

IN THE CIRCUIT COURT
THIRD JUDICIAL CIRCUIT
MADISON COUNTY, ILLINOIS

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JOYCE APPELQUIST,

Plaintiff,

v.

05-L-1176

South Carolina Case No.

06-SP-1702

BONDEX INTERNATIONAL, INC.,

GEORGIA-PACIFIC CORPORATION

and INGERSOLL-RAND COMPANY,

Defendants.

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Deposition of THOMAS A. SPORN, M.D.

(Taken by Defendants)

Durham, North Carolina

November 2, 2006

Reported by: Marisa Munoz-Vourakis -
RMR, CRR and Notary Public

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14 Deposition of THOMAS A. SPORN, taken by the
15 Defendants, at Duke University Medical Center, Department
16 of Pathology, Durham, North Carolina, on the 2nd day of
17 November, 2006 at 10:10 a.m., before Marisa
18 Munoz-Vourakis, Registered Merit Reporter, Certified
19 Realtime Reporter and Notary Public.
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1 P R O C E E D I N G S

2 Whereupon, THOMAS A. SPORN, having
3 been first duly sworn, was examined
4 and testified as follows:

5 EXAMINATION BY COUNSEL FOR DEFENDANTS

6 BY MR. JOHNSON:

7 Q. Could you state your full name, please?

8 A. Yes, my name is Thomas Arthur Sporn,
9 S-P-O-R-N.

10 Q. Are you a medical doctor, sir?

11 A. Yes, sir.

12 Q. Dr. Sporn, my name is Paul Johnson. I'm here
13 representing Georgia Pacific Corporation, Bondex and
14 Ingersoll-Rand in an asbestos lawsuit that's been filed in
15 the Madison County Circuit Court, which is housed in
16 Edwardsville, Illinois on behalf of Mrs. Joyce Appelquist
17 versus a whole host of purported manufacturers and
18 distributors and whatever of asbestos. You understand
19 that, correct?

20 A. Yes, sir.

21 Q. And you have been subpoenaed by our office to
22 appear here this morning at the Duke Medical Center,
23 Department of Pathology to give your discovery deposition
24 in this Joyce Appelquist asbestos lawsuit?

25 A. That's correct.

1 Q. And before the deposition began, I handed in
2 your direction documents -- medical records, which our
3 office had previously collected from the custodian of
4 records for Duke University Medical Center and the
5 Pathology Department, correct?

6 A. Yes, sir.

7 Q. And I've marked those as Defendant's Exhibit 1
8 with today's date, correct?

9 A. Yes, sir.

10 (The document referred to was marked
11 Defendant's Exhibit No. 1 for
12 identification.)

13 Q. Are those in fact a complete set of your
14 professional records concerning Joyce Appelquist in this
15 case?

16 A. Yes, sir, they are.

17 Q. And do you have any independent recollection
18 of Joyce Appelquist?

19 A. No, sir.

20 Q. You are a specialist in the field of
21 pathology, is that correct?

22 A. That's correct.

23 Q. Generally speaking, what is the field of
24 pathology?

25 A. Pathology is that branch of medicine that is

1 involved with the study and interpretation of disease
2 states and injury. And so we are essentially a
3 consultative liaison between patients and their treating
4 doctors.

5 We analyze tissue ranging from small biopsies
6 or fluid specimens to surgical specimens to the entire
7 human organism, trying to provide information to patients
8 and their treating doctors so that treatment and therapy
9 can begin.

10 Q. As I understand the situation and scenario as
11 it regards Joyce Appelquist, you are one of her treating
12 physicians or treating pathologists, correct?

13 A. Yes, sir.

14 Q. Before today's deposition and the last several
15 days, for example, have you had an opportunity to review
16 your records involved in her treatment?

17 A. Yes, I have.

18 Q. Okay. And what do those records consist of,
19 Dr. Sporn?

20 A. The records that I have reviewed and from Mrs.
21 Appelquist's case consisted of two separate surgical
22 pathology excisions; one is a left pleural biopsy, the
23 remainder is a left radical extra pleura pneumonectomy
24 specimen, in other words, the entirety of the lung and
25 pleura, along with some lymph nodes that were removed from

1 Ms. Appelquist following her diagnosis.

2 Q. And when was the first procedure done, the
3 left pleural biopsy?

4 A. The left pleural biopsy was done on or about
5 April 27, 2005.

6 Q. And the second procedure?

7 A. On or about May 12, 2005.

8 Q. And were you personally involved in both
9 procedures?

10 A. I was not actually involved in the actual
11 obtainment of the specimens. I'm not a surgeon.

12 Q. In the analysis?

13 A. Yes, sir.

14 Q. So you analyzed the specimens from both the
15 procedures you just described?

16 A. Yes, sir.

17 Q. And what were your conclusions based on your
18 review of the first biopsy done on 4-27-05?

19 A. My diagnosis and impression was that this
20 patient had a malignant pleural mesothelioma.

21 Q. And what was that diagnosis based on, based on
22 your review of the 4-27-05 records?

23 A. My biopsy or my diagnosis was based on
24 examination of the tissue microscopically, as well as some
25 ancillary studies histochemistry and immunoperoxidase

1 stains.

2 Q. And what specifically about those endeavors
3 led you to your diagnosis of malignant pleural meso?

4 A. Well, based on the morphology, the way the
5 cells looked like under the microscope, and what surface
6 antigens they were expressing, and especially in this site
7 led me to conclude that she had a mesothelioma basically.
8 So it's morphology and the immunophenotype.

9 Q. By using the procedures that you just
10 described in the examination that you just described under
11 the microscope, were you able to eliminate other possible
12 diagnoses that are sometimes confused or the like with
13 respect to meso?

14 A. Yes, sir, to a reasonable degree of medical
15 certainty, I excluded some other diagnostic
16 considerations.

17 Q. And then could you again repeat the second
18 procedure that you performed on 05-12-05?

19 MS. MILLER: Sir, can you please keep
20 your voice up. I'm having problems hearing
21 you.

22 BY MR. JOHNSON:

23 Q. Could you please complete the full description
24 of your 05-12-05 procedure?

25 A. My analysis, Monday May 12, 2005, was a

1 microscopic examination of lymph nodes and the left lung.

2 And, again, I concluded that Mrs. Appelquist had a
3 malignant pleural mesothelioma.

4 Q. And, again, were you able, based on your
5 experience and training, to rule out other possible
6 diagnoses that are sometimes interpreted as being meso?

7 A. Yes.

8 Q. Is that within a reasonable degree of medical
9 certainty?

10 A. Yes, sir, it is.

11 Q. As we sit here today -- those are the only two
12 procedures that you conducted with respect to examining
13 pathology on Mrs. Appelquist, is that correct?

14 A. Correct.

15 Q. To your knowledge, there's been no subsequent
16 biopsies or fiber burden studies or the like with respect
17 to Mrs. Appelquist, correct?

18 A. To my knowledge, there's been no additional
19 testing of any type done on either one of these specimens.

20 Q. And you have not been asked by Mrs.
21 Appelquist's attorneys to do any further biopsies testing,
22 fiber burden analyses or the like, is that correct?

23 A. That is correct.

24 Q. And so as we sit here today on November 2,
25 2006, it is your conclusion above anything else with

1 respect to Mrs. Appelquist's diagnosis that she has a
2 malignant pleural mesothelioma?

3 A. Yes, sir.

4 Q. Now, with respect to analyzing how or under
5 what circumstances Mrs. Appelquist got the diagnosis or
6 contracted the malignant pleural mesothelioma, have you
7 had any conversations with any other plaintiff's attorneys
8 for Mrs. Appelquist in that regard?

9 A. No, sir.

10 Q. You are well-published and well-versed in
11 asbestos-related diseases, is that correct?

12 A. I think that's fair to say, yeah.

13 Q. With respect to mesothelioma, generally,
14 Dr. Sporn, would you agree that for females such as Joyce
15 Appelquist, that the idiopathic rate or percentage of
16 cases is much higher than a male suffering from
17 mesothelioma?

18 MR. HARTLEY: I just want to object to
19 any attempts to turn Dr. Sporn into an
20 undisclosed expert for the defense, but
21 carry on.

22 A. I think it's fair to say that the incidents of
23 idiopathic pleural mesotheliomas is higher in women than
24 in men.

25 Q. And based on your experience, knowledge and

1 training, can you put a percentage on such cases that are
2 in fact idiopathic in the female population?

3 A. I can't give you specific percentages. I
4 think if you look --

5 Q. A range?

6 A. A range? Maybe between 40 and 60 percent.

7 Q. So it's your testimony, within a reasonable
8 degree of medical and pathological certainty, based on
9 your knowledge, training and expertise, Dr. Sporn, that
10 between 40 and 60 percent of mesothelioma cases in the
11 female gender are in fact idiopathic?

12 MR. HARTLEY: Objection, leading.

13 A. Again, it's difficult to apply a blanket
14 statement.

15 Q. As blanket as we can be under the
16 circumstances?

17 A. As blanket as we can be, I think, yes, if we
18 were to take women, the female sex in its entirety, yes, I
19 think that's fair to say that the incidents of
20 mesothelioma, idiopathic mesos is in the range that I just
21 cited.

22 Q. And I understand the process that the word
23 idiopathic can mean different things to different people.
24 What does it mean to you as a practicing pathologist here
25 at Duke University?

1 A. It means that there can be no causative
2 ideology implicated. If you were to remove possible
3 environmental sources, possible radiation, possible
4 asbestos exposure, then you would be forced to compel to
5 conclude that the mesothelioma in this case was
6 idiopathic.

7 Q. All right. And are you aware -- you have
8 already told me that no, you, Dr. Sporn, have not done any
9 analyses on pathology, other than on 4-27 and 5-12-05,
10 correct?

11 A. Correct.

12 Q. Are you aware, on the other hand, of any
13 additional biopsies, fiber burden testing or other
14 advanced studies done with respect to determining the
15 ideology of this meso?

16 A. Maybe I didn't make that clear in my answer to
17 an earlier question.

18 No, I'm not aware of any additional studies of
19 any kind that have been done in this case.

20 Q. And so you are unable, as we sit here on
21 November 2, 2006, to state yes or state no whether there's
22 any testing or any indications from an objective source to
23 determine the cause of this meso?

24 A. Correct.

25 Q. And certainly such testing is available in

1 today's technology?

2 A. Oh, yes.

3 Q. In your experience, Dr. Sporn, as we get into
4 the 21st century in the calendar year 2006, has the
5 prevalence of mesothelioma in the male gender plateaued,
6 or does it continue to increase?

7 A. Well, it depends on which location. Certainly
8 here in the United States, I think mesothelioma -- pleural
9 mesothelioma incidents in men has plateaued and is
10 probably on the wane.

11 Q. What about for females?

12 A. I think that the incidents of mesothelioma in
13 women is probably static, reflected in the tendency of
14 mesothelioma in women to be idiopathic.

15 Q. And you anticipated the next question.

16 My next question would have been: How would
17 you explain your professional opinion, Dr. Sporn?

18 A. The difference in the prevalence rates in the
19 male gender as opposed to the female gender? And did you
20 just answer that?

21 MR. HARTLEY: Let me just object
22 again. Paul, just to save time, I don't
23 want to object every time you start
24 asking --

25 MR. JOHNSON: You can have a

1 continuing objection for the record. We
2 have a standard catch-all in our expert
3 disclosure reserving the right to call any
4 and all treating physicians of which
5 Dr. Sporn clearly is one so, but I
6 understand the nature of your objection and
7 it's continuing.

8 MR. HARTLEY: I won't object anymore.

9 MR. JOHNSON: Sure, it's continuing
10 throughout the entire deposition.

11 A. Sorry, you are going to have to --

12 Q. Yes. You were about to explain, again,
13 perhaps the explanation for why the female gender
14 prevalence of mesothelioma has remained static over these
15 years, and I believe that's where we left off.

16 A. Right. Well, if we don't know why
17 mesotheliomas -- why a significant report of mesotheliomas
18 are caused to women, then one can't logically infer that
19 that is going to decrease any time soon.

20 Q. There are in fact other causes for
21 mesothelioma, is that correct, other than asbestos
22 exposure?

23 A. Yes, there are.

24 Q. And in your experience, training and expertise
25 in this particular field, sir, what are some of those

1 other causes?

2 A. There are rare instances of patients
3 contracting mesothelioma following radiation therapy, say
4 for a childhood malignancy.

5 There are cases where people are exposed to,
6 asbestiform minerals, erionite for example,
7 E-R-I-O-N-I-T-E, which mineralogically resembles asbestos
8 and causes mesothelioma in areas of Turkey. But no,
9 there's -- other than that, that's a -- there are very few
10 other reasons for one to contract mesothelioma.

11 Q. As far as additional possible causes of
12 mesothelioma, what about scarring of the pleura?

13 A. Those are at the case report level.

14 Q. Peritonitis?

15 A. Again, I think that also would be at the case
16 report level.

17 Q. Chronic inflammation?

18 A. Those would be following the rubric of the
19 things that you mentioned.

20 Q. Oil refinery in petro chemical workers,
21 chemical carcinogens?

22 A. No, I don't dispute that oil workers and
23 refinery workers get mesothelioma, but I don't think it's
24 because they have been exposed to petro chemicals.

25 Q. Okay, SV40?

1 A. No, I think the SV40 linked to mesothelioma is
2 weak and tenuous at best and on its way to being
3 disproven.

4 Q. Genetic predisposition?

5 A. Yes, there are very definitely families where
6 there is a clustering of mesotheliomas.

7 Q. So that would be genetic predisposition would
8 be much more significant in your mind than the previous
9 listings of SV40, scarring of the pleura, in your mind?

10 A. Yes, sir.

11 Q. True or false, I was reading some of your
12 materials on the flight down last night: A substantial
13 proportion of patients with malignant mesos have no
14 identifiable exposure to asbestos?

15 A. I think that's fair to say. That doesn't
16 mean -- if you don't mind me expanding -- that doesn't
17 mean they weren't exposed to asbestos, but they might not
18 have had an insidious or a cult exposure to asbestos.

19 Q. And thus the word identifiable, but just in
20 the general sense, you would agree with the notion that a
21 substantial proportion of patients with malignant
22 mesothelioma have no identifiable exposure to asbestos?

23 A. Yes, sir.

24 Q. And that's within a reasonable degree of
25 medical and pathological certainty, based on your

1 experience and training?

2 MR. HARTLEY: Objection, vague,
3 ambiguous.

4 A. Yes, sir.

5 Q. Do you agree with the notion that chrysotile
6 fibers shorter than five microns are not pathogenic for
7 mesothelioma?

8 A. Yes, I agree with that.

9 Q. And that's within a reasonable degree of
10 medical and pathological certainty, is that correct?

11 A. Yes, sir.

12 Q. What are the various types of asbestos fibers
13 that you have come to know and study about and publish
14 about in your experience and training?

15 A. Well, asbestos minerals are divided into the
16 amphibole asbestos, and the commercial forms being
17 principally crocidolite and amosite. The noncommercial
18 forms being tremolite, actinolite and anthophyllite.

19 The other major heading of -- mineralogically
20 of asbestos is serpentine asbestos minerals, principally
21 chrysotile.

22 Q. And what is it about your knowledge,
23 experience and training with respect to chrysotile fibers
24 that led you to answer in the affirmative a moment ago,
25 namely, that fibers of chrysotile that are less than five

1 microns in length do not contribute or cause to contribute
2 mesothelioma?

3 A. That is based upon my personal experience
4 dealing with mesotheliomas, measuring asbestos in
5 patients' lungs and reading what other experts have to say
6 in this regard.

7 Q. And certainly you, as a practicing pathologist
8 and a well-published pathologist in issues relating to
9 asbestos diseases, you make it a point to keep up with the
10 literature concerning those topics and subjects, correct?

11 A. I try to.

12 Q. And your opinion, as stated a moment ago, that
13 chrysotile fibers less than five microns in length do not
14 cause mesothelioma, that opinion that you have espoused
15 already in this deposition, that's consistent with the
16 well-reasoned literature that you are aware of out there?

17 MR. HARTLEY: Objection, leading,
18 vague.

19 A. I think that that opinion is one that has been
20 published in a variety of different venues.

21 Q. What are some other -- well, relative to
22 amphiboles, the crocidolite and amosite, the fibers that
23 you described a moment ago, do you have an opinion with
24 regard to the relative toxicity or potencies of the
25 various asbestos fibers?

1 MR. HARTLEY: Objection, vague,
2 outside his area of expertise.

3 BY MR. JOHNSON:

4 Q. You understand my question?

5 A. Yes, I did.

6 Q. First of all, did you understand my question?

7 A. Yes, I did.

8 Yes, I think it's recognized that the
9 commercial amphiboles, specifically amosite and
10 crocidolite are more mutagenic, carcinogenic, injurious
11 than say chrysotile and possibly some of the noncommercial
12 amphiboles.

13 Q. And I processed what you just said. Now, my
14 follow up to that is: Can you put some sort of numerical
15 figure on how much more times crocidolite is carcinogenic
16 than chrysotile, and then the same question with respect
17 to amosite?

18 A. No. I would have to say many times, but very
19 many times. But I can't -- I'd rather not be pinned down
20 to a numerical value.

21 Q. But at least so I get this straight, and that
22 the transcript is straight, you did state a moment ago
23 that it's your opinion within a reasonable degree of
24 medical and pathological certainty, that crocidolite and
25 amosite are "very many times more carcinogenic than

1 chrysotile fibers"?

2 MR. HARTLEY: Objection, leading,
3 misstates his prior testimony.

4 BY MR. JOHNSON:

5 Q. Did I misstate that in any way, shape or form,
6 sir?

7 A. I don't believe you did.

8 Q. That's what you said, right?

9 A. Yeah.

10 Q. And what is it about the chrysotile fiber that
11 leads you to that opinion, namely, that crocidolite and
12 amosite have very many more times carcinogenic than
13 chrysotile fibers?

14 MR. HARTLEY: Objection, leading.

15 A. If you wouldn't mind just repeating the
16 question?

17 Q. Yeah. What is it about -- deriving from your
18 background, training and experience in the field of
19 asbestos-related diseases, and your many publications in
20 that field, what is it about chrysotile fibers relative to
21 amphibole fibers, for example, that lead you to conclude
22 that crocidolite and amosite are "very many times more
23 carcinogenic than chrysotile"?

24 A. Well, there's two components to my answer.
25 One is the biopersistence of the amphiboles, which hang

1 around the human body for decades following inhalation,
2 where as that's not the same for chrysotile. In fact, not
3 only do they biopersist, but we measure them, we see them
4 when we do asbestos analyses.

5 Q. The fiber burdens?

6 A. Yes. It's not just something that we know
7 from reading that there's biopersistences. It is quite
8 long. But we actually see this when we do the injections,
9 where we don't see a chrysotile.

10 Q. Now, you tell me if I'm wrong, and I probably
11 will be wrong. Is your use of the word biopersistence in
12 your answer a few seconds ago, is that the same way of
13 saying that the body's defense mechanism, so to speak,
14 with regard to chrysotile expel most of the chrysotile
15 from the human lungs and pleura?

16 A. Yeah, that's another way of looking at it
17 that.

18 Q. Whereas amphiboles don't?

19 A. That terminology, I think, is better termed as
20 clearance, where chrysotile has high clearance, low
21 biopersistence, amphiboles have low clearance, high
22 biopersistence.

23 Q. What are the body's mechanisms that expel a
24 very much higher percentage of chrysotile fibers than the
25 amphibole fibers?

1 MR. HARTLEY: Objection, vague,
2 ambiguous.

3 BY MR. JOHNSON:

4 Q. First of all, in deference to the objection,
5 did you understand my question?

6 MR. HARTLEY: Same objection.

7 A. I think I did, yes.

8 Q. I thought you did, so go ahead.

9 MR. HARTLEY: Same objection.

10 A. The body clears chrysotile fibers through the
11 ciliary apparatus, through expectoration, through -- some
12 very long fibers might not get deposited in small airways
13 at all, and there's also additional biochemical breakdown
14 of chrysotile, to my knowledge.

15 Q. Is it your opinion, within a reasonable degree
16 of medical and pathological certainty, that these body
17 defense mechanisms that you just described do a very good
18 job naturally in expelling a very high percentage of
19 chrysotile fibers from the human lungs and pleura?

20 A. I think they do -- I think the body's defense
21 mechanisms are quite adequate in clearing chrysotile. You
22 can't look back at a field where you don't see any
23 chrysotile and say oh, there could have been X amount of
24 fibers there. I can't answer that question, but I do
25 think the body's defense mechanisms are able to clear

1 fibers with the physical chemical attributes of
2 chrysotile.

3 Q. And on the flip side of that same coin, can
4 you also now comment about the relative difficulties of
5 those same defense mechanisms of the human body to expel
6 amphibole fibers?

7 A. They are inferior.

8 Q. In what ways are they inferior, and to what
9 degrees are they inferior?

10 A. Well, I think they are inferior due to the
11 confirmation of the asbestos fibers, which tend to be
12 short, or, excuse me, not short, but slender and pointed
13 and less able to be trapped in the ciliary apparatus and
14 tend to resist biochemical degradation.

15 Q. Staying with mesothelioma, but talking now
16 about latency period, what's your opinion, based on your
17 experience, knowledge and training, as to a normal latency
18 period for mesotheliomas, such as the pleura meso that Ms.
19 Appelquist has in this case?

20 A. For asbestos-related mesotheliomas the latency
21 period is measured in decades from time of exposure,
22 typically. And there's not -- the only thing that we can
23 say with certainty is that it's long. There are some
24 patients who might have it measured in 15 years, and some
25 people who I think in our literature have developed

1 mesothelioma 70 years after asbestos exposure.

2 Q. That answer you gave was for asbestos-related
3 mesos, correct?

4 A. Yeah.

5 Q. What is the lowest latency period that you are
6 aware of in your professional appearance and expertise
7 with respect to an asbestos-related meso?

8 A. I never really pondered to think what the
9 shortest duration.

10 Q. Now, you prefaced your last answers, as far as
11 latency periods, by pointing out that your answers were
12 for asbestos-related mesotheliomas. Now, what about
13 idiopathic mesotheliomas, based on your knowledge,
14 training and experience as far as the latency period is
15 concerned?

16 MR. HARTLEY: Objection, vague and
17 ambiguous.

18 A. I would have to say you can't have a latency
19 period if you don't have an exposure, so.

20 Q. Nothing to judge it by?

21 A. Exactly. If you don't know what you are being
22 exposed to, you can't measure latency period, what, if
23 anything, you are exposed to.

24 Q. Correct. And, therefore, the term idiopathic,
25 no explanation?

1 A. Yeah, like I said, the concept of the latency
2 period I don't think applies to idiopathic diseases.

3 Q. Okay. And, again, light reading on the plane
4 last night, going from yours, Dr. Roggli's book, true or
5 false, amosite is the most common fiber associated with
6 mesothelioma in United States workers?

7 A. Yes, sir.

8 Q. And based on your experience, training and
9 expertise in pathology and in studying asbestos-related
10 diseases, industries such as ship building, service in the
11 United States Navy, construction industry, insulation
12 industry, have had the most meso cases, in your
13 experience?

14 A. In our experience, yes, sir, they have.

15 Q. And similarly, it's true to say, Dr. Sporn, is
16 it not, that occupations such as pipefitting, welding,
17 boilermaking, maintenance workers, machinists and
18 electricians have had the most meso cases, based on your
19 experiments and studies?

20 A. Well, based on the populations that we've had
21 available for us to analyze, yes, sir.

22 Q. Is it your opinion, Dr. Sporn, within a
23 reasonable degree of medical and pathological certainty,
24 that low-level exposures to chrysotile are not likely to
25 increase one's risk for contracting mesothelioma?

1 MR. HARTLEY: Objection, vague,
2 ambiguous.

3 A. Yes, sir, I think that that's fair to say.

4 Q. Now, again, the term low-level exposures can
5 mean one thing to one pathologist as to another
6 pathologist, correct?

7 A. Correct.

8 Q. What do you mean when you use the term
9 low-level exposure?

10 A. To me, it's an exposure that is not likely to
11 result in a tissue -- in the individual so exposed getting
12 a level of asbestos in their lungs before that of control
13 populations.

14 Q. On the flip side, do you have an opinion,
15 Dr. Sporn, with respect to whether low-level exposures to
16 commercial amphiboles might or could cause mesotheliomas?

17 MR. HARTLEY: Objection vague,
18 compound.

19 A. It's my opinion that any exposure to amphibole
20 asbestos that is likely to result in one sustaining an
21 increase in tissue asbestos above controls will contribute
22 to mesothelioma.

23 Q. And certainly if in this case the evidence
24 suggests in front of the jury in Madison County that Mrs.
25 Appelquist's father was in fact a pipefitter, electrician,

1 a boilermaker, what would that indicate to you, sir?

2 A. That would indicate to me, without knowing the
3 details of the family dynamics of the Appelquist family,
4 that there would at least be a possible scenario where
5 under the right circumstances, where Mrs. Appelquist could
6 have been exposed to asbestos through her father who was
7 so employed.

8 Q. Based on your knowledge, experience and
9 training in conducting of experiments in the field of
10 asbestos-related diseases, and your publishing of books
11 and articles with respect to asbestos-related diseases,
12 and asking you to assume that Mrs. Appelquist's father was
13 in fact a boilermaker, was in fact a welder, was in fact a
14 pipefitters and also performed electrician activities and
15 has a work history sheet going through the 1940s and '50s
16 and '60s at various steel mills, refineries, plants and
17 the like, first of all, is that the type of work history
18 that you and your colleagues in your published materials
19 take into consideration in determining ideology or causes
20 for mesos?

21 A. Yes.

22 MR. HARTLEY: Objection, vague,
23 ambiguous. Assumes facts not in evidence,
24 incomplete hypothetical.

25 Q. So you are used to, along with your

1 colleagues, of hearing and digesting work histories, such
2 as what I just asked you to take into consideration,
3 right?

4 MR. HARTLEY: Same objection.

5 A. Yes. Whenever we are asked to weigh in about
6 possible means of exposure to asbestos, we take into
7 account work histories of other family members, yes.

8 Q. And so asking you to take into consideration
9 and asking you to assume it's true that Mrs. Appelquist's
10 father in the 1940s, '50s and '60s was in fact a
11 boilermaker, welder, pipefitter and electrician at various
12 steel mills, refineries around the United States, and that
13 further, Mrs. Appelquist testified in her deposition that
14 in her adolescent ages, she was asked to do the laundry
15 and clean her father's clothing from those work sites and
16 from those work activities, is that a type of scenario
17 that you and your colleagues have analyzed before?

18 A. Yes, it has.

19 Q. First of all, with respect to the work
20 activities and the occupations that I described, that Mrs.
21 Appelquist's father was involved in, what sort of
22 exposures does that connote to you, based on your
23 experience, knowledge and training?

24 MR. HARTLEY: Objection, calls for
25 speculation.

1 A. We have identified that those occupations have
2 potential for significant asbestos exposure.

3 Q. And when you say significant asbestos
4 exposure, what type of exposure are you referring to?

5 A. Exposure to amphibole asbestos.

6 Q. And without asking you to assume anything more
7 at this point in the deposition, based on the hypothetical
8 I have asked you to assume, the status of Mrs.

9 Appelquist's father as a boilermaker, welder, pipefitter
10 and electrician for over 30 years at various steel mills,
11 refineries and factories throughout the United States,
12 without any other information at this point, do you have
13 an opinion within a reasonable degree of medical and
14 pathological certainty as to what type of exposure? And
15 further assume, I'm sorry, that Mrs. Appelquist during her
16 adolescence did the laundry at home and would wash her
17 father's clothing, do you have an opinion as to whether or
18 not what type of exposures she would have been exposed to?

19 A. That's a hard --

20 Q. Assuming any?

21 A. That's a hard question for me to answer. I
22 think that -- I think it is reasonable for me to state
23 that Mrs. Appelquist's father would have belonged to a
24 cohort of patients or of individuals that we have
25 identified as having significant asbestos exposure.

1 It is also reasonable to place Mrs. Appelquist
2 in a cohort of individuals who may have sustained asbestos
3 exposure through exposure to a primarily exposed
4 individual.

5 Q. And, again, as we sit here today, and as we
6 have already established in this deposition, there are no
7 objective testing that has been done with respect to Mrs.
8 Appelquist that would help you answer the questions I'm
9 asking?

10 A. No, there haven't been.

11 Q. And such testing would help you, if you were
12 asked to answer that question?

13 A. Well, I think such testing would, I think,
14 would provide significant information as regard what, if
15 any, type of exposure to asbestos Mrs. Appelquist had.

16 Q. If any. Because she certainly could within a
17 reasonable degree of medical and pathological certainty,
18 based on your experience, knowledge and training, be part
19 of that 40 to 60 percent or so of those mesos which are in
20 fact idiopathic?

21 A. She could be, but if you superimpose the
22 additional bit of information that her household contact
23 may have had significant asbestos exposure, I think that
24 might place her, might tend to place her less in an
25 idiopathic cohort.

1 Q. Again, going through some of your written
2 work, Dr. Sporn, it is true and accurate to state that
3 there is no convincing evidence for a causative
4 relationship between peritoneal mesothelioma and exposure
5 to chrysotile dust?

6 A. In my opinion, yes, that's true.

7 Q. What's the basis for that opinion as stated?

8 A. It's my experience and training and my
9 personal experience.

10 Q. Doctor, do you have any reason to agree or
11 disagree that there are no signs of pleural plaques or
12 interstitial fibrosis in Mrs. Appelquist's testing?

13 A. I did not see any evidence of pleural plaques
14 or interstitial fibrosis, no.

15 Q. And what significance, if any, do you attach
16 to that fact?

17 A. Pleural plaques are emblematic of asbestos
18 exposure.

19 Q. So if in fact some of Mrs. Appelquist's
20 testing had evidenced the presence of pleural plaques
21 and/or interstitial fibrosis, what would that have
22 indicated to you?

23 A. That she was exposed to asbestos.

24 Q. And in the absence of any such signs or
25 indications?

1 MR. HARTLEY: Objection, vague.

2 A. Well, no, I think that not everyone who is
3 exposed to asbestos or has asbestos-related mesothelioma
4 will have plaques.

5 Q. But certainly that would be one confirmatory
6 fact for you, if in fact there are signs of pleural
7 plaques or interstitial fibrosis that would indicate some
8 asbestos exposure?

9 A. Oh yes, and that would be enough for me to
10 state -- if we saw plaques here, not so much interstitial
11 fibrosis, because interstitial fibrosis is very common,
12 but if I had seen pleural plaques in there, I would have
13 stated in my report that the mesothelioma was caused by
14 asbestos.

15 Q. But to be fair, what you are saying is just
16 because there's an absence of pleural plaques, doesn't
17 mean you can conclude that there was no asbestos exposure?

18 A. That is correct.

19 Q. Also in the notes, there's an indication of
20 asbestos bodies not identified on routine or in special
21 stains for iron. What significance is that finding in
22 your notes?

23 A. Well, I, again, if they were present there,
24 that would help me be comfortable saying this was an
25 asbestos-related mesothelioma. The fact that we didn't

1 see any, again, that does not mean that this is not an
2 asbestos-related mesothelioma.

3 Q. Again, forgive my naivety here, but you
4 already indicated and testified and confirmed that there
5 were no signs of pleural plaques and interstitial
6 fibrosis. And then I just read this part of your notes
7 stating asbestos bodies not identified by routine or in
8 special stains for iron.

9 Are those asbestos bodies to which reference
10 was made in your notes different from pleural plaques
11 and/or interstitial fibrosis?

12 A. Yes.

13 Q. What would they be referring to? What type of
14 asbestos bodies?

15 A. Well, you never see, for example, asbestos
16 bodies inside pleural plaques. Pleural plaque is just a
17 scar caused by asbestos inhalation.

18 Asbestos bodies themselves are the actual
19 asbestos fibers in the lung.

20 Q. And what sort of testing was being done here
21 on this surgical path report such that you can make that
22 conclusion in your note, asbestos bodies not identified?

23 A. Asbestos bodies can be observed just on
24 routine sections if they are present. And to make it a
25 little bit easier on ourselves, because they can be tricky

1 to find, we will do an iron stain, because the coating for
2 asbestos bodies contains iron, and that helps light them
3 up a little bit, if you will.

4 Q. Is that the reason that you -- is that the
5 reason that you did a stain test for iron?

6 A. Yes.

7 Q. Is that the only purpose that you would have
8 done a stain test for iron?

9 A. Yes.

10 Q. And does the fact that there are no pleural
11 plaques, does the fact that there is no interstitial
12 fibrosis, and does the fact that you found no asbestos
13 bodies even though you did a special testing stain for
14 iron, does that make you less comfortable in making any
15 sort of asbestos-related conclusion here with respect to
16 Mrs. Appelquist's meso?

17 A. Well, for the basis of this reporting, it
18 does. But, again, the fact that we're not seeing plaques
19 and that we are not seeing asbestos bodies, I don't think
20 that exonerates asbestos. I think to exonerate asbestos,
21 we would have to do additional testing.

22 Q. What would you have to do?

23 A. We would have to do a fiber burden analysis.

24 Q. With regard to fiber burden analysis and the
25 methodology for doing such testing, I'm assuming, and

1 correct me if I'm wrong, that you would agree with
2 Dr. Roggli's methodology, as evidenced in his publications
3 and books, as you are part of them?

4 A. Yes, the technique that he taught me.

5 Q. And that would include counting only fibers
6 five microns or longer?

7 A. Correct.

8 Q. And the reason you do that, the reason
9 Dr. Roggli does that is because only the fibers longer
10 than five microns are carcinogenic based on your
11 experience, training and expertise?

12 A. Correct.

13 Q. Do you agree or disagree with the notion that
14 only 20 percent of female pleural mesotheliomas are
15 conclusively related to asbestos exposure, based on your
16 knowledge and the studies and literature out there in the
17 pathological community?

18 MR. HARTLEY: Objection, vague,
19 ambiguous, asked and answered.

20 A. Again, please?

21 Q. Yes, sir. Do you agree or disagree with a
22 study in the pathological literature, which concluded that
23 20 percent of pleural mesotheliomas in the female gender
24 are conclusively related to asbestos exposure?

25 MR. HARTLEY: Same objection.

1 A. Again, I'm not sure that fewer than
2 20 percent -- you run into problems in some studies,
3 because of different laboratories having different control
4 levels. So.

5 Q. Well, I won't hold you to that number.
6 Approximately?

7 A. I think I may have already stated that
8 earlier, at least, you know, a sizable majority of mesos
9 are idiopathic, a sizeable number.

10 Q. But I was asking the flip side of the
11 question, as you probably have gathered, and that is: Can
12 you put a reasonable percentage, based on your experience,
13 knowledge and training, as to which ones are in fact
14 related to asbestos exposure?

15 A. I think across the board, women I think it's
16 the minority, and, again, I can't -- I would rather not
17 get pinned down to numbers.

18 Q. Are you aware of the Spirtas study,
19 S-P-I-R-T-A-S, in that regard?

20 MR. HARTLEY: Objection, vague.

21 A. I would have to see it.

22 Q. Okay, fair enough.

23 I didn't see any other indications of any
24 other studies, other than the iron study, in your notes or
25 in the Pathology Department's notes at Duke to indicate

1 the absence of asbestos bodies. Were there other studies?

2 A. No, sir, there weren't.

3 Q. Have you, in conjunction with Dr. Roggli or
4 for that matter in conjunction with medical/legal matters
5 before 2006, been asked to analyze or study joint
6 compound?

7 A. No.

8 Q. Nothing with respect to joint compound and its
9 alleged, alleged causation of mesothelioma?

10 A. No, we haven't.

11 MR. JOHNSON: That's all the questions
12 I have, Doctor. Thank you very much.

13 MR. HARTLEY: Anyone on the phone have
14 any questions for the doctor?

15 MS. MILLER: No, questions.

16 MR. DILLENBECK: I need to enter my
17 appearance, I'll wait.

18 MR. HARTLEY: Anyone else have any
19 questions?

20 We will let you know when we're done.

21 Paul has another question.

22 BY MR. JOHNSON:

23 Q. Dr. Sporn, are you familiar with the EPA 2003
24 study with respect to asbestos-related disease in
25 chrysotile?

1 MR. HARTLEY: Objection, vague.

2 A. I would have to see the actual document.

3 Q. It's called peer consultation workshop on a
4 proposed asbestos cancer risk assessment?

5 MR. HARTLEY: Objection, misstates
6 what it is.

7 A. I'm sure I've seen it.

8 Q. In any event, to save time here, what I'm
9 asking you is: Do you agree with the notion and the
10 conclusion of that study that the possibility that pure
11 chrysotile is nonpotent for causing mesothelioma cannot be
12 ruled out by the epidemiological data?

13 MR. HARTLEY: Objection,
14 mischaracterizes the document as a study,
15 and it's outside his area of expertise.

16 A. No, I don't think that pure chrysotile --
17 there are instances of mesothelioma caused by inhalation
18 of pure chrysotile.

19 Q. I'm sorry, I didn't understand your answer.

20 A. I may have misunderstood your reading of the
21 letter, but it's -- if I understand the phraseology, I
22 would be hesitant to say that pure chrysotile is across
23 the board noncarcinogenic.

24 Q. In terms of causing mesothelioma though?

25 A. That's what I mean, yes.

1 Q. Put another way, you recognize in your
2 training, experience, I believe what you are saying, tell
3 me if I'm wrong, that in certain high dosages, you are of
4 the opinion that chrysotile can cause or contribute to the
5 cause of meso?

6 A. Yes.

7 Q. But if I heard what you said in process with
8 what you said earlier, at least in your definition of low
9 exposure versus high exposure, it would take a very high
10 exposure of chrysotile, in your medical opinion, in your
11 pathological opinion, to contribute to cause a meso, is
12 that --

13 A. Correct.

14 Q. And what would you consider, Dr. Sporn, to be
15 a very high exposure?

16 A. Again, I can't come up with a scenario, other
17 than sticking one's head in a bag of chrysotile and
18 breathing it in. Beyond that, I lack the -- I'm not an
19 occupational hygienist. I can't --

20 Q. Would you have to take it on a case-by-case
21 basis?

22 A. Yes.

23 Q. All right. Then am I free to assume in this
24 particular case, Mrs. Appelquist's husband claims that he
25 was employed by a high school, and that on several

1 occasions per month, as part of monitoring a, for lack of
2 a better term, vocational occupational program implemented
3 by the school, he would have to leave the school grounds
4 and go out in the community and supervise some students
5 that were taking jobs in the community. And that Mr.
6 Appelquist claimed that in monitoring these kids a few
7 times per month, he would observe them sanding joint
8 compound on a wall. He would wear a suit and tie to these
9 endeavors, to make sure that the kids were doing what they
10 were supposed to do and reporting to the sites where they
11 were supposed to report, and he claims that on occasions,
12 he would get stuff on, you know, materials on his suit and
13 tie, but that his suit and tie would be dry cleaned, and
14 the rest of the laundry would be taken home on these
15 occasions per month when he would observe these students
16 of his.

17 Is that the type of activity, that I just
18 described, is that what you would consider to be a high
19 exposure, using your definition of high exposure for
20 Dr. Sporn?

21 MR. HARTLEY: Objection, vague,
22 ambiguous, incomplete hypothetical, outside
23 of his expertise.

24 A. I would think that the scenario that you just
25 described would be unlikely to result in either an

1 occupational or paraoccupational exposure to chrysotile.

2 Q. And what do you mean by occupational or
3 paraoccupational?

4 A. I mean, I think the supervising of others, the
5 gentleman supervising that was his occupation, so I
6 think --

7 Q. Several times per month. It wasn't full time
8 out there in the field.

9 A. No, but that was still in the course of his
10 job description. So it is an occupation.

11 So I think that type of occupation,
12 supervising several times a month in a suit and tie from a
13 distance is not likely, either for an individual so
14 employed or any of his household contacts to result in
15 asbestos exposure.

16 Q. And what about in this particular case?
17 Assume that there was a time in the '60s where some --
18 their own home was improved. They put in an archway and
19 used some joint compound and had to sand it down, and then
20 chipped some joint compound out because the originally-
21 applied joint compound wasn't working, and Mr. Appelquist
22 and perhaps his father-in-law put in another batch of
23 joint compound to make the archway look aesthetically
24 pleasing as far as the home improvement was concerned. Is
25 that the type of scenario that I just posited that you

1 would consider to be a very high exposure, potentially so,
2 to chrysotile asbestos?

3 MR. HARTLEY: Same objection,
4 incomplete hypothetical.

5 A. I would have to say no, that's not likely to,
6 I think, result in significant exposure to asbestos.

7 Q. And why is that, sir?

8 MR. HARTLEY: Same objection.

9 A. Again, my answer to this is based on we have
10 never seen individuals like this in our practice, nor do I
11 believe that -- I guess it would have to be the main, as
12 someone who is not an occupational hygienist, someone who
13 is not going out and evaluating job sites, I would just
14 have to say that intuitively, and the fact that we have
15 not seen, you know, people employed in this type of
16 activity all across the country, we have not seen this in
17 our practice as folks who are coming in with mesothelioma.
18 So that's one of the main thrusts here of my opinion.

19 I don't work with joint compound. I'm not an
20 occupational hygienist.

21 Q. You know what it is though?

22 A. Yeah, I know what it is.

23 Q. What is it?

24 A. It's something that's employed in seams and
25 joints in construction.

1 Q. And then I want to throw back into the mix
2 here in this conversation we were just having in these
3 last several minutes, the aforementioned history of Mrs.
4 Appelquist's father in his work career in the '30s, '40s,
5 '50s and '60s and being a boilermaker, welder, pipefitter
6 and electrician at various work sites throughout these
7 United States. In your previous testimony, that would
8 connotate amphibole exposure of a high nature, correct?

9 MR. HARTLEY: Objection misstates his
10 prior testimony.

11 BY MR. JOHNSON:

12 Q. Does that misstate your prior testimony?

13 MR. HARTLEY: Same objection.

14 A. I think that would place him without detailed
15 knowledge of an individual, would sort of place him in a
16 cohort that we have described as having significant
17 asbestos exposure.

18 Q. In the order of magnitude of things, when you
19 compare and contrast what I asked you to assume was true
20 as far as Mrs. Appelquist's father's career is concerned
21 on the one hand, and her husband working as a vocational
22 supervisor several times per month, going out to work
23 sites to make sure students are where they are supposed to
24 be and observing them from time to time using some
25 products involving joint compound. In the order of

1 magnitude of things, what's the more significant exposure?

2 A. I think clearly the exposure to a
3 paraoccupational exposure to someone who has been exposed
4 to commercial amphiboles would be much more critical.

5 Q. And given the facts that I posited to you as
6 far as the husband, Mr. Appelquist's work history and
7 alleged exposure to joint compound products, that would
8 certainly not fit within your definition of a significant
9 exposure to chrysotile, correct, without knowing more?

10 A. I certainly would be very surprised, based on
11 that, whether the gentleman would have significant
12 exposure to asbestos or any type of asbestos-related lung
13 disease.

14 Q. And, therefore, based upon the information
15 I've asked you to assume as true, you would not have an
16 opinion within a reasonable degree of medical and
17 pathological certainty, would you, Dr. Sporn, that this
18 alleged exposure to chrysotile containing joint compound
19 product would even be a contributing factor to any
20 mesothelioma contracted by his wife, correct?

21 A. Correct.

22 MR. JOHNSON: That's all the questions
23 I have.

24 MR. HARTLEY: Second try for anyone on
25 the phone who has questions?

1 EXAMINATION BY COUNSEL FOR PLAINTIFF

2 BY MR. HARTLEY:

3 Q. Dr. Sporn, you have been asked about the
4 importance of doing further testing on Mrs. Appelquist's
5 tissue, is that correct?

6 A. Well, yes, I have.

7 Q. Did you recommend any further testing as part
8 of your work as a treating physician in this case?

9 A. No, I didn't.

10 Q. Would doing a fiber burden analysis do
11 anything to help treat Mrs. Appelquist's mesothelioma?

12 A. No, sir, and that's why it was not performed
13 in this case.

14 Q. In fact, it's normal not to do that sort of
15 thing if you are not trying to identify the ideology of
16 the cancer, isn't it?

17 A. Yes, that's correct.

18 Q. There is no reason for you to do that in this
19 case, was there?

20 A. No, sir.

21 Q. There was no implication here that any lawyers
22 prevented you from doing any fiber burden analysis here in
23 this case?

24 A. No, absolutely not.

25 Q. You haven't been asked to be an expert in this

1 case by anyone, have you?

2 A. No, sir.

3 Q. You came here today thinking you were going to
4 give your knowledge about the facts of this case, correct?

5 A. That is correct.

6 Q. You did not anticipate being offered as an
7 expert in this trial in any way?

8 A. No, I didn't.

9 Q. You were asked about some of the potential
10 causes of mesothelioma. And one of things you mentioned
11 was radiation. Is there epidemiology supporting radiation
12 as a cause of mesothelioma in humans?

13 A. There have been review articles, and I think
14 one I think I cited this in my chapter on mesothelioma in
15 our textbook, the one study that radiation didn't appear
16 to play a role. But in my own practice, we have seen
17 these mesotheliomas developed in a radiated chest of scar
18 tissue.

19 Q. So you are willing to accept that under
20 certain circumstances, radiation can cause mesothelioma
21 because of what you know about radiation's effect on the
22 human body, correct?

23 A. That is correct.

24 Q. Even though there's no epidemiology to support
25 that?

1 A. Correct.

2 Q. When it comes to exposures to various
3 carcinogens, let's talk about it as a concept: Lung
4 cancer. Does cigarette smoking cause lung cancer?

5 A. Yes, it does.

6 Q. Do Marlboro cigarettes cause lung cancer?

7 A. Yes, they do.

8 Q. How do you know that if there's no
9 epidemiology in people who only smoked Marlboro
10 cigarettes?

11 A. Well, I think it's -- I mean, I think that you
12 have to infer that there's a tremendous amount of data
13 regarding the potential for cigarette smoke to be
14 carcinogenic. Marlboro is a brand of cigarette that
15 produces -- I don't know of anything that would argue
16 against the smoke from Marlboro cigarettes as being any
17 different from the smoke produced by Camels or Lucky
18 Strikes, whatever. So it is a logical inference that
19 Marlboro brand is a form of cigarette that causes lung
20 cancer.

21 Q. And that's because the active ingredient or
22 the carcinogenic ingredients in tobacco are in more than
23 one kind of cigarette, correct?

24 A. Correct.

25 Q. Now, what would you think if I told you, if I

1 were to argue to you that there's no way we can prove that
2 joint compound that contains chrysotile and contaminant
3 tremolite causes mesothelioma, because there are no
4 studies showing that dry wall workers who were exposed to
5 heavy levels of that material have suffered mesothelioma
6 at an excess rate?

7 MR. JOHNSON: Objection to the form of
8 the statement.

9 A. Again, you lost me there. I'm sorry.

10 Q. Okay. When it comes to asbestos-containing
11 products, it's the asbestos in those products that has the
12 potential to cause mesothelioma in humans, correct?

13 A. Well, no, I think there you have to decide
14 asbestos as an injurious agent isn't completely analogous
15 to cigarette smoke. I think all of -- I think you have to
16 look at the actual fiber types of asbestos and the
17 mineralogy before -- as part of your analysis.

18 Q. Okay. And I think you were asked some
19 questions about fiber length. Is that one of the issues
20 you are talking about?

21 A. Yes, correct.

22 Q. And also the amphibole versus the chrysotile
23 distinction, correct?

24 A. Correct.

25 Q. Tremolite is an amphibole that is found in a

1 lot of chrysotile fibers, isn't it?

2 A. Yes.

3 Q. You know from your own work that tremolite
4 that contaminates chrysotile products is found in people
5 exposed to chrysotile products who have mesothelioma,
6 correct?

7 A. Correct.

8 Q. That is a contaminate in chrysotile products
9 that you believe causes mesothelioma in humans, correct?

10 MR. MAGINOT: Object to the form of
11 the question. Assumes facts not in
12 evidence, overly broad.

13 BY MR. HARTLEY:

14 Q. How is it that scientists know that Canadian
15 chrysotile contains a contaminate of tremolite?

16 MR. JOHNSON: Object to the form of
17 the question.

18 A. I think by mineralogic analysis and by
19 analyzing the lung tissue of people who have been so
20 exposed.

21 Q. There are studies of the air around Canadian
22 chrysotile mines that show tremolite in the air around
23 those mines, correct?

24 A. Correct.

25 Q. That's one of the bases on which we know that

1 Canadian chrysotile is contaminated with tremolite, isn't
2 it?

3 A. Correct.

4 MR. MAGINOT: Object to the form of
5 the question.

6 Christian, so we have a clear record,
7 can one objection for one be one for all?

8 MR. HARTLEY: Sure, it's easier that
9 way.

10 Q. Any kind of -- any brand of asbestos as far as
11 you know contains a wide variety of fiber lengths,
12 correct?

13 A. I don't know if that's true or not.

14 Q. I want to talk to you a little bit about how
15 mesothelioma is caused by asbestos.

16 Can you explain that to me?

17 A. There's a variety of different, I mean, huge,
18 not easily I can. It involves recruitment of inflammatory
19 cells, of free -- oxygen free radical generation, all of
20 which acts to damage the DNA of the mesothelial cells, is
21 the short answer.

22 Q. Does the asbestos have to contact the pleura
23 for it to cause mesothelioma in the pleura?

24 A. I think so, yes.

25 Q. Now, there are a lot of other researchers who

1 do fiber burden analysis like you and Dr. Roggli do here
2 at Duke, is that correct?

3 A. Correct.

4 Q. Who are some of the people that you believe
5 are well-respected in that field?

6 A. Sam Hammer; Dodson, down at the University of
7 Texas.

8 Q. That's Ronald Dodson?

9 A. Yeah.

10 Q. Those two gentlemen disagree with your
11 position on fiber length and its relative -- and its
12 carcinogenicity, isn't that true?

13 A. I think they have published things where they
14 have different opinions regarding the carcinogenicity of
15 chrysotile, yes.

16 Q. Now, have you specifically researched the
17 literature in order to form an opinion, your opinion about
18 fiber length, or are you just generally taking that from
19 what you've seen?

20 A. I have in the past looked at what the
21 available literature has to say.

22 Q. And have you published any articles in that
23 area?

24 A. No.

25 Q. Is that area discussed in your textbook, your

1 most recent version of your textbook?

2 A. Is what discussed?

3 Q. Your belief that fibers, chrysotile fibers
4 shorter than five microns don't cause mesothelioma in
5 humans?

6 A. I don't think that statement was made in our
7 text.

8 Q. That's something that's open to debate?
9 You believe that based on your experience, but
10 many others believe otherwise, correct?

11 A. Others believe otherwise, yes.

12 Q. And those others would be people who are well
13 respected, like Dr. Dodson and Dr. Hammer, correct?

14 A. Correct.

15 Q. They too, like yourself and Dr. Roggli, have
16 spent a good part of their lifetime studying the ideology
17 of asbestos-related disease?

18 A. Yes.

19 Q. One article -- Dr. Dodson has actually
20 published an article on that topic, hasn't he? It's a
21 review article about short fiber chrysotile or short
22 fibers and its ability to cause mesothelioma?

23 A. Right.

24 Q. And his conclusion is that the evidence is
25 that you can't rule out short fibers, right?

1 A. That's what he says, yes.

2 Q. And that's based on a whole host of things,
3 most importantly, that there isn't a whole lot of
4 information out there of people exposed only to short
5 fiber, correct?

6 A. Yeah.

7 Q. Switching topics, you were asked about a
8 genetic predisposition to mesothelioma. There are
9 families that where it seems that they get mesothelioma
10 more easily than others, right?

11 A. Yes.

12 Q. In those people with genetic predispositions
13 to mesothelioma, you can't rule out that asbestos caused
14 those mesotheliomas in those families either, can you?

15 A. No, absolutely.

16 Q. In fact, just because -- well, all people have
17 different abilities to resist various toxins, isn't that
18 true?

19 A. Absolutely.

20 Q. Some families may have a weakened ability to
21 resist a kind of cancer, but that doesn't mean the cancer
22 wasn't caused by a particular agent, such as asbestos,
23 right?

24 A. Correct.

25 Q. Do you know who Dr. Kent Pinkerton is?

1 A. No.

2 Q. How about Arnold Brody?

3 A. Yeah.

4 Q. Is Arnold Brody a well-respected scientist who
5 studies asbestos-related disease?

6 A. Yes.

7 Q. He once was at Duke here, correct?

8 A. Yeah, before my time, yeah.

9 Q. And you know Dr. James Crapo?

10 A. Yes.

11 Q. He was -- is he still here at Duke?

12 A. No.

13 Q. Have you ever heard of coalinga chrysotile?

14 A. No.

15 Q. Do you believe that the longer the chrysotile
16 fiber or any of the asbestos fiber, the more propensity it
17 has to cause mesothelioma as long as it is something that
18 is respirable, correct?

19 A. Yeah. Beyond a certain point, things can get
20 so big, they are not respirable or deposited in the airway
21 at all.

22 Q. Let me talk to you about a lot of your
23 testimony, which makes sense, was based on your
24 experiences here at Duke.

25 You do a lot of work with the electron

1 microscope here at Duke, correct?

2 A. Yes.

3 Q. You use a scanning electron microscope,
4 correct?

5 A. Yes.

6 Q. That has less resolution than a transmission
7 electron microscope?

8 A. Yeah, I think that's fair to say.

9 Q. Transmission electron microscope can see
10 fibers that are thinner than a scanning electron
11 microscope, correct?

12 A. I really don't have much experience with TEM
13 to comment on its use in asbestos analysis.

14 Q. You recognize that others have indicated that,
15 correct? That the TEM is able to see asbestos fibers that
16 are thinner than can be resolved by the scanning electron
17 microscope?

18 A. Again, that's not a body of literature that
19 I've spent a lot of time reviewing.

20 Q. There are several researchers out there who
21 have made it their business to look at the lung tissue and
22 the pleura of people who have suffered from mesothelioma,
23 correct?

24 A. Correct.

25 Q. Here at Duke, you don't investigate the

1 pleura, correct?

2 A. No.

3 Q. Why not?

4 A. That's something that we just -- that hasn't
5 come into our field of investigation.

6 Q. There's nothing wrong with looking at the
7 pleural tissue, along with the lung tissue, in trying to
8 research the causes of mesothelioma, is there?

9 A. No.

10 Q. And the pleura is actually the tissue where
11 the mesothelial tumor develops, correct?

12 A. Correct.

13 Q. And that's where the asbestos has to get to
14 cause mesothelioma, as far as you know?

15 A. Right.

16 Q. And I don't mean that in any rude way. I
17 mean, as far as you know, because science hasn't developed
18 a hundred percent to figure out how mesothelioma is caused
19 in humans, correct?

20 A. Correct.

21 Q. There is still some stuff we need to learn,
22 and that's why you are continuing to research?

23 A. Correct.

24 Q. No one has given you any information about
25 Mrs. Appelquist's actual exposures to asbestos? You have

1 just heard some lawyers ask you some questions, you know,
2 assume this, that, right?

3 A. That's correct.

4 Q. In order to really get a feel for what level
5 of exposure she would have had, you would need to look
6 at -- you would need to either talk to her or read her
7 depositions, read her husband's depositions, isn't that
8 true?

9 A. Correct.

10 Q. Asbestos-related disease and the probability
11 of developing it is based on the dose of asbestos over a
12 lifetime, isn't it?

13 A. Again, please?

14 Q. I've heard and other doctors call
15 asbestos-related diseases dose-response diseases. What
16 does that mean to you?

17 A. I don't -- I think that's -- it's a little bit
18 of an ambiguous term, because I don't, for example, yes
19 development of lung cancers, not mesothelioma, but lung
20 cancers and asbestosis is a dose response type of disease
21 scenario. It takes a lot of asbestos to result in
22 asbestosis, scarring of the lung and from bronchogenic
23 carcinomas. I don't think that's true for mesotheliomas.

24 Q. Okay. When it comes to a given population,
25 the greater the exposure to asbestos, the higher the

1 probability that a person would suffer an asbestos-related
2 disease, wouldn't you agree?

3 A. That's hard to know, because -- and the reason
4 for that is is that there are hundreds of thousands of
5 people who have sustained lots of asbestos exposures, and
6 mesothelioma is, by contrast, a rare disease.

7 Q. Let me, I guess, in those -- you've indicated
8 from your own work, and I think I have seen it in your
9 book, that there are certain populations where you see
10 higher rates of mesothelioma than in others?

11 A. Right, correct, in insulator population.

12 Q. And you would attribute that to the higher
13 exposures of asbestos of those people?

14 A. I see your point, yes.

15 Q. And using common logic, it's -- the higher the
16 exposure, the higher the propensity to suffer a disease in
17 a population, isn't that true?

18 A. Yes. The greater your exposure, the greater
19 likelihood of you being placed in the at-risk group is.

20 Q. Just like the more you smoke cigarettes, the
21 greater your risk of getting a lung carcinoma, correct?

22 A. In general, yes.

23 Q. It's the dose?

24 A. Yes.

25 Q. Quickly about your report, the iron stains

1 that you did, can you tell from your report where you got
2 the tissue?

3 A. If you look at my report, it says that there
4 are sections upper lobe and lower lobe, and generally, we
5 analyze an iron stain section from each, from the upper
6 and lower lobes.

7 Q. When you are trying to determine whether a
8 mesothelioma is asbestos-related, do you subscribe to any
9 criteria? Do you use the ATS criteria, for instance?

10 A. To say that something is asbestos related?

11 Q. Yes.

12 A. Well, generally, I'm not sure what the ATS
13 criteria is. Our criterion out here at Duke, are
14 demonstration of either plaques, demonstration of asbestos
15 bodies, demonstration of asbestosis or increased fiber
16 burdens. Those are our criteria.

17 Q. I think Dr. Roggli told me that he subscribed
18 and actually was -- maybe I'm confused. I will move on
19 from there, because I'm just remembering what Dr. Roggli
20 said is probably a bad way to go.

21 Are you familiar with the Helsinki criteria?

22 A. Yes.

23 Q. Do you subscribe to that?

24 A. I subscribe to its sphere, if you will. I
25 don't think it's a one-size-fits-all document. Otherwise,

1 you can say that everybody on the planet has mesothelioma.

2 I think if you applied the Helsinki criteria
3 across the board, you could make an argument to get rid of
4 all of the classification idiopathic mesotheliomas.

5 Q. Okay. Well, there are certainly -- everyone
6 in, for instance the United States, when you talk about
7 idiopathic -- rates of idiopathic mesothelioma, you have
8 to choose an area where you are talking about the rate,
9 correct?

10 A. Correct.

11 Q. There's no population?

12 A. Correct.

13 Q. In the United States, everyone is exposed to
14 some level of asbestos, aren't we?

15 A. Right.

16 Q. That's because there's asbestos in the air
17 from many sources, both man made and natural, correct?

18 A. Correct.

19 Q. There's what's called a background exposure or
20 background or ambient level of asbestos in the air in any
21 given area, correct?

22 A. Correct.

23 Q. You mentioned, I think, that you look in your
24 labs when you are trying to determine whether a
25 mesothelioma is asbestos related for elevated levels of

1 mesothelioma, isn't that true?

2 A. Correct.

3 Q. And do you use -- do you look at the
4 geographic location where the patient comes from to
5 determine what is elevated?

6 A. No.

7 Q. Isn't it true that in some areas, the airborne
8 concentration of asbestos is much higher than in others,
9 so that someone living in one place and someone living at
10 another place would have a different burden of asbestos in
11 their lungs?

12 A. No. I think that was all looked at with what
13 our control populations, our control levels were, were
14 establish. We don't have one control level. We have a
15 range of values for a control population taking that into
16 account.

17 Q. How does the range work?

18 A. Our range for background is zero to twenty
19 asbestos bodies per gram. That takes into account that if
20 you live in an area where there might be a little bit more
21 asbestos, either from environmental or man made or
22 environmental reasons, as you state, you might be closer
23 to 20. Whereas, if you come from an area where there is
24 no asbestos at all, you would be expected to not have any
25 asbestos in the lungs.

1 Q. And asbestos bodies are typically found around
2 or with amphibole fiber at their core, correct?

3 A. Correct.

4 Q. And that's because chrysotile, as you
5 mentioned, spends less time in the lung over the lifetime
6 of someone in their lungs, correct?

7 A. Correct.

8 Q. If you found chrysotile in the lungs of
9 someone today who was last known to have been exposed to
10 chrysotile 30 years ago, would you -- where would that
11 chrysotile have come from, in your mind?

12 MR. JOHNSON: Object to the form.

13 BY MR. HARTLEY:

14 Q. Would it be an historical artifact from 30
15 years ago, or would it have been there since yesterday, or
16 could you tell?

17 MR. JOHNSON: Object to the form.

18 A. I don't know if you could tell. Certainly it
19 would be reasonable if a person had a documented exposure
20 and didn't have anything in the interim, that the
21 chrysotile would have been there from an historical
22 exposure.

23 Q. A lot of times I see lawyers asking about the
24 half lives of chrysotile. How could there be -- if a
25 chrysotile has a very short half life, in a matter of

1 days, how can there be chrysotile from 30 years ago in
2 their lungs today?

3 A. That all depends. A lot of it is host
4 dependent. I think it all depends on the lung's natural
5 ability to clear the fiber.

6 Q. There are some researchers who have published
7 extensively on the causes of mesothelioma, who have looked
8 at the pleura and the fiber burden in the pleura, correct?

9 A. Yes.

10 Q. Who are some of those people? I think you
11 mentioned Dr. Hammer and Dr. Dodson. Anyone else?

12 A. Suzuki.

13 Q. Suzuki?

14 A. Yes.

15 Q. Who else?

16 A. No one else comes to mind.

17 Q. Isn't there somebody Vignon from Europe?

18 A. There may be, yeah.

19 Q. Do you discount the research that indicates,
20 that looks at the fiber burden of the pleura and finds
21 predominantly chrysotile and short fibers in the
22 mesothelial tissue?

23 MR. JOHNSON: Object to the form of
24 the question.

25 A. Again, I have not sat down and looked at that

1 critically.

2 Q. Okay, fair enough.

3 Are you aware of anyone who has written and
4 published in the peer-reviewed literature on that topic,
5 where they have critically analyzed the methodologies of
6 Dr. Hammer, Dr. Dodson and Dr. Suzuki, looking at the
7 pleural tissue where mesothelioma happens?

8 A. No, I'm not aware of it.

9 Q. Okay. If before you would discount that, that
10 would be something that you would either want to look at
11 carefully yourself, or you would want to see someone else
12 publishing on that in a peer review format, wouldn't you?

13 A. Yeah, I would think before I would make a
14 statement regarding a pleural short fiber chrysotile
15 levels, I would want to take a close look at that.

16 MR. HARTLEY: I appreciate your time.

17 I don't have any further questions at this
18 time.

19 FURTHER EXAMINATION BY COUNSEL FOR DEFENDANTS

20 BY MR. JOHNSON:

21 Q. Just by way of quick follow up, Dr. Sporn,
22 when Mr. Hartley was asking you questions in the last
23 several moments, you mentioned some criteria that you use
24 here at Duke University. What specifically was that
25 criteria for again, sir?

1 A. For assigning or implicating asbestos exposure
2 and the causation of mesothelioma.

3 Q. All right. And those four criteria were
4 again?

5 A. Would be in the form of recognizable pleural
6 pulmonary asbestos-related disease, plaques or asbestosis,
7 or asbestos bodies in the lung tissue, even if the absence
8 of fibrosis, or an increased tissue asbestos level.

9 Q. As per a fiber burden?

10 A. Correct.

11 Q. And so when you are called upon here at Duke
12 University to assign or implicate asbestos exposure as
13 being causative of a mesothelioma, Duke University uses
14 four criteria. I hope I wrote these down.

15 Number one, the presence of plaques.

16 Number two, the presence of asbestosis.

17 Number three, presence or indications of
18 asbestos bodies.

19 And number four, indications of asbestos
20 exposure as per fiber burden studies, correct?

21 A. Correct.

22 Q. Now, as we sit here today on November 2, 2006,
23 and as it regards the plaintiff in this particular
24 lawsuit, Joyce Appelquist, none of the four criteria that
25 Duke University uses has any indication or implication of

1 asbestos exposure as causing Ms. Appelquist's
2 mesothelioma, is that correct?

3 A. That is correct.

4 Q. And that opinion is within a reasonable degree
5 of medical and pathological certainty, is that correct?

6 A. That is correct.

7 MR. JOHNSON: Thank you, sir.

8 FURTHER EXAMINATION BY COUNSEL FOR PLAINTIFF

9 BY MR. HARTLEY:

10 Q. You didn't do the fiber burden analysis, so
11 you don't know whether there was elevated fiber burden in
12 Mrs. Appelquist's pathology, correct?

13 A. That is correct.

14 Q. And that's because you weren't looking at this
15 case as a treater? You weren't asked by the people who
16 sent you the pathology to do that, were you?

17 A. Correct.

18 Q. There was no reason to do it?

19 MR. JOHNSON: Object to the form of
20 the question. The people that sent the
21 pathology were you.

22 MR. HARTLEY: No, that's not true. It
23 was her treating physician here at Duke.

24 BY MR. HARTLEY:

25 Q. Let me make sure.

1 Isn't it true that you received this -- Ms.
2 Appelquist's pathology, referred to you by her treating
3 physician here at Duke?

4 A. All of my involvement with this case was as
5 one of Mrs. Appelquist's doctors, not as a retained expert
6 for mesotheliomas medical or legal purposes.

7 MR. HARTLEY: Okay. Thank you.

8 MR. JOHNSON: Anyone else on the
9 phone?

10 (Whereupon the deposition was
11 concluded at 11:34 a.m.)

12 (Signature reserved.)
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SIGNATURE PAGE

THOMAS A. SPORN

SUBSCRIBED AND SWORN to before me this _____
day of _____, 2006.

NOTARY PUBLIC

My Commission expires: _____

TRANSCRIPTION

MMV

CASE NAME: Appelquist vs. Bondex, et al.

WITNESS NAME: THOMAS A. SPORN

DATE: November 2, 2006

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1 STATE OF NORTH CAROLINA)

2 COUNTY OF WAKE)

3 CERTIFICATE OF REPORTER

4 I, MARISA MUNOZ-VOURAKIS, an RMR, CRR and Notary
5 Public in the State of North Carolina, the reporter by
6 whom the foregoing deposition was taken, do hereby certify
7 that the testimony of the witness appearing in the
8 foregoing deposition was taken by me in Stenotype and
9 thereafter reduced to typewriting under my direction,
10 pages 1 through 73; that I am neither counsel for,
11 related to, or employed by any of the parties to the
12 action in which this deposition was taken; and further,
13 that I am not a relative or employee by the parties
14 hereto, nor financially or otherwise interested in the
15 outcome of the action.

16 IN WITNESS WHEREOF, I have hereto set
17 my hand, dated this 3rd day of November, 2006.

18
19 _____
20 MARISA MUNOZ-VOURAKIS, RMR, CRR,
Notary Public in and for
21 County of Wake
State of North Carolina

22
23 My Commission expires November 23, 2008.
24
25