
15 the signature page and tell me if that is one of the, one of
16 the signature pages from one of the affidavits that were
17 submitted in support of this.

18 A. That is a copy of my affidavit, yes.

19 Q. All right. Now the one that was submitted in this
20 case, that one actually bears your signature, doesn't it?

21 A. Yes.

22 Q. Okay, but it also says there that you -- that it was
23 signed -- that it was notarized in -- Where does it say that,
24 actually? Can you see that?

25 A. Notarized in and for the State of Illinois, County of

1 St. Clair.

2 Q. When we met at your deposition, you admitted to me
3 that you had never been there, correct?

4 A. That's correct.

5 Q. So that affidavit was not executed in the presence of
6 a notary public?

7 MR. KUROWSKI: Judge, I object. It's not
8 relevant whether --

9 THE COURT: Overruled. You may continue.

10 MR. HARTLEY: Thank you.

11 Q. (By Mr. Hartley) Now you -- The first one we were
12 looking at which is up on the screen here, this isn't your
13 signature, is it, Doctor?

14 A. No, it isn't.

15 Q. And, again, it was notarized in Illinois, but you've
16 never been there?

17 A. That's correct.

18 Q. Let's move through that. I think we're done. Now
19 one of the things we have heard about in this case and the
20 arguments have been made that this evidence hasn't been
21 admitted by one judge who excluded Dr. Longo's work in this
22 area. It was in Lamar County. Do you know if this affidavit
23 was used in Lamar County, these affidavits that were not
24 properly notarized?

25 MR. KUROWSKI: Your Honor, I object to the

1 characterization, this conclusion about whether they were
2 properly notarized. They were notarized in Illinois.

3 THE COURT: Overruled. This is Cross
4 Examination. Go ahead.

5 A. I don't know.

6 Q. (By Mr. Hartley) Do you know if it was used anywhere
7 else other than here?

8 A. Again, I don't know.

9 Q. Now again, one -- As a scientist, when you do, when
10 you do work, you're very careful to make sure things are done
11 properly because that gives the proper foundation to your
12 scientific work?

13 A. That's correct.

14 Q. All right. Now I just want to quickly go over these
15 things. These are some of the companies, am I right, that you
16 have been a litigation consultant for, and I'll read them to
17 you because it won't really come out well in the record. You
18 have consulted for A. W. Chesterton?

19 A. Yes, sir.

20 Q. Kaiser Gypsum?

21 A. Yes.

22 Q. U.S. Gypsum?

23 A. Yes.

24 Q. Fibreboard?

25 A. Yes.

1 Q. AC&S?

2 A. Yes.

3 Q. Owens-Illinois?

4 A. Yes.

5 Q. KenTile?

6 A. Yes.

7 Q. Keene Corporation?

8 A. I don't remember Keene, but I can't discount the
9 possibility that they were one of the Defendants in a case.

10 Q. All right. United States Mineral?

11 A. Yes.

12 Q. In fact, U.S. Mineral was a company that you were
13 consulting for who had allegedly had product in the World Trade
14 Center, am I right?

15 A. That's correct.

16 Q. And you were testifying on behalf of U.S. Mineral
17 against the owners of the World Trade Center in a lawsuit?

18 A. Yes, I was.

19 Q. All right. Because we heard about the World Trade
20 Center when you went and donated some of your time to check the
21 air around that area for asbestos?

22 A. That's correct.

23 Q. Now you testified for Westinghouse in asbestos
24 litigation?

25 A. Yes.

1 Q. John Crane?

2 A. Yes.

3 Q. Dow Chemical? Would it help to look at your CV
4 because I think when we were going over this in your
5 deposition, that's where you got that.

6 A. If it was Dow Chemical, then I would be testifying on
7 behalf of Union Carbide who is now owned by Dow.

8 Q. You see that down at the bottom, actually. That's
9 the one I was going to get to. Now you testified for Chevron?

10 A. Yes.

11 Q. For Texaco?

12 A. Yes.

13 Q. For the Asbestos Information Association of North
14 America?

15 A. Yes.

16 Q. That's a trade group that has as its goal to protect
17 the interests of manufacturers?

18 A. Well, it may be their interest. My activity there
19 was to comment on measurement methods.

20 Q. All right. Now we talked a little bit about this
21 earlier. And, again, you didn't disclose the fact that you
22 worked for Union Carbide when you were talking about the, when
23 you were signing on to these articles with Dr. Ilgren who's
24 also a Union Carbide consultant?

25 A. No, I don't believe it was stated.

1 Q. And, of course, you would admit that that would be
2 something as a scientist that you might want to know before you
3 took, before you took into account the kinds of how much trust
4 you wanted to put into an article like this?

5 A. I don't know. There's a lot of material out there
6 which is not -- It doesn't say who paid for the work to be
7 done.

8 Q. Okay. Fair enough. But, for instance, Doctor, as a
9 person if a scientist came out and told you that cigarettes
10 don't or Marlboro cigarettes, for instance, don't cause cancer,
11 would you want to know if that person worked for Philip Morris?

12 A. Well, I wouldn't believe it anyway, but it would
13 affect my thoughts on it.

14 Q. All right, and you testified for Union Carbide on
15 this very issue that this material isn't dangerous and this is,
16 and Coalingua asbestos, you understand, is Union Carbide's
17 asbestos?

18 A. I understand it's Union Carbide, yes.

19 Q. That's something I think we agreed at your deposition
20 that might have been a good idea to let the reader know that
21 this, in fact, is a product for which both you and Dr. Ilgren
22 were testifying about?

23 A. It would be something that could have been done, yes.

24 Q. Now you have indicated before that your contribution
25 was almost nil to this, correct?

1 A. That's correct.

2 Q. So these three, there's actually three of these
3 papers upon which you and Dr. Ilgren have your names, but which
4 you did almost nothing, if anything?

5 A. I did very little connected with those papers. Part
6 of the background in those papers is the short size
7 distribution which is information that Ilgren got from me.

8 Q. Okay. Well, the short size distribution, that's
9 another topic. You, of course, understand that Union Carbide
10 has an issue, has an interest in making sure that the world
11 thinks that that fiber is short fiber, correct?

12 A. They may have an interest in showing that it is
13 different from any other kind of chrysotile, yes.

14 Q. And you're aware they use these articles to do that,
15 right?

16 A. I'm not aware of what they use the article for.

17 Q. All right. Now, this is one of them, and I'm blowing
18 it up a little bit for you. This is the coalinga, this is part
19 two, the Evidence for Lack of Tumourigenic Activity and you, of
20 course, indicated that they used this information here that's
21 contained in the abstract that fibers from the first sample
22 from Coalinga, California were almost all less than five
23 microns in length, am I right?

24 A. That is a statement in there, yes.

25 Q. Okay. And, of course, you also know from this paper

1 that you go on and cite to your own work that's unpublished, am
2 I right?

3 A. That's correct.

4 Q. And you say, of course, in that paper that it's going
5 to be published and that was back in, go back to the top here
6 so we can see when it was, that was back in 1998?

7 A. Yes.

8 Q. And you haven't published it yet?

9 A. Well, there's very good reason for that. I'm doing
10 it for nothing.

11 Q. Well, you, of course, aren't working for Union
12 Carbide for nothing, are you?

13 A. No, but I'm not being paid to write papers.

14 Q. And, again, I guess we -- Just so we're clear, this
15 is where you cite to your Chatfield and Ilgren in preparation,
16 but it hasn't been prepared as of yet?

17 A. That's correct.

18 Q. And it's how many years later now?

19 A. I don't know what the date of that was, but it's some
20 time.

21 Q. Now one of the other things that you say, the very
22 title of this paper says that it's amphibole-free Chrysotile.
23 You, in fact, have found amphiboles in that chrysotile, haven't
24 you?

25 A. No.

1 Q. So -- if -- Well, have you ever talked to Dr. Robert
2 Solaire (Phon) about this issue?

3 A. I have.

4 Q. Okay. Have you talked to him recently?

5 A. Yes.

6 Q. All right.

7 MR. HARTLEY: Well, I guess, Your Honor, the
8 only thing I have left is I would move to strike the affidavits
9 that have been submitted to the Court based on the fact that
10 they are --

11 THE COURT: You can argue that --

12 MR. HARTLEY: Separate?

13 THE COURT: -- when you're presenting your
14 argument. Any more questions of the witness?

15 MR. HARTLEY: Okay. Thank you very much. I
16 have no further questions.

17 THE COURT: Redirect?

18 MR. KUROWSKI: Yes, Your Honor.

19 REDIRECT EXAMINATION

20 BY MR. KUROWSKI:

21 Q. There was a mention of Dr. Longo's article. There's
22 no disclosure in here that Plaintiffs' attorneys helped pay for
23 his gasket tests either, is there, Doctor?

24 A. I don't believe so.

25 Q. And Larry Newton, have you ever met him? He works

1 with Dr. Longo.

2 A. I have never met Larry Newton.

3 Q. Have you ever seen that he has defended his
4 participation in these tests with Dr. Longo on gaskets through
5 any testimony? Have you ever been asked to review any
6 testimony from Larry Newton?

7 A. I have not, no.

8 Q. The material in the elucidator that you used in the
9 tests you talked about earlier, was some of that, was part of
10 the material that you abraded in a matrix?

11 A. Yes, it was.

12 Q. And what kind of a matrix was it?

13 A. Portland Cement.

14 Q. Now you have read numerous depositions over the years
15 of Dr. Longo with respect to the video, his video camera and
16 his videotaping of these tests?

17 A. Yes, I have.

18 Q. All right, and have you seen anything in there
19 indicating he has any expertise in physics or in video cameras?

20 A. No, I have not.

21 Q. With respect to your testimony here that we have
22 offered with respect to the indirect TEM, with respect to the
23 Tyndall lighting, and these related matters, have you ever
24 testified in Court on behalf of any Defendant with respect to
25 these issues before today?

1 A. I don't believe so.

2 Q. There was a mention of the article by Dr. Suzuki.
3 What concerns do you have about Dr. Suzuki's conclusions with
4 respect to short fibers?

5 MR. HARTLEY: Objection. He's not qualified,
6 Your Honor.

7 THE COURT: Overruled. You opened up the door.
8 He can answer.

9 A. Dr. Suzuki does a lot of lung tissue measurement in
10 which he takes a 25 micron section of tissue, removes the wax,
11 and then ashes it and puts it into a transmission electron
12 microscope. He then takes photographs and his fiber counts are
13 all done from photographs. Now traditional fiber counting is
14 done by identifying each fiber and then measuring it and
15 recording it. You cannot identify fibers from a photograph, so
16 -- The other aspect of Dr. Suzuki's work is he does not apply
17 the convention that has been used for many years now in all of
18 the analytical methods that we don't even attempt to measure or
19 to record things short of, shorter than .5 microns, one of the
20 problems being that if you leave an analyst to himself, they
21 pick their own minimum and so in order to insure consistency of
22 data, the half micron limit was established way back and all
23 methods since have applied the half micron minimum.

24 MR. KUROWSKI: That's all I have. Thank you.

25 THE COURT: Recross?

1 MR. HARTLEY: No, Your Honor. Thank you.

2 THE COURT: Anything else on this matter? All
3 right. You may step down, Doctor.

4 (End of testimony)

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1. THE STATE OF TEXAS *

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3 COUNTY OF NUECES *

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5 I, HEATHER S. GARCIA, Deputy Court Reporter in and for the
6 105th District Court of Nueces, Kleberg, & Kenedy Counties,
7 State of Texas, do hereby certify that the above and foregoing
8 contains a true and correct transcription of all the
9 proceedings directed by counsel to be included in the statement
10 of facts in the above styled and numbered cause, all of which
11 occurred in open court or in chambers and were reported by me.

12 I further certify that this transcription of the record of
13 the proceedings truly and correctly reflects the exhibits, if
14 any, offered by the respective parties.

15 I further certify that the total cost for the preparation
16 of this Reporter's Record is \$ 447.50 and ~~was paid~~/will be
17 paid by S. Hundler.

18 WITNESS MY OFFICIAL HAND, this the 4th day of
19 September, 2003.

20

Heather S. Garcia

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HEATHER S. GARCIA, C.S.R. No. 1191

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Expiration Date: December 31, 2003

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Deputy Court Reporter, 105th District Court
Nueces County Courthouse

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901 Leopard Street, Room 802

Corpus Christi, Texas 78401

(361) 888-0319

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