

**The State of South Carolina
In the Court of Appeals**

Appeal from York County
Court of Common Pleas
Jean H. Toal, Circuit Court Judge

Appellate Case No. 2019-000649
Case No. 2013-CP-46-00368

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SC Court of Appeals

Stephen R. Edwards, Individually
and as Personal Representative of the
Estate of Steven R. Stewart, ...Respondent,

v.

Scapa Waycross, Inc., ...Appellant.

**RECORD ON APPEAL
VOLUME THREE**

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INDEX

VOLUME ONE

Orders

1. Order Granting Second Amended Complaint entered November 18, 2013 p. 0001
2. Order on Post-Trial Motions entered March 25, 2019 p. 0006

Judgments

3. Verdict form, February 9, 2018 p. 0026

Pleadings

4. Summons and Complaint filed February 5, 2013 p. 0030
5. Amended Complaint filed May 31, 2013 p. 0057
6. Suggestion of Party Death filed October 23, 2013 p. 0072
7. Second Amended Complaint filed November 20, 2013 p. 0076
8. Answer to Second Amended Complaint filed December 18, 2013 p. 0093
9. Scapa Motion in Limine to Admit Bankruptcy Claim Forms as Admissions of a Party-Opponent filed December 18, 2017 p. 0103
10. Scapa's Motion in Limine to Exclude Expert Testimony on Causation p. 0119
11. Scapa's Motion for Setoff of Plaintiff's Settlement Proceeds p. 0141
12. Scapa Motion to Compel Complete Bankruptcy Forms filed December 18, 2017 p. 0146
13. Plaintiffs' Motion in Limine No. 2 Asbestos Bankruptcies: Trust and Plaintiff's Claims to Same filed December 18, 2017 p. 0154
14. Scapa Motion for Setoff filed December 18, 2017 p. 0158
15. Scapa Motion for Production of Plaintiff's Settlements and Payments with all Third Party Tortfeasors dated February 16, 2018 p. 0164
16. Scapa Motion for Judgment Notwithstanding the Verdict filed February 16, 2018 p. 0171
17. Plaintiffs' Motion to a New Trial Nisi Additur filed February 20, 2018 p. 0175
18. Scapa Memorandum in Support of Motion for JNOV filed March 22, 2018 p. 0184
19. Scapa Response to Plaintiff's Motion for a New Trial Nisi Additur filed April 6, 2018 p. 0194
20. Scapa Memorandum in Support of Motion to Reallocate Settlement Proceeds Filed July 23, 2018 p. 0199
21. Scapa Motion to Reallocate Settlement Proceeds filed July 24, 2018 p. 0203
22. Plaintiff's Response and Brief to Scapa's Motion to Reallocate Settlement Proceeds filed August 3, 2018 p. 0205
23. Notice of Appeal filed April 15, 2019 p. 0210

Transcripts

24. Pretrial Hearing Transcripts dated January 9, 2018 p. 0233

VOLUME TWO

25. Trial Transcript January 29 through February 7, 2018 p. 0408

VOLUME THREE

26. Trial Transcript January 29 through February 7, 2018 p. 0905
27. Trial Transcript February 7 through February 9, 2018 p. 1153

VOLUME FOUR

28. Trial Transcript February 7 through February 9, 2018 p. 1400
29. Post-Trial Motions Transcript July 11, 2018 p. 1647
30. Post-Trial Motions Transcript October 10, 2018 p. 1687

Exhibits

31. Court Exh 1 (chart) p. 1709
32. Defendant's Exhibit No. 1 (APG Trust Claim Form) (proffered) p. 1710
33. Defendant's Exhibit No. 2 (Leslie Trust Claim Form) (proffered) p. 1715
34. Defendant's Exhibit No. 5 (Incomplete Trust Claim Forms) (proffered) p. 1717

VOLUME FIVE

35. Defendant's Exhibit No. 5 (Incomplete Trust Claim Forms) (proffered) p. 1894
36. Defendant's Exhibit No. 12 (Marc Scarcella Report) (proffered) p. 2021
37. Plaintiffs Exhibit 1- Death Certificate (redacted) p. 2031
38. Plaintiffs Exhibit 3 - Mastercard 25A & B p. 2032
39. Plaintiffs Exhibit 4 - Mastercard 23A & B p. 2034
40. Plaintiffs Exhibit 6 - Report on Asbestos p. 2036
41. Plaintiffs Exhibit 7 -Document 71825 p. 2042
42. Plaintiffs Exhibit 9 - Scapa-Ponitt Memo p. 2046
43. Plaintiffs Exhibit 26 -Mastercard 10 A&B p. 2051
44. Plaintiffs Exhibit 27 - Mastercard 12 A&B p. 2053
45. Plaintiffs Exhibit 28 - Mastercard 14 A&B p. 2055
46. Plaintiffs Exhibit 31- photo p. 2057
47. Plaintiff's Exhibit 35 - photos (in color) p. 2058
48. Plaintiffs Exhibit 37 - Mastercard 8 A&B p. 2071
49. Plaintiffs Exhibit 38 - Mastercard 9 A&B p. 2073
50. Plaintiffs Exhibit 39 - Mastercard 26 A&B p. 2075
51. Plaintiffs Exhibit 40 - Mastercard 22 A&B p. 2077
52. Plaintiffs Exhibit 41 - Mastercard 19 A&B p. 2079
53. Plaintiffs Exhibit 42 - Mastercard 17 A&B p. 2081
54. Plaintiffs Exhibit 49- Mastercard 7 A&B p. 2083

55. Plaintiffs Exhibit 50 - Mastercard 11 A&B	p. 2085
56. Plaintiffs Exhibit 51- Mastercard 13 A&B	p. 2087
57. Plaintiffs Exhibit 52 -Mastercard 15 A&B	p. 2089
58. Plaintiffs Exhibit 53 - Mastercard 16 A&B	p. 2091
59. Plaintiffs Exhibit 54 - Mastercard 20 A&B	p. 2093
60. Plaintiffs Exhibit 56 - Mastercard 24 A&B	p. 2095
61. Plaintiffs Exhibit 57 - Mastercard 27 A&B	p. 2097

Other Materials

62. Deposition excerpts of Steven Stewart dated February 28, 2013	p. 2099
63. Deposition excerpts of Steven Stewart dated March 4, 2013	p. 2121
64. Day in the Live Video of Steven Stewart dated August 20, 2013	p. 2190
65. Deposition excerpts of George Hegler dated July 17, 2013	p. 2191
66. Deposition excerpts of Dr. Arthur Frank dated April 9, 2015	p. 2209
67. Deposition excerpts of Dr. Arthur Frank dated December 11, 2017	p. 2214
68. Deposition excerpts of Harry J. Merk, Jr. dated May 27, 1998	p. 2339

Certificate

69. Certificate of counsel	p. 2374

TESTIMONY OF HAROLD WARD, JR.

1 DIRECT EXAMINATION

2 BY MR. GRAHAM:

3 Q Good morning, Mr. Ward.

4 A Good morning, Mr. Graham.

5 Q Can you hear me okay?

6 A Yes.

7 Q Are you comfortable?

8 A As much as one can be in this situation, I think.

9 Q Are you nervous?

10 A A little bit.

11 Q Okay. If I ask you or mumble or something and you want
12 me to repeat it you just let me know and I'll do my best,
13 okay?

14 A Yes, sir.

15 Q All right. So I'm going to be asking you some
16 questions and then when I get finished we're going to pass
17 you to these gentlemen and they'll ask you some questions
18 and we will go back and forth like that, and if we do
19 something wrong the Judge is going to let us know, okay?

20 A Yes, sir.

21 Q Will you state your full name for the record, please,
22 sir?

23 A Harold King Ward, Jr.

24 Q All right, sir. And where do you live?

25 A I live in Lancaster, South Carolina.

TESTIMONY OF HAROLD WARD, JR.

1 Q Your address, please, sir?

2 A 2553 Country Club Drive, Lancaster, South Carolina.

3 Q Are you married?

4 A Yes, sir.

5 Q Wife's name?

6 A Donna.

7 Q Is she here in the courtroom?

8 A She is.

9 Q When is the last time you were in this courthouse?

10 A I obtained my marriage license here 48 years ago.

11 Q You know that date?

12 A Yes, sir.

13 MR. GRAHAM: Your Honor, may I approach?

14 THE COURT: You may.

15 Q Mr. Ward, I'm going to show you a picture here in a

16 minute as we go through that, but would you tell the jury

17 when you started at Bowaters and sort of detail about how

18 you started while I get this?

19 A Certainly.

20 MR. GRAHAM: May I approach, Your Honor?

21 THE COURT: Yes, you may.

22 A My first day at Bowater to actually work was December 15th

23 of 1972. I had been working at a cardboard plant, U.S.

24 Plywood, about a year and a half prior to coming to Bowater,

25 and I saw an opportunity to go to work at Bowater, applied and

TESTIMONY OF HAROLD WARD, JR.

1 they hired me and I went to work on December 15th of 1972.

2 Q Okay. Now, if I showed you a picture of the paper
3 machine that you were working on when you went to work
4 there, would you recognize that?

5 A I believe I would, yes, sir.

6 Q I believe the jury has seen this more than once.

7 A Okay.

8 Q Sir, do you recognize the equipment in that machine in
9 that picture?

10 A Yes, sir, I do.

11 Q Okay. And this was before your time as it were.

12 A Yes, sir.

13 Q This is dated 1964. And could you describe for the
14 jury as far as you're concerned what we are looking at here?

15 A We appear to be looking at a wire change. A wire was the
16 form of fabric that ran on this particular section here to the
17 left of the picture. The polls in this rack were used to
18 suspend the new wire, this entire section came out on rails,
19 the polls were suspended by wires that were affixed to the
20 ceiling and ran along a track, and when the new wire was placed
21 over the kit that is underneath this particular part of the
22 apparatus, those polls suspended it in a shape that allowed
23 this to be run back in, then we had rolls under here that could
24 be moved in order to get the proper tension and then we would
25 start up and run.

TESTIMONY OF HAROLD WARD, JR.

1 Q Now, could you describe for the jury -- they've heard a
2 lot of stuff about wet and dry, wet and dry --

3 A Right.

4 Q -- could you tell us where the wet end ended and the
5 dry end began?

6 A Okay. Well, the wet end would have been this forming
7 section right here where you see the handrail, and then you had
8 a pressing section right here where the sheet was pressed and
9 it was --

10 Q Can you use this pen to tell the jury where the
11 pressing section is?

12 A Right here. And you would consolidate your sheet there
13 and press most of the water out of it at that stage. And then
14 you went through three presses, and this section here where the
15 sliding doors are up, if that can be distinguished, is the
16 dryer -- the beginning of the dryer section. There are four
17 dryer sections, I think there were 52 or three cans in all,
18 maybe 54, and most of your drying occurred in this first couple
19 of sections here. So that you had a sheet that when it was
20 introduced on the form and fabric was more than 99 percent
21 water, and when you wrapped your sheet up on the reel at the
22 dry end of the paper machine, the dry end really was after all
23 of the dryers, that was the physical dry end, then you had four
24 percent moisture in the sheet.

25 Q If I were to look at the inside of the machine that was

TESTIMONY OF HAROLD WARD, JR.

1 making the paper at this juncture --

2 A Yes, sir.

3 Q -- would I be able to recognize that product as being
4 paper?

5 A Yes, sir.

6 Q And if the ladies and gentlemen of the jury were to see
7 what begins at this section, if they had a felt tip pen or a
8 sharpie, would they be able to write on that product that's
9 at this juncture in the photo?

10 A Perhaps if it were a felt type pen they could, it's still
11 a little bit damp at that particular stage. A ballpoint pen
12 would probably go through it but you would see that it's a
13 sheet of paper.

14 Q Okay. I will come back to that in a minute, but before
15 I leave that let me put it back up and let me ask you
16 something, I want to ask you about this a minute. Yesterday
17 there was some -- well, there has been some testimony about
18 a man cooler?

19 A Yes.

20 Q Do you know what a man cooler is?

21 A Yes, sir.

22 Q Could you point out to the jury using my pen the man
23 cooler here in this photo?

24 A There were several man coolers situated along the front of
25 the paper machine. There were fans in the floor at about this

TESTIMONY OF HAROLD WARD, JR.

1 level here, and this housing kept people from stepping on the
2 grading of the fans and also directed the air that was being
3 produced by those fans laterally. And they were called man
4 coolers because we used those to get a little bit of cooling
5 when we were working, hence the name.

6 Q Okay. Thank you, sir. Now, Mr. Ward, you had
7 testified that you began in 1972.

8 A Yes, sir.

9 Q Late.

10 A Yes, sir.

11 Q And can you tell us about how you started and what you
12 did in that first week.

13 A Okay. Well, the first day or two you're observing because
14 you're being exposed to a new environment and different hazards
15 and procedures, and so the first day or so you follow a utility
16 man around or a fifth man if there is not a utility there. And
17 then you start doing things like emptying the trash cans, going
18 to the canteen for other workers to get food for them, cleaning
19 up the floor, maybe using compressed air to blow small bits of
20 paper up, or sometimes washing the floor with a water hose,
21 that's the front side, the back side of the paper machine and
22 the basement area of the paper machine. Utility, as the name
23 implies, you did pretty much as you were told to do, but what
24 you were told to do at that stage wasn't very specialized.

25 Q You were a gofer.

TESTIMONY OF HAROLD WARD, JR.

1 A Correct.

2 Q All right. Go for this, go for that.

3 A Correct.

4 Q Now, that first week you were on the job, do you have
5 any memory of that first week?

6 A Well, two things. The first day I was there they were
7 engaged in a forming fabric change, a wire change as it was
8 termed at the time as depicted in the picture you showed. And
9 then the second or third night, I couldn't remember, it's kind
10 of vague now, we had an upset where we lost a second top dryer
11 felt in the paper machine, it came off spontaneously, and it
12 was an impressive incident.

13 Q Can you tell the jury why it was impressive?

14 A Well, when you're running a paper machine at a speed --
15 and speed for number one then was probably 2,500 to 2,600 feet
16 a minute, and you've got a fabric that's 150 or 160 feet long,
17 maybe 240 inches wide, say 20 feet wide, and you're running it
18 at that speed and the fabric comes off and there's no place for
19 it to go except down into the workings of the machine, it
20 creates -- first of all you lose your sheet, naturally the
21 sheet breaks that you're making. It creates a lot of noise, a
22 tremendous amount of noise and it emits a lot of dust. I've
23 seen -- happened to see two or three come off in my career
24 where it was right at the point where I could see and I was
25 really amazed at the noise and the dust and, of course, the

TESTIMONY OF HAROLD WARD, JR.

1 aftermath of that is quite difficult as far as removing that
2 felt and getting a new felt on so you could run again.

3 Q What kind of noise did it make?

4 A It's somewhat like thunder, it's -- I don't know what the
5 decimal level is, it's very loud. It's a rumbling noise. I
6 think the best terminology I could use is to me it's a rumbling
7 noise when it happens.

8 Q Would it be inaccurate to describe it as if you had a
9 flat tire and your tire is hitting the inside of the wheel
10 well?

11 A It's like that but you would have to magnify that many
12 times.

13 Q You remember the event.

14 A Very well.

15 Q To this day.

16 A Yes, sir.

17 Q Did it scare you?

18 A It alarmed me, it certainly alarmed me.

19 Q Now, tell me again what machine this was on.

20 A This was the number one paper machine, Bowater Carolina
21 Division at the time, Catawba, South Carolina.

22 Q And which felt was it?

23 A It was the second section, top dryer felt.

24 MR. GRAHAM: Your Honor, may I approach?

25 THE COURT: Yes.

TESTIMONY OF HAROLD WARD, JR.

1 Q Now, Mr. Ward, I'm going to show you a document that's
2 been marked as Plaintiff's Exhibit Number 37. Have you ever
3 seen that document before?

4 A This particular document I believe I have not seen.

5 Q All right. And could you read to the jury the
6 highlighted portion?

7 A Number one, second top, 165 feet by 239 inches, I believe
8 that is Scaflo 50, 100 CFM.

9 Q What is CFM now?

10 A CFM refers to the ability of air to go through a fabric,
11 how much air removal is possible or passes through that fabric.

12 Q All right, sir. Could you turn the page, please?
13 Could you read the date on the next page in Plaintiff's
14 Exhibit 37, please?

15 A Well, in the on column it says 1/16/72, and the off column
16 it says 12/18/72.

17 Q Does that match the event that you described for the
18 jury earlier?

19 A Well, I believe that the off date there would refer to the
20 time when the dryer felt spontaneously came off the paper
21 machine.

22 Q All right. So the dryer felt that caused all that
23 noise and dust was that felt referenced in Plaintiff's 37?

24 A Yes, sir.

25 Q Now, Mr. Ward, was this a common document kept in the

TESTIMONY OF HAROLD WARD, JR.

1 ordinary course of business for the mill to record when
2 belts were on and off the machine at number one?

3 MR. COLLIER: Objection, Your Honor, calls for
4 speculation, it lacks foundation as well.

5 Q If you know.

6 THE COURT: He has asked if he knows, I think that's okay,
7 I will allow it.

8 A I can say that documentation of what felts were running,
9 had been run and had been ordered was kept. Now, the specific
10 form of that documentation changed some over time, I believe.
11 We even kept a black board that said what the felts were on the
12 paper machine, what was running, what was going to be run next,
13 dates as to when a piece of fabric had been installed, that
14 type thing. But, of course, it was ever changing as we turned
15 over the felts and wires and so forth of the clothing on the
16 paper machine.

17 Q The clothing is what you refer to as the felts.

18 A Clothing is the forming fabric otherwise referred to as
19 wire because it used to be made out of bronze. The pressing
20 felts, press felts or wet felts and the dryer felts, all of
21 that comes under the heading of clothing.

22 Q Now, when this event occurred, this noise, what caused
23 the felt to do what it did? What happened to it?

24 MR. COLLIER: Objection, Your Honor, calls for
25 speculation.

TESTIMONY OF HAROLD WARD, JR.

1 THE COURT: If he knows.

2 A I honestly do not know what caused that particular
3 incident.

4 Q When the machine was shut down -- and I understand you
5 want to shut the machine down as quickly as you can when
6 this occurs, correct?

7 A That's correct.

8 Q So after the machine was shut down, what happened next?

9 A Well, there's a period of appraisal that goes on, you have
10 to do certain things to shut the machine down. You have to get
11 the wet sheet off of the wire, if you know you're going to be
12 down a long time you go ahead and shut the wet end down, you
13 completely shut everything down. And you go to the site of the
14 incident and see what you're confronted with and how you do the
15 removal, and, of course, you've got to do that removal in order
16 to get fabric on there and make paper again. And if there was
17 any damage -- there could have been mechanical damage caused by
18 that, you could break the arm of a roll, the supporting arm of
19 a roll, you could knock dryer cans out of their saddles. It
20 was a pretty violent event and it just depends on exactly how
21 it went down.

22 Q All right. Did you have to remove the SCAPA felt when
23 it caused this incident?

24 A Absolutely.

25 Q And how did you do that?

TESTIMONY OF HAROLD WARD, JR.

1 A That particular night the second top dryer felt came off,
2 when it came off the felt wedged between two of the top dryer
3 cans toward the end of the second section and on top of one of
4 the intermediate rolls between the dryers, sometimes referred
5 to as a fly roll, we call them pocket rolls. And the entire
6 felt, 161 feet and the 230 something inches, was deposited in
7 that one pocket very solidly.

8 Q And how did you get the rest of it off?

9 A Because of the tightness of the wad that the felt made it
10 was necessary for us to go into the top of the dryer section
11 using Stanley knives, several people cutting with Stanley
12 knives and several others throwing out what was cut pieces at a
13 time, small pieces at a time until we could get enough out to
14 loosen the rest of the felt and then we could start pulling it
15 out physically. I remember that at the first part of that
16 stage we used a come-along which is -- anybody whose worked in
17 the industry knows what a come-along is, but we used that. We
18 attached it to one of the beams up there and tied it onto wads
19 of the felt and started jacking it out, and finally get to the
20 stage where you can finally just remove it by hand, pull it out
21 of pockets. You've got to work quite awhile to get the felt
22 lose enough so that the remainder will come out just by a sheer
23 manual operation. The first off it, and it took several hours,
24 was mainly done with a Stanley knife cutting the felt out a
25 piece at a time.

TESTIMONY OF HAROLD WARD, JR.

1 Q Did you assist in the cutting out or was your job the
2 clean up?

3 A Mostly clean up then. I did a little cutting, I wanted to
4 see what it was to use a Stanley knife, I never had used one
5 before and nobody was going to argue, it was hot up there. We
6 were up there quite awhile, we would take little breaks, of
7 course, because we went at it for quite awhile. It was several
8 hours, I don't know how many hours.

9 Q So what would you do with the pieces you would cut out?

10 A Most of what we cut out we carried down the ladder and
11 just throw out on the operating floor and the utility people
12 would come along, me or the shift coming in, and gather up
13 those pieces and put them in a dumpster and carry them to, you
14 know, a waste container, a bigger waste container.

15 Q All right, sir. Now, when you were finished with all
16 of that work you referenced that it made a noise and there
17 was dust, where did the dust go?

18 A Well, the dust I saw -- I saw this happen on several
19 occasions as I stated, the dust you could see would come out --
20 the doors would come up when you lose the sheet, the dust you
21 could see trapped under the hood door and when you opened the
22 hood door it would billow out somewhat onto the operating
23 floor.

24 Q And after some point you were working and the machine
25 is down I would imagine that the dust would settle on the

TESTIMONY OF HAROLD WARD, JR.

1 floor or whatever equipment was on the premises.

2 A Yes, sir, that could happen.

3 Q Because air had to go somewhere, right?

4 A That's correct.

5 Q And then at some point later would you have a blow-off
6 when the machine was down and clean up the area?

7 A Well, in a case where you would have a dryer felt would be
8 changed it's wasn't uncommon at all to once you had the felt
9 off to just blow the inside of the hood out generally to get
10 dust out, we were going to have to be up in there working to
11 remove the dust if we could and just clean the area up a little
12 bit, it was not uncommon. In fact, I would say on a top dryer
13 felt, even the bottom dryer section when we changed the felt we
14 would blow up that area there before we put on the new felt.

15 Q All right. Now, where did the felt that tore and
16 caused all of the noise that you were talking about, where
17 did that felt wind up?

18 A That particular felt wound up in an industrial dumpster
19 after we gathered up all the pieces of it.

20 Q Did it go from the paper machine at the top to the
21 basement before that?

22 A No, sir. That one stayed entirely in the top because when
23 it came off it wedged in that pocket as I described.

24 Q The whole felt did.

25 A Yes, sir, the entire felt.

TESTIMONY OF HAROLD WARD, JR.

1 Q So you had to Stanley knife the whole felt.

2 A That's correct.

3 Q A team of three guys or --

4 A More than that. We had -- well, we had -- on the paper
5 machine you had as many as seven people including machine
6 tenders. You might have fewer if those bottom utility people
7 were set up to cover one of the jobs, that's how we filled the
8 jobs. But we had our crew, which was the D crew because of the
9 time of the day it happened, we worked over on the third shift,
10 and then I believe the A crew came in at 11:30, and so both
11 crews worked together to do this.

12 Q Do you recall at this time which crew Steve Stewart was
13 on?

14 A Well, at this time Steve Stewart was assigned to C shift,
15 they were not on either of those -- he was not on either of
16 these two crews that I'm talking about. I don't have a shift
17 rotation calendar, I don't know if he would come in the next
18 day, I don't know if was on a long weekend, I just don't know
19 where he was in the rotation at that particular time.

20 MR. GRAHAM: Your Honor, may I approach?

21 THE COURT: Yes.

22 Q Mr. Ward, at some point you had to put a new dryer felt
23 on, correct?

24 A That's correct.

25 Q Can I show you that document that's been marked as

TESTIMONY OF HAROLD WARD, JR.

1 Plaintiff's Exhibit Number 38?

2 A Uh-huh.

3 Q Sir, can you read that document to the jury?

4 A Well, again, it says number one second top and bottom.

5 Now, the reason it says that -- may I explain?

6 Q Yes, sir.

7 A Is because the second top and second bottom running were
8 the same length, and so if we got a felt on the second top or
9 second bottom and we needed to change one in that section we
10 might put it on the top or the bottom. In this case it would
11 have gone on the top. So a second top and bottom -- you said
12 the highlighted section -- Scaflo 50 200 CFM.

13 Q All right, sir. And what date does that show that it
14 went on?

15 A It shows that the felt was installed on 12/18 of '72.

16 Q And that was the felt that went on after the accident.

17 A That is correct.

18 Q Sir, let me ask, you referred to the Stanley knife --

19 MR. GRAHAM: Ladies and gentlemen of the jury, I'm going
20 to put this up so you can see which one we are on.

21 Q So you said to cut that other felt out that went bad
22 you had to use a Stanley knife.

23 A Yes, sir.

24 Q And when you would cut a felt, would that cutting act
25 release dust from the felt?

TESTIMONY OF HAROLD WARD, JR.

1 A Yes, sir, it would. It would be hard to evidence it in a
2 place where you didn't have very good light such as that, but
3 when we would cut felts up after they had been run say in the
4 basement if we had enough light to do it and the felt had run
5 long enough and so forth, when you would cut felt you would see
6 dust come off of the felt.

7 Q Now, Mr. Ward, you started out in utility.

8 A Yes, sir.

9 Q And tell us how you progressed. You eventually became
10 a foreman; is that correct --

11 A Yes, sir.

12 Q -- on the number one machine.

13 A Yes, sir.

14 Q Can you walk the jury through your progression very
15 quickly, please?

16 A Well, I can tell you that I started as a utility man at the
17 end of 1972. I'm not one of these people that can remember
18 every anniversary date of every job that I ever did, but I was
19 a fifth hand and a fourth hand throughout the seventies after I
20 was utility, and then I was a third hand during the early
21 eighties. I became a back tendered in 1986. I never was a
22 full-time machine tender but I ran that job on a temporary
23 basis, I was trained to run it, had several temporary setups
24 for long vacancies. They used me as a relief foreman during
25 that entire time, I probably was a relief foreman at least as

TESTIMONY OF HAROLD WARD, JR.

1 much as I was a back tender. And then finally in 2000, January
2 1st of 2000 I became a resource coordinator, which is pseudonym
3 for a foreman on the number one paper machine and did that
4 until 2010.

5 Q All right, sir. At some point in your career did you
6 encounter á gentleman named Fred Steele?

7 A Yes, sir.

8 Q And what did Mr. Steele do there on the paper machine
9 number one?

10 A Fred was a fourth hand when I came to the mill, and during
11 the course of our time together he worked his way up to the
12 back tender level. When the number two paper machine was under
13 construction those that were taken from number one went over
14 there sometime I believe in early 1986 and I believe -- I know
15 Fred was one of those people. Fred went over there to be a
16 machine tender and he eventually became foreman on number two.

17 Q Good guy, Fred?

18 A Yes, sir, very good guy.

19 Q Now, the felts that you were taking about and using the
20 Stanley knife, these tears didn't always occur, in fact,
21 that was an odd event, true?

22 A Yes, sir.

23 Q Normally you would take a felt off how? Tell us about
24 the removal and then how you disposed of it.

25 A Okay. Well, when you knew you were going to change a

TESTIMONY OF HAROLD WARD, JR.

1 dryer felt, what you would do is that you would slack the old
2 felt off, you had a stretch roll that you could move and that
3 was a slack felt off, and you would get enough rope to run
4 through the entire dryer section along that felt run. If it
5 was a bottom felt it was pretty easy to run that rope directly
6 off the spool it came on, but if it was a top felt you might
7 just cut a length of rope. And what you would do is you would
8 get the felt toward the end of the dryer section, you would tie
9 a rope -- that rope into the trailing end of the felt, you cut
10 the felt off and you run the felt into the basement by jogging
11 the dryer cans. The rope that you had attached would then be
12 in the felt run, and you would use that rope to pull on the new
13 felt, which was in a box and you pulled it out of the box, it
14 was generally in a wooden box. In the early days that I worked
15 it was on a steel or an iron metal pipe wrapped around it,
16 later on they used some sort of cardboard pipe. But you pulled
17 it out of the box and when you got it run completely on you
18 took two ends and you seamed that felt -- it was made to be
19 seamed with a wire, you run through knuckles and clippers from
20 back to front, when you got the seam in you would tighten the
21 felt up, track it on the machine to make sure it was running
22 not too far to the back and not too far to the front, had the
23 right tension on it and then you would start up to make paper.
24 Q Okay. Now, taking it out of the box and laying it down
25 in the floor, did that create any dust?

TESTIMONY OF HAROLD WARD, JR.

1 A I would say no.

2 Q And when you leaned against it or -- let me ask it this
3 way, would you have to lean again it in order to connect the
4 endings?

5 A Yes, you would. If you were in the top of the dryer
6 section, what you would try do is position your two ends on the
7 last top dryer can, then the personnel who was seaming the felt
8 could hold both ends together, they could stand on the pocket
9 roll, lean on -- that can would actually have felt on it, then
10 lean on the felt, personnel would put those clippers together
11 keeping the trailing end and the leading end as straight as
12 possible, and push that pintle wire all the way through, front
13 to back, the seam material was attached to the back of the
14 pintle wire. Once we got the felt seamed, we cut the seam
15 material and tuck it into the end so that it would fly free as
16 the felt was running, and then we would tighten the felt up.
17 We had to get the box out depending on what section we were in,
18 first top we always had to have a box up there, the second top
19 we could call on from the basement, typically we did. And then
20 after we did all of that we got our dryer section going, got
21 steam in the dryer cans and when we had everything to go we
22 made paper.

23 Q When you would join the ends, when you say you would be
24 on the top, would you physically lean on the felt itself?

25 A Yes, sir.

TESTIMONY OF HAROLD WARD, JR.

1 Q You would have your clothes on the material?

2 A Yes, sir.

3 Q And would that create any dust on your clothes?

4 A Not usually because it was a new felt. Most of the dust
5 that we might get on our clothes at that stage would be dust we
6 got off the framework, we had to climb in and out of there,
7 there was no easy access.

8 Q Would that be dust from the old felt?

9 A It could be dust from the old felt, it could be dust from
10 the process.

11 Q Okay. Now, when you would take a felt off in the
12 normal course of events, not the one we talked about at the
13 beginning of your testimony, tell us about that removal
14 process. And basically what I'm trying to get to is how
15 would you dispose of the felt that came off?

16 A What we would generally do is run the old felt off in the
17 basement, it was possible to do that, we would run the old felt
18 off into the basement, it would be a single piece and it would
19 be in a pile. And then what we would do is we would have a man
20 on the front, man on the back and man on the middle, we would
21 pull out the length of that felt and we cut it with a Stanley
22 knife all of the way across and then we would fold that piece,
23 we would have a skid inside to put the felt on. We would do
24 that several times until we had the entire felt on the skid and
25 we would usually take rope, tie it through the skid around the

TESTIMONY OF HAROLD WARD, JR.

1 felt to keep the felt from falling off, and then we would take
2 a fork truck and pick the skid up and carry the skid to an area
3 of the basement where we kept old felt.

4 Q Okay. Now, once you took the felt out, would there be
5 any dust from the old felt?

6 A There could be, yes, sir. The old felt was contaminated
7 by several months of running dust in the process itself. But
8 there would be some dust, yes, sir, connected with the old
9 felt.

10 Q Would the dust be in the basement where you were
11 cutting it up?

12 A Yes, sir.

13 Q And you disposed of the felts in the basement through
14 some door?

15 A Yes. We would go -- there was sliding doors down there at
16 various points. In the third section there there was a door
17 that was wider, it was a double door, and we would usually
18 bring the truck in through there and take the truck with the
19 felt out through there.

20 Q Okay. Now, there's been some testimony in this case
21 about some exhaust fans.

22 A Yes, sir.

23 Q You had those?

24 A Yes, sir, we had vent -- we had supply fans and vent fans.

25 Q Are the supply fans we're talking about the ones -- the

TESTIMONY OF HAROLD WARD, JR.

1 man cooler or were these different?

2 A No, these were different.

3 Q Exhaust fans, are the exhaust fans on the number one
4 machine in a hood?

5 A Yes, sir.

6 Q Now, what would happen when you went to a shut down,
7 and talk about the hoods, what would happen with the hoods
8 when you went into a shut down?

9 A Well, when you went through a shut down situation you
10 would shut your wet end down and get all of your paper material
11 and shoot off the wire, shut your fourdrinier section down,
12 your press section down, you would always wash up back there
13 because you didn't want the wet stock to stand up on your
14 components back there. As far as the dryers are concerned you
15 put them -- you went ahead and ran all of your condensate
16 system because you want to evacuate as much condensate from
17 inside the cans as you could. You didn't want that water to
18 puddle up and there when you started up, or you would have too
19 much water in a can, it might even slow the whole dryer section
20 down, you might not even be able to run, I've seen that too.
21 But after a period of time you would shut those sections down
22 as well. We did scrape the first dryer section, we had
23 traveling scrapers that we used two of them each capable of
24 scraping the bottom of the top can. Two personnel would push
25 the scrapers across and bring them back, there was a long poll

TESTIMONY OF HAROLD WARD, JR.

1 that attached to those scrapers and another employee who would
2 blow whatever was being loosened from the dryer cans at that
3 time.

4 Q Now, would there be any cleaning or maintenance done to
5 the exhaust fans or hoods?

6 A Once in awhile. It was not a frequent or a regular thing
7 but it was a periodic thing or an occasional thing. We would
8 go into the hood of the exhaust fans and blow those hoods out.
9 There were doors there that you could access the inside of the
10 fan hood and we would just blow the stuff around, loosen it and
11 blow it out of those doors. The exhaust fans were vented
12 through the ceiling but there was a turn there that had to be
13 made and because of the angle of that turn not all of the dust
14 went out, a lot of it was trapped in the hood.

15 Q Is it a 90-degree?

16 A I would say 90-degree was a good --

17 Q So the air goes up and then it has to take 90 degrees
18 in order to get out.

19 A That's correct.

20 Q So is it your testimony today, Mr. Ward, that someone
21 would have to go in there and blow that out with compressed
22 air?

23 A Yes, sir.

24 Q Did Steve Stewart do that?

25 A If he worked there in the natural course of passing

TESTIMONY OF HAROLD WARD, JR.

1 through those lower jobs I would be amazed if anybody escaped
2 doing that.

3 Q Was that a nasty job?

4 A Very nasty.

5 Q Was that sort of something that a utility person would
6 have to do?

7 A Yes, sir.

8 Q Because that was nasty work.

9 A Utility men did most of the general clean up on shut
10 downs.

11 Q Did you do that as a utility man?

12 A Yes, sir, I did.

13 Q And when you did that, what was the result of your
14 clothing or what kind of -- describe for the jury what kind
15 of environment that is when you're up there with a
16 compressed air line blowing all of that out.

17 A Well, you enter the hood, and what you had to do because
18 you didn't have compressed air lines on the mezzanine in those
19 days, we would take a rope and pull the air hose up from the
20 operating floor on the back side and you would have -- you
21 would get yourself into the hood ready to go. We would use
22 rags, just scrap rags that were brought in in boxes, that's
23 what we used instead of towels in those days or anything that
24 was disposable, and we would tie those rags about our head and
25 face and neck and just try to cover ourselves and our arms as

TESTIMONY OF HAROLD WARD, JR.

1 best we could. But when you went through the process of
2 blowing out these exhaust fan hoods you came out black, you
3 were black. Anything that you didn't get covered with the
4 rags -- we would use goggles naturally, and later on we used
5 face shields, not face shields, but masks, little dust masks.
6 But we covered all we could cover but we couldn't cover it all,
7 and the dust mask when we did use them they got black as well.
8 It was an -- and then you would go home in those dirty clothes
9 and your wife would soak the clothes, maybe you could wear the
10 clothes again. I guess I wore the clothes again, I couldn't
11 afford to replace clothes all the time. But that was the
12 flavor of that task.

13 Q So in that -- whatever that stuff was that you were
14 blowing out, was it -- what was the consistency of what's in
15 that hood area? Is it dust? Is it caked-on stuff?

16 A It was a little of both. Because you're going to have
17 some humidity being pulled out of the dryer section, that's the
18 purpose of the exhaust fans, so some of the deposit was solid
19 and some of it came off as dust, and we blew as much as we
20 could.

21 Q And was some of the stuff that wound up in the hood,
22 was that stuff that was from the felt?

23 A Yes, sir, I would say so.

24 Q And do you know why it was black or that was just the
25 consistency of it, that was the color off it?

TESTIMONY OF HAROLD WARD, JR.

1 MR. COLLIER: Objection, Your Honor, calls for
2 speculation.

3 Q If you know.

4 THE COURT: Just a second, if he knows.

5 A The sheet --

6 THE COURT: It's a valid point. We don't want you to
7 speculate but if you know.

8 A Well, a sheet of paper contains chemicals, and part of
9 what would be emitting in the steam off of that sheet would be
10 at least in some part those chemicals.

11 Q And at that point is the dryer felt on the hoods, were
12 they on the wet end or dry end?

13 A Well, the dryer section was in between the wet end and the
14 dry end.

15 MR. GRAHAM: Your Honor, may I approach?

16 THE COURT: You may.

17 Q Mr. Ward, let me ask you to turn around here again and
18 let's go back to our Exhibit Number 31. Where are the hoods
19 located in this photograph on number one?

20 A The hoods begin here at this point because the machine is
21 down and all of the doors are up, they're sliding doors sort of
22 like old garage doors with wires attached, they're not roll-up
23 doors. And you had four dryer sections, a third and a fourth
24 were separated by an open space, but it begins right here.
25 This is your dryer section, this is your wet end here, beyond

TESTIMONY OF HAROLD WARD, JR.

1 the dryer section where you really can't see very well is the
2 dry end, and the dry end consisted of a roll of stacks and the
3 reel where we actually wrapped the paper up, that was the dry
4 end.

5 Q So the dry end starts here where the doors are.

6 A The dryer section starts here. The dry end is down beyond
7 the dryer section and the wet end is back here.

8 Q So the hoods that you were talking about having to
9 clean out, I know you can't see them in this photograph; is
10 that correct? Is that because the doors are up?

11 A Are you talking about the hoods themselves or the fans?

12 Q The fans or the hoods.

13 A Okay. Well, these are the hoods. And yes, we blow up in
14 here before we would put out -- put on another felt. But these
15 fans that I was talking about were on the back side of the
16 mezzanine level, so they would be behind the hoods and at a
17 level sort of even with the top of these hoods.

18 Q So when you cleaned out the hoods and the hoods would
19 trap all the dust and whatever else was coming off the
20 machine.

21 MR. COLLIER: Objection, Your Honor, calls for
22 speculation.

23 THE COURT: If he knows.

24 A I don't know if I can say all but a lot of dust.

25 Q What would you say?

TESTIMONY OF HAROLD WARD, JR.

1 A What I would say is that most of the dust that was created
2 by the process either remained in the hoods or was removed with
3 the fans.

4 Q Okay. Now, Mr. Ward, was it a common occurrence on the
5 job to use compressed air?

6 A Yes, sir.

7 Q Did you use that to clean up?

8 A Yes, sir.

9 Q Did you use it to blow on felts?

10 A Occasionally, yes, sir.

11 Q Can you describe how you did that for the jury and why?

12 A Well, when the paper machine would experience a sheet
13 break, very often that sheet would break into confetti and you
14 had to get that out of your dryer section before you put
15 another sheet in there, otherwise the confetti that was in
16 there or bigger pieces break and might be in there, would
17 strike the sheet that you were trying to run and you would
18 break all over again. So you had to have a clean field in
19 there in order to make paper, and in the course of having sheet
20 break you might create what we would call confetti or you might
21 occasionally wrap a can or two. If the wrap was bad enough you
22 would shut the section down, you would run a sheet in the pit
23 on the wet end and you would shut the section down and use
24 spear polls to get that wrap off the cans. And then you would
25 try to run that wrap through the section into the basement, and

TESTIMONY OF HAROLD WARD, JR.

1 necessarily and naturally there would be some smaller pieces,
2 you would blow those pieces as much as you could out of the
3 back side.

4 Q All right. Now, you've described taking felt off and
5 you've described putting it on, you described the incident
6 that occurred in the first week you were there, you
7 described cleaning a hood out and you described cleaning
8 fan -- did y'all clean the fans?

9 A We cleaned the fans, not as frequently as we did some of
10 these other tasks but maybe once or twice a year somebody would
11 clean the fans.

12 Q Would that be a utility person?

13 A Usually.

14 Q And would there also be build-up on the fans like the
15 build-up that you described on the hoods?

16 A Yes, sir.

17 Q So that would have to be cleaned off as well.

18 A As well as we could, yes, sir.

19 Q Usually by a utility person.

20 A Usually by a utility person.

21 Q All right. Would Steve Stewart have done that work?

22 A If he was ever a utility person I'm comfortable in saying
23 he would have done that work.

24 Q I don't have too much longer with you but I did want to
25 cover a couple of other things. Are you okay?

TESTIMONY OF HAROLD WARD, JR.

1 A I'm fine, yes, sir.

2 Q Mr. Ward, when you would deal with a felt you would
3 have to cut a felt, true?

4 A Yes, sir.

5 Q You would have to -- did you ever do any stretching of
6 a felt or pulling off a felt?

7 A We didn't pull a felt itself generally in the dryer
8 section, that's something we did with wet felts. We pulled the
9 felt on by the using of a lead rope that I described earlier.
10 We had to manipulate the felts some to get it in position with
11 the seam in the basement because we didn't have a dryer can in
12 the basement, we could get the felt on very well, we didn't
13 typically get on a felt dryer. We would have some men hold one
14 end of the felt and some the other end of the felt and we would
15 pull the felt together in order to work the seam in. Later on
16 in my career we acquired a rolling platform adjustable height
17 that would get tall enough to put the ends of the felt up there
18 and make a flat surface. But most of my career bottom felts we
19 tended the seam by just holding the felt together, getting
20 enough men together to hold the felt two ends and work the seam
21 in from the front.

22 Q After you cut the felts up with the Stanley knife it's
23 your testimony you would stack them up on a device to carry
24 it out?

25 A On a skid and then take a fork truck and carry the old

TESTIMONY OF HAROLD WARD, JR.

1 felt out.

2 Q Are all of these processes manual processes, you're
3 physically dealing with the felt material?

4 A Yes, sir.

5 Q Okay. And did some of the felt material get on your
6 clothing when you handled it?

7 A I would say felt material itself, that would be rare.
8 Now, some of the dirt and dust on the felt would get on us.

9 Q Now, you understand why you're here today.

10 A Yes, sir.

11 Q And what's your understanding?

12 A Well, my understanding I'm here to give an account -- a
13 true account of whatever you asked me and the other attorneys
14 ask me.

15 Q All right. And did you know Steve Stewart?

16 A Yes, sir, I knew him very well.

17 Q Did you work with him?

18 A Yes, sir.

19 Q How long?

20 A Well, over the course of my career -- my career extended
21 37 years and three months, I was on number one paper machine
22 that entire time except for a year and a half that was
23 contiguous time where I was on special assignment. So more
24 than 35 years I was there, most of that time Steve was there,
25 he did retire before I left.

TESTIMONY OF HAROLD WARD, JR.

- 1 Q And do you know what caused Steve Stewart's death?
- 2 A I'm told that he succumbed to mesothelioma.
- 3 Q Do you know what that is?
- 4 A I am told that it's a lung disease that is --
- 5 MR. COLLIER: Objection, Your Honor, hearsay.
- 6 A -- attributable to asbestos.
- 7 Q Sir, did you know that the felts in Plaintiff's 37 and
- 8 38 that you read to the jury, did you know that those felts
- 9 contained asbestos?
- 10 A No, sir.
- 11 Q Did you ever know -- well, let me ask you this, when
- 12 did you learn that those felts contained asbestos?
- 13 A I only learned that they contained asbestos when I was
- 14 approached to participate in this legal process.
- 15 Q You gave a deposition in this case.
- 16 A In July of 2013.
- 17 Q And did you learn at that time?
- 18 A I believe -- and I've searched my memory, I believe that's
- 19 the first time I ever learned that.
- 20 Q You were never told that those -- before that time you
- 21 were never told those felts contained asbestos.
- 22 A I do not remember ever being told that those felts
- 23 contained asbestos.
- 24 Q Did you ever see a warning on the box, on the felt, on
- 25 the wrapper of the box, on anything having to do with the

TESTIMONY OF HAROLD WARD, JR.

1 felts you testified on Plaintiff's 37 and 38, did you ever
2 see a warning on anything saying there was asbestos content?

3 A I do not remember ever seeing any such warning.

4 Q Do you remember anyone telling you that there was
5 asbestos in those felts before you were deposed in this
6 case?

7 MR. COLLIER: Objection, Your Honor, hearsay.

8 A I do not remember that.

9 THE COURT: What is being asked, Mr. Graham?

10 MR. GRAHAM: I'm asking Mr. Ward, Your Honor, if he ever
11 remembers anyone telling him that there were asbestos in the
12 felts.

13 THE COURT: That's okay, you may answer that.

14 A And the answer would be no.

15 Q Sir, you're retired from Bowater, aren't you?

16 A Yes, sir.

17 Q And how long have you been retired?

18 A I have been retired since March of 2010, so soon will be
19 eight years.

20 Q Are you enjoying your retirement?

21 A Very much.

22 Q Do you receive a pension from Bowater?

23 A Yes, sir, I do.

24 Q And the gentlemen that had worked the length of time
25 that you had worked there and that Steve Stewart had worked

TESTIMONY OF HAROLD WARD, JR.

1 there, would they also enjoy a pension?

2 A Yes, sir.

3 Q At the time of his passing I don't believe Mr. Stewart
4 was married, do you know any different?

5 A I do not.

6 Q What is your understanding, if you have one, about
7 whether or not a pension is a thing that you could pass to
8 your children?

9 MR. COLLIER: Objection, Your Honor.

10 MR. GRAHAM: If he knows.

11 THE COURT: What's the basis of your objection?

12 MR. COLLIER: I think there's lack of foundation as it
13 calls for speculation.

14 THE COURT: He receives a pension himself, he can ask
15 whether he knows if that pension is passable to the
16 beneficiaries of his, and if he knows that he can certainly
17 answer that.

18 MR. COLLIER: I don't think it has any relevance.

19 THE COURT: You can answer the question.

20 A The only person who can receive my pension is my wife and
21 she can receive 50 percent of my pension upon my demise.

22 Q Thank you, sir.

23 MR. GRAHAM: Your Honor, we would pass the witness at this
24 time but due to the hour it's --

25 THE COURT: Well, it's just 12:15, we've just been back

TESTIMONY OF HAROLD WARD, JR.

1 out off break for an hour. Members of the jury, can you hang
2 on for a little while longer? I don't know how long cross is
3 going to take but if it gets to be anything -- how do y'all
4 feel? Do you want to go to lunch now or later? Everybody is
5 okay? Everybody is all right. Mr. Collier?

6 MR. COLLIER: Thank you, Your Honor. May I approach
7 briefly?

8 THE COURT: Why certainly you can.

9 CROSS EXAMINATION

10 BY MR. COLLIER:

11 Q Good afternoon, Mr. Ward. What I just provided you
12 with there is a copy of your deposition which you were
13 referencing at the end of Mr. Graham's examination. I think
14 we have established that you hired on at Bowater December 15
15 of '72, correct?

16 A That's right.

17 Q And the first time that you remember working around Mr.
18 Stewart would have been some time in the 1970's but you
19 don't know exactly when in the 1970's?

20 A That would be correct, yes, sir.

21 Q You certainly can't testify that you worked around him
22 during the first couple of weeks that you were out there
23 working, can you?

24 A No, sir.

25 Q And that's because I believe as you testified earlier

TESTIMONY OF HAROLD WARD, JR.

1 he was working on the C shift and you were working on the D
2 shift?

3 A That's right.

4 Q And you worked as a utility for about four years from
5 '72 to '76?

6 A That is correct if you say so. As I told the jury, I
7 don't remember every one of my anniversary days.

8 Q Understood. You recall the day that you started there
9 and the day that you left there but the days in between are
10 a blur.

11 A Sometimes.

12 Q The utility position that you were working in, that was
13 the lowest position on the line of progression and was
14 essentially a clean-up person.

15 A Correct. May I elaborate just a little bit? As soon as a
16 person became a utility person, immediately he was trained to
17 fill one of the two bottom jobs, one on the paper machine and
18 one at stock prep. So most people functioning as utilities
19 after only a little while were qualified for those two jobs as
20 well and ran them.

21 Q And a lot of the work that a utility person did when
22 they were on the paper machine utility person was down in
23 the basement around pump alley and around the insulated
24 pipes and equipment, correct?

25 A We were there on a pretty regular basis, yes, sir.

TESTIMONY OF HAROLD WARD, JR.

1 Q But you moved up the line of progression as you
2 described to Mr. Graham and held a number of different
3 positions, correct?

4 A Yes, sir.

5 Q One of the positions that we went through pretty
6 quickly was a third hand position, correct?

7 A Yes, sir.

8 Q And I know you don't know the dates exactly, but would
9 that have been about three or four years that you worked as
10 a third hand?

11 A I would say it was at least three or four years, probably
12 four years or so.

13 Q Okay. And the third hand ran what was called the
14 re-reeler, correct?

15 A Yes, sir.

16 Q I would like to show you a picture of the re-reeler
17 that was part of, I believe, Exhibit 37. Part of Exhibit
18 35.

19 THE COURT: Do you have what you need?

20 MR. COLLIER: I do, Your Honor.

21 Q Sir, is that a picture of the re-reeler?

22 A Yes, sir.

23 Q And you testified a little bit earlier today that you
24 know Mr. Steele.

25 A Yes, sir.

TESTIMONY OF HAROLD WARD, JR.

1 Q And he was ahead of you in the line of progression,
2 correct?

3 A Yes, sir.

4 Q This re-reeler that's depicted here as part of Exhibit
5 Number 35, Mr. Steele told us that that re-reeler is at
6 least 50 feet from where the dryers on the paper machine
7 end, is that your recollection?

8 A I wouldn't argue with much of what Mr. Steele said, I
9 wouldn't argue with that.

10 Q Okay. Fair enough. And if the machine -- if the paper
11 machine needed to be shut down for some reason it was the
12 third hand's responsibility who was working on this
13 re-reeler to go down to the wet end of the paper machine,
14 correct?

15 A That is correct.

16 Q And what the third hand would do at that point in time
17 is that they would turn off the shower water on the wet
18 felts and get the suction boxes retracted and slack off the
19 tension on the wet felts, correct?

20 A That was what he did initially, yes.

21 Q You testified that when you left the mill in 2010 that
22 you were, I believe you said, a resource coordinator?

23 A Yes, sir.

24 Q And was that a salaried position with the mill?

25 A Yes, sir.

TESTIMONY OF HAROLD WARD, JR.

1 Q We spoke with Mr. Steele yesterday concerning the paper
2 making process, and given the fact he was ahead of you on
3 the line of progression on the number one paper machine you
4 would consider him to be knowledgeable about the paper
5 making process, correct?

6 A Yes, sir.

7 Q And you would agree that the paper making is a very
8 water intensive process?

9 A Yes, sir.

10 Q Paper machine number one alone used over three million
11 gallons of water a day, did it not?

12 A Yes, sir.

13 Q And I believe Mr. Steele estimated that paper machine
14 number one was about 150 yards long, would that be your
15 general recollection as well?

16 A Yes, sir.

17 Q And so we covered this briefly a little bit earlier,
18 but each paper machine had dryer sections, correct?

19 A All that I know of.

20 Q And each dryer section had a number of dryer cans in
21 it, correct?

22 A Yes, sir.

23 Q And your recollection, I believe you were telling Mr.
24 Graham, was that there were 52 to maybe 54 dryer cans on
25 paper machine one?

TESTIMONY OF HAROLD WARD, JR.

1 A I can remember dryer cans carrying those numbers, each can
2 had a number.

3 Q It was some place in the 50's range.

4 A Yes, sir.

5 Q And the dryer cans, these were steam heated to dry the
6 paper, correct?

7 A All but the last part of the fourth dryer section carried
8 steam, only four cans in the fourth dryer section carried
9 steam.

10 Q Section one through three though, all of those dryer
11 cans --

12 A They were all charged.

13 Q And by charged you mean with steam.

14 A They had steam in them, yes, sir.

15 Q And so there was a lot of steam piping associated with
16 paper machine number one.

17 A Yes, sir.

18 Q And the insulated steam lines that ran into paper
19 machine number one, they came off of an insulated main
20 supply line, correct?

21 A Yes, sir, a header.

22 Q And the insulated main line after it came through that
23 header that you described, it branched out around the paper
24 machine, correct?

25 A You had individual lines that came from that header that

TESTIMONY OF HAROLD WARD, JR.

1 went to each dryer can.

2 Q And then there were also insulated lines that were
3 condensate lines that came out of each dryer can.

4 A That would be correct, they would be situated mainly in
5 the basement.

6 Q And later on in your career at Bowater you saw signs
7 that stated that the insulation on these steam pipes might
8 contain asbestos, correct?

9 A I did see signs that referred to asbestos, I don't know
10 the exact verbiage.

11 Q When you left the mill in 2010 was there aluminum
12 cladding on a lot of those piping systems?

13 A Yes, sir.

14 Q But you can't testify as to when at that aluminum
15 cladding was actually added to those piping systems, can
16 you?

17 A Not with any degree of certainty, no, sir.

18 Q The insulation on those steam pipings could come off
19 during paper making process when a pipe failed and then it
20 would release pressurized steam or condensate, would it not?

21 A That could happen.

22 Q And you saw a condensate come down at least one
23 occasion and fall down in the basement, correct?

24 A I do recall -- vaguely recall such an incident.

25 Q And both you and Mr. Stewart worked around these

TESTIMONY OF HAROLD WARD, JR.

1 insulated pipelines, correct?

2 A Both Mr. Stewart and I were subject to be near such things
3 part of the time.

4 Q And you saw insulators that were repairing the
5 insulation on the number one paper machine, correct?

6 A Yes, sir, that would be correct.

7 Q And you saw insulators who were removing insulation
8 from the number one paper machine.

9 A That would be correct also.

10 Q And when the insulation was being worked on and when
11 steam leaks associated with the paper machine number one
12 happened, any aluminum cladding that was there had to be
13 removed, correct, or was removed by the steam burst,
14 correct?

15 A That would be correct.

16 Q Because you couldn't work on the pipe and install or
17 remove insulation if it was covered with aluminum, correct?

18 A No, sir.

19 Q And so you often saw dust that was created when
20 insulators and pipe fitters were working with this
21 insulation material, correct?

22 A I think often would be an exaggeration.

23 Q Well, you did see dust created when insulators were
24 working with the pipe insulation.

25 A Yes, sir.

TESTIMONY OF HAROLD WARD, JR.

1 Q And the pipe fitters and the insulators, they didn't
2 always clean up after themselves, did they?

3 A Not adequately.

4 Q And usually that was something that fell to a utility
5 person to clean up if the pipe fitter or insulator didn't
6 clean up after themselves, true?

7 A Yes, sir.

8 Q And sometimes the entire crew, the entire paper machine
9 crew would have to clean up after other trades came in and
10 did work on the paper machine.

11 A If the machine were down there might be more people
12 involved in the cleaning up and the utility people.

13 Q And after the machine was down and the material that
14 could be left behind by these pipe fitters and insulators
15 and other trades would have included insulation material,
16 gasket and packing material and other construction type
17 debris, correct?

18 A Yes, sir.

19 Q You would agree that the paper machine number one room
20 was a hot, humid and wet environment 24/7, correct?

21 A I would agree that the wet end of the paper machine was
22 very hot and humid, the entire machine room in the summertime
23 was hot. I think that it's fair to say that the dry end areas
24 of the paper machine were hot because the weather was hot and
25 we didn't have sufficient fans to -- exhaust fans to take care

TESTIMONY OF HAROLD WARD, JR.

1 of that heat.

2 Q Well, the paper machine room had so much moisture that
3 there were fans in place to help remove that moisture from
4 the room, correct?

5 A To help, yes, sir.

6 Q And there were also fans in that room to help remove
7 the moisture because it would build up on the ceiling and it
8 could actually fall down and start raining in there and that
9 would break the sheet of paper, would it not?

10 A On the wet end.

11 Q And even when those fans are running there were
12 occasions where you saw fog in the paper machine room,
13 correct?

14 A Yes, sir, especially in the winter.

15 Q So you talked about some of the fans that were in the
16 number one paper machine room, that they would include wall
17 fans?

18 A There were some wall fans.

19 Q Ceiling fans?

20 A There were some ceiling fans.

21 Q Exhaust fans?

22 A Connected with the hoods, yes.

23 Q Vent fans?

24 A Yes, sir.

25 Q And the supply fans that you've described.

TESTIMONY OF HAROLD WARD, JR.

- 1 A Yes, sir.
- 2 Q And those fans ran 24 hours a day seven days a week,
3 correct?
- 4 A Yes, sir.
- 5 Q And some of those fans vented out the side of the
6 building and some of them vented out the roof.
- 7 A That's correct.
- 8 Q And you've seen the exhaust fans on the roof over the
9 number one paper machine hood, have you not?
- 10 A Yes, sir.
- 11 Q And if you were to go up on the roof of the number one
12 paper machine and hold a towel or a T-shirt over one of
13 those exhaust fans it would make the towel or T-shirt stand
14 up in the air, would it not?
- 15 A Yes, sir, if the fan were running it certainly would.
- 16 Q The felts -- the dryer felts that were in the fourth
17 section of dryers, those could last up to a year but the
18 dryer felts that were in the first dryer section generally
19 ran for a shorter length of time, correct?
- 20 A Generally speaking that's true.
- 21 Q And that was because, as I think you've described
22 earlier today, components from the paper making process
23 would build up on those dryer felts faster in the first
24 section.
- 25 A That would be correct, yes, sir.

TESTIMONY OF HAROLD WARD, JR.

1 Q In the first top dryer section of the paper machine
2 number one, that was a difficult dryer felt to install.

3 A Yes, sir.

4 Q And it was more difficult than the other top sections
5 and certainly more difficult than the bottom sections,
6 correct?

7 A Yes, sir, that's correct.

8 Q And you would agree that the dryer felts that came off
9 of paper machine number one had a different appearance than
10 the new felts that went on.

11 A Yes, sir.

12 Q The used felts had kind of a hard crusty feel to it.

13 A Hard crusty feel, different in color than when they went
14 on, and sometimes depending on the fiber composition of the
15 felt might have worn places in the surface of the felt.

16 Q The hard crust that developed from these dryer felts
17 was from contaminates that built up on the felt including
18 the clay and the pitch and the paper fines that were
19 generated in the process, correct?

20 A There were a number of contaminates, yes, sir.

21 Q And to remove a dryer felt from a paper machine, you
22 spoke about this a little bit with Mr. Graham earlier today,
23 but would you use a really sharp razor knife or a Stanley
24 Knife to take that off, correct?

25 A Yes, sir.

TESTIMONY OF HAROLD WARD, JR.

1 Q You don't know, you don't have any personal knowledge
2 as to which felts that were used at the mill on number one
3 paper machine might have contained asbestos, do you?

4 A No, sir.

5 Q You've talked about dust and paper dust earlier today,
6 and there was paper dust that was generated in the paper
7 making process in 1972 when you started at Bowater, correct?

8 A Yes, sir.

9 Q And you cleaned up some of that paper dust from paper
10 breaks.

11 A Yes, sir.

12 Q And when a paper break did happen the paper machine
13 crew would take the compressed air that you've talked about
14 and they would blow across the width of the paper machine
15 from the front to the back to dislodge those scraps of
16 paper, correct?

17 A Most of the time from the front to the back.

18 Q And the reason that you say most of the time is that
19 the guide ropes for the paper machine were located on the
20 front of the paper machine, correct?

21 A That is correct.

22 Q And that was the operating side of the paper machine.

23 A Yes, sir.

24 Q So when we're talking about blowing across the width of
25 the paper machine from the front to the back, that's a

TESTIMONY OF HAROLD WARD, JR.

1 distance of more than 20 feet in width.

2 A Yes, sir.

3 Q And the main goal of blowing across the width of it
4 from front to back was to dislodge any scraps of paper and
5 to get them down to the basement so that you could bring
6 your sheet through again.

7 A Yes, sir.

8 Q And paper dust is generated in the paper making process
9 in the 1990's and in the 2000's and even when you left
10 Bowater in 2010, correct?

11 A There was always dust, yes, sir.

12 Q As far as the dryer felt, as far as felts that were
13 used at Bowater, do you recall using Albany felts?

14 A Yes, sir.

15 Q Do you recall Aspen dryer felts?

16 A Yes, sir.

17 Q Mount Vernon dryer felts?

18 A Yes, sir.

19 Q Hike (phonetically) dryer felts?

20 A I don't have a specific recollection of the Hike dryer
21 felt, I did install some Hike wet felts but I'm not saying no.
22 There were a lot of vendors.

23 Q Drytech's dryer felts?

24 A Yes, sir.

25 Q You're not able to testify that Mr. Stewart ever worked

TESTIMONY OF HAROLD WARD, JR.

1 around or near a SCAPA dryer felt, are you?

2 A Not specifically, no, sir.

3 Q And you don't have any personal knowledge as to whether
4 any SCAPA dryer fell contained any asbestos, do you?

5 A No, sir.

6 Q And you can't personally testify that Mr. Stewart
7 worked with or around any asbestos containing product
8 manufactured by SCAPA, can you?

9 A No, sir.

10 Q Bowater was the first and only paper mill that you
11 worked at during your career; is that right?

12 A That is correct, yes, sir.

13 Q And you would agree that two days on the job for any
14 job is pretty new.

15 A Oh, absolutely.

16 Q And there's a lot to learn, a lot to kind of process
17 and take in when you go to work at a new job particularly at
18 a paper mill, correct?

19 A Yes, sir.

20 Q And there's a lot of -- you experienced yourself a lot
21 of on-the-job kind of learning.

22 A Yes, sir.

23 Q And you testified with respect to some of Mr. Graham's
24 requests earlier today that you recall losing a dryer felt
25 on the number one paper machine a couple of days after you

TESTIMONY OF HAROLD WARD, JR.

1 started work out there.

2 A Yes, sir.

3 Q And that dryer felt, was a loss due to a failure of the
4 seam at the dryer felt or on the dryer felt?

5 A As I testified I didn't know at the time nor did I learn
6 what the specific cause of that fiber separation was.

7 Q And you thought that the -- or you testified that the
8 dryer felt that you lost came from a second top dryer
9 section, but could it have come from the first top dryer
10 section?

11 A Not that particular one, it was the second top.

12 Q And so you were familiar enough with the paper machine
13 two days into working there to know that it was the second
14 top as opposed to the first top dryer felt that came off?

15 A Well, I knew what my coworkers said.

16 Q You don't have any independent knowledge of what
17 company manufactured the dryer felt that came off in that
18 incident, do you? You don't have any personal knowledge of
19 that.

20 A No, sir.

21 Q And you don't have any personal knowledge of what
22 components might have been contained in that dryer felt, do
23 you?

24 A No, sir.

25 Q And regardless of what section the dryer felt came off

TESTIMONY OF HAROLD WARD, JR.

1 of in connection with this recollection of yours, you can't
2 testify that Mr. Stewart was there for any of it because the
3 two of y'all worked on different shifts at that point in
4 time, correct?

5 A In that particular case that would be correct.

6 Q All right, sir. We're looking at Exhibit Number 37
7 that you were shown earlier today by Mr. Graham. Do you
8 still have a copy of it up there with you?

9 MR. COLLIER: Your Honor, may I approach?

10 THE COURT: You may.

11 Q Sir, you're now looking at Exhibit Number 37, correct?

12 A If you say so.

13 Q It's marked, I believe, on the front bottom, 37.

14 A Yes, I see it now.

15 Q Would you turn to the second page of that which has a
16 number at the bottom of it 9B?

17 A Yes, sir.

18 Q And this might be very difficult to see because of --
19 I'm looking in the remarks section.

20 A Yes, sir.

21 Q And I'm looking at the lines that are right above the
22 remarks section. "12/7/72, Operating well-best felt ever on
23 position," do you see that?

24 A Yes, sir.

25 Q Sir, I want to switch gears with you for a minute. The

TESTIMONY OF HAROLD WARD, JR.

1 mill employed millwrights and pipe fitters, did it not?

2 A Yes, sir.

3 Q And Daniels and PPM were companies that were hired as
4 contractors to do dig installations in there.

5 A Yes, sir.

6 Q And Daniels actually even had its own office in the
7 mill, didn't it?

8 A I don't know.

9 Q But Daniels did employ pipe fitters that worked at the
10 mill.

11 A Yes, sir.

12 Q And Daniels employed millwrights and welders who worked
13 in the mill.

14 A Yes, sir.

15 Q And these pipe fitters and millwrights and welders who
16 worked for Daniel, they worked around the Bowater employees
17 as well, correct?

18 A Yes, sir.

19 Q And you recall Daniel coming in on a project in 1972 to
20 replace the headbox on the number one machine?

21 A I remember the headbox being replaced and I remember
22 seeing people who had Daniel on their hard hats and that type
23 thing.

24 Q And they also had Daniel's folks come back in in '73 or
25 '74 to install a new coder on the number one paper machine.

TESTIMONY OF HAROLD WARD, JR.

1 A Yes, sir.

2 Q And most of the work that you saw Daniel's employees
3 performing was on piping or installation on a new piece of
4 equipment, correct?

5 A That would be correct, yes, sir.

6 Q And they also did work on steam lines and water lines
7 and air lines around paper machine number one.

8 A Was that a question?

9 Q Yes, I'm sorry.

10 A I believe that to be the case.

11 Q And Daniels never informed you of any hazards
12 associated with the work that they were performing, did
13 they?

14 A I never recall such warning.

15 Q Daniels never informed you that they were working with
16 any asbestos containing products, did they?

17 A I was not so informed.

18 Q PPM, one of the other outside contractors, they never
19 informed you of any hazards associated with their work, did
20 they?

21 A I don't remember being informed.

22 Q And PPM never informed you that they were working with
23 any sort of asbestos containing products, did they?

24 MR. GRAHAM: Objection, lacks foundation.

25 THE COURT: I'll allow the question.

TESTIMONY OF HAROLD WARD, JR.

- 1 A I do not remember being informed of that.
- 2 Q And Bowater management never informed you about any
- 3 hazards associated about the work being done by Daniels or
- 4 PPM out there at the mill, did they?
- 5 A I don't recall any such communication.
- 6 Q The paper production crew was responsible for valving
- 7 in and out, or turning valves on and off to allow other
- 8 crafts to work on the equipment, correct?
- 9 A Yes, sir.
- 10 Q And you and Mr. Stewart were part of the paper
- 11 production crew who did these valve outs, correct?
- 12 A Yes, sir.
- 13 Q And Mr. Stewart would have performed a valve out as
- 14 part of his work on the paper machine crew.
- 15 A Yes, sir.
- 16 Q And frequently the paper machine crew would speak to
- 17 millwrights while they were there working on pumps or valves
- 18 or other equipment, right?
- 19 A That did sometimes happen, yes, sir.
- 20 Q And that would have included when folks were working
- 21 with pumps and replacing packing and pumps.
- 22 A Yes, sir.
- 23 Q And you saw Mr. Stewart present while pumps were being
- 24 repacked, did you not?
- 25 A I would say yes, sir.

TESTIMONY OF HAROLD WARD, JR.

1 Q Goulds and Ingersoll Rand were attached to lines that
2 ran around paper maching number one, right?

3 A Especially Gould.

4 Q And you could identify those pump manufacturers because
5 the name was actually on the body of the pump, right?

6 A Yes, sir.

7 Q And you said especially Goulds. Goulds were the water
8 and the stock pumps that were used at the mill.

9 A Yes, sir.

10 Q And Ingersoll Rand used some of the pumps that were
11 associated with the fan pumps, correct?

12 A Ingersoll Rand was a wide ranging company because they did
13 some small things and some big things. A vacuum pump was a big
14 thing. I don't remember specifically if I saw their name on
15 different pumps. Nash was a name I saw associated with pumps.

16 Q And Nash was some of the vacuum pumps out at the mill?

17 A I believe so.

18 Q And you recall millwrights working on the Goulds and
19 the Nash and the Ingersoll Rand pumps associated with paper
20 machine number one.

21 A I recall millwrights working on pumps.

22 Q You saw millwrights replace gaskets and packing
23 associated with those pumps.

24 A Yes, sir.

25 Q Turning the timeframe of your last period of time

TESTIMONY OF HAROLD WARD, JR.

1 working at the mill where you were a resource coordinator.

2 A Yes, sir.

3 Q Is one of the things that you did in that capacity
4 conducting asbestos safety training for mill employees?

5 A It was our job to make sure that that training was
6 conducted. We had trainers who did the actual training and
7 some of it was done by computer, computer type training.

8 Q You were responsible as a person who was supervising a
9 number of people to make sure that those people that you
10 were supervising went through the appropriate training.

11 A That would be correct.

12 Q And in doing so dryer felts were not any of the
13 materials that safety training was provided on.

14 A No, sir.

15 Q And do you know what an asbestos abatement is?

16 A No, sir.

17 Q Do you understand that there came a time where crews
18 came into the mill to remove asbestos containing thermal
19 insulation materials?

20 A Yes, sir.

21 Q And you recall seeing these individuals wearing
22 personal protective equipment and working in roped off
23 areas, correct?

24 A Yes, sir.

25 Q And those were the areas that you and Mr. Stewart had

TESTIMONY OF HAROLD WARD, JR.

1 worked in on a day in and day out basis as y'all went up the
2 line of progression, correct?

3 A Some of the same areas.

4 Q And you don't recall exactly when you saw these people
5 coming in to this removal, but it would have been some time
6 in the 1990's or the 2000's?

7 A It would have been more toward the latter end of my
8 career.

9 Q By latter end, you mean late 90's to 2010?

10 A Some place in the 90's to over in the 2000's, I don't
11 recall exactly.

12 Q And you recall seeing these individuals working on the
13 condensate tanks and the collection tanks that were located
14 under paper machine number one that you've talked about
15 earlier today, correct?

16 A I remember them being in that area.

17 Q Assume for me that the records that would be produced
18 in this case show that 21,800 linear feet of asbestos
19 containing materials were removed from the Bowater mill.

20 MR. GRAHAM: Objection, Your Honor.

21 THE COURT: What's the objection?

22 MR. GRAHAM: Your Honor, he's not an expert and being
23 offered to testify about what was there and what wasn't and
24 whether or not it had asbestos or didn't, he has no basis of
25 knowledge. I don't know that he would be able to answer the

TESTIMONY OF HAROLD WARD, JR.

1 question, or even if he could whether he is qualified to
2 provide the answer.

3 THE COURT: Well, let's see what the question is, he was
4 kind of halfway through the question. If he knows. You're
5 running away pretty far from what he does know but let's see
6 what you asked him.

7 Q Based on the training that you had to provide to ensure
8 those folks who worked under you went through, based on the
9 positions --

10 THE COURT: Well, there's not of a predicate as to what
11 training he received or that he personally gave about the
12 subject.

13 MR. COLLIER: Okay.

14 Q Based on the positions that you've held at Bowater,
15 would that amount of asbestos being removed from the Bowater
16 plant seem reasonable to you?

17 A I have no idea.

18 Q You have no reason to dispute it.

19 THE COURT: He says he has no idea.

20 A I don't have any idea.

21 Q Sir, the exterior of the number one paper machine
22 building, the building that housed the number one paper
23 machine, that was a transite type material, was it not?

24 A Explain what you mean by that.

25 Q It was an asbestos cement type siding material.

TESTIMONY OF HAROLD WARD, JR.

1 MR. GRAHAM: Objection. There's no foundation that the
2 transite he's referring to in his question is asbestos
3 containing, there's no predicate for the question.

4 THE COURT: Well, there isn't any predicate yet. But ask
5 him a little more directly if you don't mind, Mr. Collier, and
6 find out whether he knows what the outside was made of instead
7 of asking it in that -- it is cross examination but you've got
8 to find out what he knows first. I'm not going to exclude it
9 yet. As y'all know I don't exclude much of anything, I let
10 y'all kind of run your case but I think it's not fair to the
11 witness to ask him quite the way you're asking, find out first
12 whether he knows.

13 MR. COLLIER: Okay.

14 Q Mr. Ward, you were working at Bowater Paper Mill when
15 Hurricane Hugo came through, correct?

16 A Yes, sir.

17 Q Do you recall approximately when that was?

18 THE COURT: September of 1989, September 30th of 1989.

19 THE WITNESS: Thank you, Your Honor.

20 A I was on the job that night when it struck our area.

21 Q And do you recall some of the exterior siding of the
22 number one paper machine building being damaged in
23 connection with Hurricane Hugo coming through?

24 A Yes, sir.

25 Q And do you recall a company coming in and having to

TESTIMONY OF HAROLD WARD, JR.

1 remove over 40,000 feet, square feet of material from the
2 exterior of paper machine number one building?

3 A I remember the project. I didn't -- I don't have a clear
4 recollection of the cause other than the fact that we incurred
5 some damage, that's really all I remember.

6 MR. COLLIER: Thank you, sir, those are all of the
7 questions I have for you, I appreciate your time.

8 THE COURT: All right. Mr. Graham, as you can tell I am
9 trying to wrap this witness up before we go to lunch.

10 MR. GRAHAM: Your Honor, it is whatever the jury wants to
11 do. I don't have that long but I don't want to push their --

12 THE COURT: Let's try to get Mr. Ward finished if we can.
13 Jury, can y'all hang on for me a little bit longer? They say
14 they can.

15 REDIRECT EXAMINATION

16 BY MR. GRAHAM:

17 Q Mr. Ward, have you ever experienced a situation where
18 you were laying paper in a high humidity area and the paper
19 begins to crumble at the edges?

20 A Curling, yes, sir.

21 Q Humidity is bad for paper, isn't it?

22 A Yes, sir.

23 Q Water in any form whether it's fog or whatever is bad
24 for a finished paper product, correct?

25 A Well, all I'll tell is you that our process was about

TESTIMONY OF HAROLD WARD, JR.

1 forming a sheet of paper and about drying a sheet of paper and
2 wrapping it up in a saleable fashion.

3 Q And it wouldn't be saleable if it manufactured the end
4 in high humidity.

5 A We shot for a four percent moisture content at the rear.
6 Four percent, if you walked in front of a room of paper and
7 hold your arms up will pull the hairs on your arm, straighten
8 the hairs on your arm, any hair if you had it. I had it then,
9 yeah.

10 Q I wish I had an exhibit and I could show the jury.

11 A Yes, sir.

12 Q Now, Mr. Collier asked you about fans.

13 A Uh-huh.

14 Q There were fans everywhere, weren't there?

15 A Yes, sir.

16 Q And if there was any dust in the environment, wouldn't
17 the fans blow all of dust around all the time everywhere
18 constantly?

19 A There was dust in the environment -- we had places where
20 sunlight came in, and if you were on the operating floor and at
21 a certain time of the day and you were at one of those
22 junctures -- places where the sunlight came in you could see
23 dust.

24 Q Okay. And was the dust constant -- when you would look
25 at it through the sunlight would the dust be constantly

TESTIMONY OF HAROLD WARD, JR.

1 moving around?

2 A Yes, sir.

3 Q Would you be breathing the dust?

4 A I suppose.

5 Q Would everyone on the team on paper machine number one
6 be breathing the dust that was moving around in the room?

7 A I would say necessarily, yes.

8 Q You've got to breath on the job, right?

9 A Yes.

10 Q Okay. Now, this number 37, do you still have that in
11 front of you?

12 A Yes, sir.

13 Q Did you hear what Mr. Collier told you that that
14 section that said that was the best felt ever, do you
15 remember that?

16 A Yes, sir, I saw that.

17 Q Was that the one that broke? Was that the one that
18 blew up? Was that the first one?

19 A Yes, sir, this is the one that came off.

20 Q So the best felt ever is the one that caused all the
21 commotion.

22 A That particular night it did.

23 MR. GRAHAM: Your Honor, may I approach the witness?

24 THE COURT: Why certainly.

25 Q Mr. Ward, this is going to be the last time for this

TESTIMONY OF HAROLD WARD, JR.

1 picture, all right?

2 A I'll help you hold it.

3 Q The jury has seen this before but I'm going to ask you
4 because Mr. Collier brought it up in his cross, do you see
5 this pipe?

6 A Yes, sir.

7 Q Does that pipe appear to you -- what pipe is that by
8 the way?

9 A That pipe is the pipe that allows white water to come up
10 from the white water chest and be transmitted through showers
11 that were underneath this table here.

12 Q Okay. What did the showers do?

13 A The showers lubricated the blades that were on that roll
14 so that they wouldn't burn up from the friction of running
15 against those rolls.

16 Q Any insulation on that pipe?

17 A No, sir.

18 Q Is this a valve that you would cut off?

19 A Yes, sir.

20 Q Any insulation on that valve?

21 A No, sir.

22 Q Is this the portion that goes down to the --

23 A Yes, sir.

24 Q -- to the basement?

25 A Yes, sir.

TESTIMONY OF HAROLD WARD, JR.

1 Q Any insulation on that section of any kind?

2 A I can't speak for what's under the floor.

3 Q No, no. I'm asking you is this portion --

4 A No, sir, there's no insulation there.

5 Q Okay. The insulated pipe that Mr. Collier refers to,
6 is the insulated pipe underneath this floor?

7 A Some of it is, yes, sir.

8 Q Is there any piping up here?

9 A Yes, sir, there was some piping up there.

10 Q Where was that?

11 A Well, some of the piping -- we had steam lines up there,
12 too, headers and so forth.

13 Q In this section?

14 A Well, it would have been behind that hood section there
15 and on the mezzanine level.

16 Q And those were covered with jackets.

17 A I believe so, yes, sir.

18 Q Any reason for any of you paper makers to be messing
19 with those lines up there?

20 A Only occasionally we had to valve out the header. For
21 example, we would always valve out headers if there's going to
22 be a lot of maintenance work done in the dryers to make sure
23 that no steam leaked by and injured an employee that was
24 changing a valve inside the hoods or changing a line, working
25 on a line fixing a leak, that type thing.

TESTIMONY OF HAROLD WARD, JR.

1 Q The team that was on the paper machine, your team or
2 the team that Mr. Stewart would have been on, they're not
3 millwrights, are they?

4 A No.

5 Q They wouldn't be doing pump work, would they?

6 A No, sir.

7 Q They wouldn't have their hands on the packing or
8 gaskets, would they, or whatever they were?

9 A No, sir.

10 Q And they would have been not in keeping with the job
11 that they would have in working on paper machine number one.

12 A We were only charged with isolating equipment that had to
13 do work on, or isolating a section of pipe as it were.

14 Q You weren't supposed to work on it.

15 A No, sir.

16 Q You weren't supposed to touch it.

17 A We weren't supposed to work on it.

18 Q And you didn't.

19 A No, sir.

20 Q And you didn't touch it.

21 A No, sir.

22 Q To work on it.

23 A No, sir.

24 THE COURT: Mr. Collier is standing because you are
25 starting to cross examine rather than ask him direct questions.

TESTIMONY OF HAROLD WARD, JR.

1 Next question.

2 MR. GRAHAM: Your Honor, I will admit I was beginning to
3 get into that pasture.

4 THE COURT: I know. You're just trying to speed it up,
5 you know the rules.

6 Q Mr. Collier asked you about personal protective
7 equipment, do you remember that?

8 A No, sir.

9 Q Do you remember him asking you about the fellows that
10 came in to do the abatement?

11 A Yes, sir.

12 Q Do you remember him asking you about the guys that
13 dressed out?

14 A Yes, sir.

15 Q You said, "I don't know anything about abatement."

16 A That's correct.

17 Q And you still don't know anything about abatement.

18 A I know more now than I did.

19 Q Okay. Sir, you testified here today that you only
20 learned about the asbestos in the SCAPA dryer felts when you
21 did your deposition in this case with Mr. Stewart.

22 A That is correct.

23 Q And you never knew prior to that point, or did you?

24 MR. COLLIER: Objection, Your Honor, asked and answered.

25 MR. GRAHAM: Exactly right, it has been asked and answer.

TESTIMONY OF HAROLD WARD, JR.

1 I will withdraw it, Your Honor.

2 THE COURT: All right.

3 Q Sir, do you wish you would have known that this felt
4 that y'all dealt with on paper machine number one had
5 contained asbestos?

6 MR. COLLIER: Objection, Your Honor.

7 THE COURT: Overruled.

8 A Of course.

9 Q Why?

10 A Because of the known health hazards associated with
11 asbestos.

12 Q And if there would have been known asbestos hazards at
13 the time, do you think the mill would have given you
14 protection?

15 A I believe so.

16 Q Because you had goggles?

17 A Yes, sir.

18 Q You had steel toed boots and other protective equipment
19 to protect you from chemical hazards, correct?

20 A We had protective equipment suitable to the task.

21 Q Yes, sir. Sir, when was the last time you saw Steven
22 Redfearn Stewart?

23 A I don't recall the last time I saw him, I recall the last
24 telephone conversation we had.

25 THE COURT: Let me just stop you right there and say I was

TESTIMONY OF HAROLD WARD, JR.

1 pretty flexible with Mr. Steele, but as we know there is
2 hearsay and you can't testify as to what Mr. Stewart told you
3 or said to you. You can testify as to what you observed about
4 his condition but you can't testify as to what he told you.

5 THE WITNESS: Yes, ma'am.

6 Q You can't say what Steve said. You called him or he
7 called you?

8 A He called me, he called me.

9 Q Is that the last time you had a conversation?

10 A That is correct.

11 Q At the time was he sick?

12 A Yes, sir.

13 Q Did you ever see him while he was sick?

14 A I do not believe I did.

15 Q Did you go to his funeral?

16 A I went to the visitation.

17 Q Did you meet the family?

18 A I did.

19 MR. GRAHAM: On behalf of the family I thank you for your
20 testimony today, Mr. Ward.

21 THE WITNESS: Yes, sir.

22 THE COURT: Mr. Ward, thank you very much for your
23 testimony in this case. We're going to take our lunch break
24 now, it's a little after 1:00, please be back -- it's a little
25 after 1:00, please be back at 2:15 or 2:20 in that area. Very

1 good.

2 (The jury left the courtroom and a lunch break was
3 Taken.

4 (The jury returned to the courtroom.)

5 THE COURT: Good afternoon, ladies and gentlemen of the
6 jury, we're ready to go with the deposition that I discussed
7 with you so please be seated and we'll move forward with that.
8 Mr. Jekel, do we have other exhibits before we begin?

9 MR. JEKEL: No. But there is a housekeeping, Your Honor.
10 It was brought to our attention that Exhibit Number 29 that was
11 admitted is a duplicate of 28 that was already admitted so we
12 just ask Your Honor to strike 29 from the record.

13 THE COURT: Strike it from the record.

14 MR. JEKEL: And I'll hand that back to the court reporter.
15 Your Honor, the parties have agreed for the purposes of this
16 designation to move it along that I'm going to do all of the
17 reading although it contains designations of both parties.

18 THE COURT: That's great.

19 MR. JEKEL: Your Honor, at this time we would call to the
20 stand, we are going to read the deposition of Harry Merk, it
21 was taken over the course of January 5th, 6th and 7th of 1998.

22 THE COURT: I might say to you, ladies and gentlemen of
23 the jury, they will explain to you who Dr. Merk is. The slice
24 that you're going to hear is a much abbreviated version that
25 will not -- if it takes an hour I would be surprised but don't

1 be frightened by that list of days. The actual parts that will
2 be read to you have been very carefully tailored to present the
3 parts both sides would like for you to hear out of that
4 deposition. You may proceed, Mr. Jekel.

5 (Portions of the depositions of Dr. Merk were read.)

6 MR. JEKEL: That concludes the reading of the deposition
7 of Dr. Harry Merk. As I indicated we're about to begin the de
8 bene esse video deposition of Mr. Stewart, I don't know if we
9 wanted to take a quick break, it's going to last an hour and 17
10 minutes.

11 THE COURT: Yes, lest's take a quick break. Jury, can you
12 be back in ten minutes? Very good.

13 (The jury left the courtroom and a recess was taken.)

14 (The jury returned to the courtroom.)

15 THE COURT: All are here and all in place. Mr. Jekel?

16 MR. JEKEL: Yes, Your Honor, at this time we're going to
17 play the de bene esse video of deposition Mr. Stewart, this is
18 in 2013, March 4, 2013.

19 THE COURT: All right. We will be playing several Stewart
20 video depositions so you'll see Mr. Stewart on various video
21 depositions.

22 (The video was played.)

23 MR. JEKEL: I can offer documents and clean up the record,
24 but the next is going to be the discovery deposition of Mr.
25 Stewart that was taken previously, and that is an one hour and

1 one minute?

2 MR. EARLY: That's right, one hour, one minute.

3 THE COURT: And that a deposition was taken when?

4 MR. EARLY: Around the same time. The Thursday before
5 this?

6 MR. JEKEL: The Thursday before that, yes, ma'am.

7 THE COURT: That's the one he has just been questioned
8 about and I remember me talking previously it was taken the
9 Thursday before.

10 MR. JEKEL: Yes.

11 THE COURT: And it's going to take about an hour?

12 MR. JEKEL: An hour and one minute.

13 THE COURT: Jury, let's think together, I know this is the
14 end of a long day. We can take a break and go forward with
15 that deposition now, that would put us here to almost 6:00, I
16 don't want know that I want to make y'all do that -- I'm not
17 going to make you do anything because I'll let you participate
18 in the decision-making about this, of course. Anyway, we would
19 like to get the plaintiff's case concluded by tomorrow, we
20 don't know if that's possible but we'll try awfully hard to do
21 it.

22 MR. JEKEL: Your Honor, I think even if we had to start
23 with the video deposition we're still done by lunch tomorrow.

24 THE COURT: Okay. That's the main thing, I wanted to be
25 sure we could get their case concluded and give the defendants

1 a chance to at least begin their case so that as you go into
2 the weekend and we then come back together next Wednesday you
3 would have at least had some introduction at the conclusion of
4 the plaintiff's case and some introduction into the case of the
5 defense and it sounds like we might be able to achieve that if
6 we conclude today at this time. What do y'all think?

7 MR. YOUNG: Judge, I feel like we can --

8 THE COURT: Let's do this, let's let the jury go to their
9 jury room and see if that schedule is amenable to y'all, if so
10 I will try to start us tomorrow at 9:00 if possible. Is that
11 good? Go to the jury room and see if that suits you and you
12 can send word by the bailiff if that is suitable. Thank you so
13 much, it has been a long day.

14 (Break in proceedings.)

15 THE COURT: I have been informed by the bailiff that the
16 jury prefers to start fresh at 9:00 tomorrow.

17 (Court recessed for the day and resumed on 2/2/18 at
18 9:00 a.m.)

19 THE COURT: Ladies and gentlemen, all are in place, the
20 jury is in place, any dilemmas, anything we need to talk about?
21 I think the jury is here now and ready.

22 (The jury returned to the courtroom.)

23 THE COURT: Good morning, ladies and gentlemen of the
24 jury, please take your seats. We had a few technical issues,
25 we're trying to cue up the discovery deposition of Mr. Stewart

1 which is what we're going to hear now. The way we will proceed
2 this morning is we will see this video deposition and then we
3 will hear testimony from a treating physician from Duke of Mr.
4 Stewart, and then we will see a video -- another concluding
5 video from Mr. Stewart and have some other exhibits and I think
6 that is about going to be the conclusion of the plaintiff's
7 case, we hope we will be able to cover these matters this
8 morning and then we will take the lunch break and get into the
9 defense case, and of course, naturally at some point during the
10 morning we will take our normal break. Thank you so much. You
11 may proceed.

12 (The video deposition was played.)

13 MR. EARLY: Your Honor, that concludes our discovery
14 deposition of Mr. Stewart.

15 THE COURT: Very good. Mr. Jekel?

16 MR. JEKEL: We are calling our witness, Your Honor. I did
17 on the record, when I was going through the evidence we have a
18 duplicate exhibit, Exhibit 25 is a duplicate of Exhibit 37
19 which was used with Mr. Ward, we're going to ask that the Court
20 remove Exhibit 25 from the record.

21 THE COURT: Very good. All right. Mr. Jekel, you may
22 proceed.

23 MR. GRAHAM: If it please the Court, plaintiff would like
24 to call Dr. David Harpole to the stand.

25 The witness, DAVID HARPOLE, M.D., was first duly sworn

TESTIMONY OF DAVID HARPOLE, M.D.

1 and testified as follows:

2 DIRECT EXAMINATION

3 BY MR. GRAHAM:

4 Q Good morning, Dr. Harpole, are you comfortable?

5 A Excuse me?

6 Q Are you comfortable?

7 A I'm fine, thank you.

8 Q Could you move that mic a little bit closer to you,
9 please, sir? And you've got your water there if you need
10 it. Now, could you introduce yourself to the jury and
11 provide to the record your full name and where you work?

12 A It's David Harold Harpole, Jr. and I'm a surgeon at Duke
13 University in Durham, North Carolina.

14 Q And what type of surgery do you do?

15 A I am a cardiothoracic surgeon, that is a doctor who
16 operates in the chest, my specialty is cancer of the chest.

17 Q All right, sir. I believe you brought some records
18 today with you. Where do these records that you have with
19 you that you're going to refer to come from?

20 A These are just copies of my records with Mr. Stewart when
21 he came to see me and as I took care of him during his illness.

22 Q And we'll get to that in a minute, Dr. Harpole. Now, I
23 want you to, for the juries background, could you give us
24 just a summary of your education, where you were born,
25 school and medical school and residency and so on just

TESTIMONY OF DAVID HARPOLE, M.D.

1 briefly, sir?

2 A I was born in New Orleans and spent most of my childhood
3 in Virginia, in Roanoke, Virginia which is in southwestern
4 Virginia, went to college at Washington and Lee and medical
5 school at the University of Virginia. In 1984 went to Duke
6 where I trained in general and thoracic surgery, that was nine
7 years of training. After I finished training then I would join
8 the faculty of Hardin Medical School and the Dana-Farber Cancer
9 Institute in Brigham Women's Hospital in Boston, I was there
10 for three and a half years and then was recruited back to Duke
11 to build the lung, cancer and thoracic malignancy program which
12 includes mesothelioma. And when I was in Boston my senior
13 partner is one of the world's experts in mesothelioma and so I
14 brought that practice with me to Durham now 22 years ago this
15 coming April.

16 Q Now Dr. Harpole, did you at some point in your early
17 part of your career wind up dealing with the surgery
18 involving the treatment for mesothelioma?

19 A Interestingly enough during my training I think I only saw
20 one case, most surgeons do not see this tumor because it's
21 relatively infrequent, but when I was on faculty in Boston we
22 were one of the major referral centers for it so I had the
23 opportunity to have a number of patients and to perform
24 treatments for them surgery and otherwise. As I said earlier
25 that's how I brought those skills down to North Carolina,

TESTIMONY OF DAVID HARPOLE, M.D.

1 because there wasn't anyone in the southeast who had a
2 specialty in mesothelioma surgery care at that time.

3 MR. GRAHAM: Your Honor, may I approach?

4 THE COURT: Yes, you may.

5 Q Now Dr. Harpole, what I handed you -- do you recognize
6 that as your CV or curriculum vitae?

7 A I do.

8 Q Is that your most current CV?

9 A It's probably if not the most current of my current one of
10 my more current ones. They were made for me at Duke every few
11 months and so this is probably -- I think it's dated December.

12 Q Okay. There is a thing or two missing on that, can you
13 tell the jury what's missing?

14 A Yes. I have had a laboratory looking at cancer of the
15 chest, lung, esophagus and mesothelioma for 20 something years,
16 and I've been fortunate to have grants from the National Cancer
17 Institute, the Veterans Administration and most recently from
18 the department of defense. And missing from this are our two
19 grants that we just started, one in October of '17 and the
20 other of September of '17 that are investigating the causes but
21 more importantly developed better treatments for mesothelioma.

22 Q Now, at some point in your career you had the occasion
23 to get involved or get interested in this particular
24 subspecialty with the department of defense. How would that
25 come about?

TESTIMONY OF DAVID HARPOLE, M.D.

1 A Well, one of my patients, I recall it was in '99 and 2000,
2 was Admiral Elmo Zumwalt who was a well known leader of the
3 Navy during the Vietnam conflict and after, actually he was
4 responsible for promoting woman in the military, that's
5 probably one of his greatest attributes, and he had
6 mesothelioma and I took care of the Admiral for approximately a
7 year got to know his family well. And in fact, they invited me
8 up 18 months ago when the Zumwalt Class Destroyer was launched
9 in New England which is a new ship that was going to be used in
10 the Navy and I was able to go up there for that and that was an
11 honor. He's one of the finest individuals I have ever known
12 and I think he was probably my biggest stimulus for looking
13 more into the causes and potential new therapies for this
14 devastating disease and focused me on that fact that military
15 exposure is common for this.

16 Q Now, as it would relate to this case and Mr. Stewart,
17 your former patient, did you do the same procedure on
18 Admiral Zumwalt that you did on Steven R. Stewart?

19 A Similar. I did the pneumonectomy on the Admiral, and on
20 Mr. Stewart I did what we call the pleurectomy, and the
21 operation was exactly the same in the way you dissect out the
22 tissues and remove the tumor, the difference with the
23 pneumonectomy you take everything out, with the pleurectomy we
24 actually take the tumor off the lung and leave the lung in.

25 Q Now, at some point you had the occasion to have Mr.

TESTIMONY OF DAVID HARPOLE, M.D.

1 Stewart come to your clinic.

2 A Yes.

3 Q You have those records?

4 A Yes, I do. And I had to bring my records because it was
5 six plus years ago. I first saw him on October 23rd of 2012 as
6 a consultation for him, and is often the case is when patients
7 are sent to me they have fluid in their chest and they usually
8 had fluid taken off their chest which is called suspicious for
9 mesothelioma but not diagnostic of mesothelioma. So the first
10 thing we did after we met and talked is we planned to do a
11 small procedure so that we could get tissues and decide
12 definitively whether or not Mr. Stewart had mesothelioma.

13 Q And one of the things in your practice and in your
14 experience, Doctor, that brings them to the clinic is a
15 thing called pleural fusion.

16 A Correct.

17 Q And could you explain what pleural fusion is and why it
18 would bring someone to the doctor?

19 A Well, the way I would describe, and I will just sort of go
20 through my story that I do through every week, in fact I did it
21 yesterday in the clinic, is that the mesothelium is a lining of
22 the chest and the lung and it's a single layer of cells, I
23 described it as a cellophane sack, so it is a cellophane sack
24 that lives on the inside of your chest and it's a cellophane
25 sack that surrounds. The purpose of this sack is two fold, it

TESTIMONY OF DAVID HARPOLE, M.D.

1 makes the chest water tight and it makes the lung air tight.
2 In addition to protecting the lung that way the mesothelium
3 also secretes a little bit of fluid that lubricates your lung
4 so that when you breath the lung can move around in the chest,
5 so at any point in time there's maybe an ounce or so of fluid
6 in your chest, not much. With the asbestos related malignancy
7 mesothelioma as I tell people, the cells that have this lining
8 have actually electrical conductions between them so there's a
9 single layer. If a cell dies the cells around divide, but as
10 soon as they touch their neighbor they stop growing and we call
11 that contact inhibition. Over time the exposure of the
12 asbestos fibers cause those cells to lose that contact
13 inhibition and it looks like an onion peel where one layer
14 becomes two layers becomes four layer, so that cellophane line
15 that you would see then becomes thickened more like an orange
16 peel and so forth. And what I tell my patients, if a cell
17 makes a little bit of fluid, which is what should happen with
18 the mesothelium, when there's too many cells they make a lot of
19 fluid. And so that's what most patients present with
20 mesothelioma is this excess of fluid which is created by the
21 cells and that fills your chest up. If you think of your lung
22 as a sponge that allows air to be exchanged with the
23 bloodstream to get the oxygen in your blood, as that fluid
24 fills up it starts crowding the sponge and flooding the sponge
25 and makes it difficult to breath, and that's usually the first

TESTIMONY OF DAVID HARPOLE, M.D.

1 presentation, and our goal is to drain that fluid initially to
2 help patients breath as well as get the diagnosis.

3 Q So as the patient accumulates the fluid in the pleura
4 it becomes more difficult for that person to have
5 inspiration in the lungs and become short of breath.

6 A Correct. The lungs are literally drowned with fluid.

7 Q Now, did that happen in Mr. Stewart's case?

8 A It did.

9 Q What was the next thing that your notes reflect,
10 Doctor, during your clinical review of Mr. Stewart. Did you
11 take a history?

12 A So one of the things we do is talk to the patients,
13 especially when we're looking at what could be occupational and
14 environmental exposure of things that contribute to our concern
15 here. Our concern was that he might have mesothelioma, he
16 certainly had the symptoms and so forth, and so I asked him
17 about exposure and occupational history. And one of the
18 reasons I remember this case is because I usually have
19 patients -- I operate on a lot of patients from the ship
20 building industry where they're exposed, but he told me the
21 story of working in the paper mill and the way the rollers dry
22 the paper with the felt and he constantly was changing these
23 felt wheels and asbestos dust was flying off of them, he did
24 that for 40 years. And so we usually try to gage our level of
25 exposure as either high dose a short time or low dose over

TESTIMONY OF DAVID HARPOLE, M.D.

1 time, and I would consider his moderately high dose over a long
2 period of time.

3 Q Excuse me, why is that important in your history?

4 A Although every individual is different in the way they
5 react to exposures, and the way it appears in asbestos, the
6 longer and the more exposure you have the more likely you are
7 to have asbestos related lung diseases with mesothelioma being
8 one of them.

9 Q What's next in the record, Doctor?

10 A So we talked to him about doing two things, we wanted to
11 drain fluid for his comfort and to get a diagnosis of what was
12 possibly going on in his chest, and I also at the same time --
13 I did that first and I told him if I found what looked like
14 mesothelioma then I would do a procedure called a
15 mediastinoscopy, which a small incision at the top of the
16 breast bone where we put a scope down the breast plate and
17 sample the lymph nodes in the center part of your chest. That
18 would have been the first place the cancer could have spread to
19 and knowing that information would help us decide what types of
20 therapy might be appropriate for him, and we performed that on
21 the next day, the 24th of October in 2012. And the
22 mediastinoscopy of the lymph nodes were fine, which is very
23 good on pathology. I do this with a very small incision, it's
24 five millimeters, which is a little bigger than a quarter of an
25 inch. The scope we put in is this camera inside and I drained

TESTIMONY OF DAVID HARPOLE, M.D.

1 about a quart and a half of fluid, then we saw what was
2 obviously mesothelioma in his chest. To describe it to you,
3 when we let the lung down you can see all of these mounds that
4 like look the inside of a cavern, with stalactites and
5 stalagmites coming up of cancer, we biopsied those and that
6 gave us the diagnosis.

7 Q Now, Doctor, the insertion of the camera and the
8 incision, is that a painful procedure postop?

9 A This is small incision so it is relatively pain free.
10 Most patients when we do this on them are back to full activity
11 in a couple of weeks, so it's really a limited biopsy. So no,
12 I would not consider this as a morbid operation.

13 Q He tolerated the procedure well.

14 A He tolerated it well and came back the following week to
15 be seen by Dr. Jeffrey Crawford who is our head of medical of
16 oncology at Duke and run the mesothelioma clinic with me to
17 discuss potential therapies. And the therapies that we had at
18 that time, and frankly still have now, are relatively easy to
19 deliver, and so often we give recommendations in Durham and the
20 therapy is then given locally by an oncologist in the area.

21 Q Now, since we're in York I don't want to forget about
22 our South Carolina connection, there is a doctor in the
23 medical records, a Doctor Jacob Clapper, is he a colleague
24 of yours?

25 A Yeah. Dr. Clapper, when he finished he was one of my

TESTIMONY OF DAVID HARPOLE, M.D.

1 residencies. He was the chief of thoracic surgery at MUSC and
2 actually just recently joined us at Duke to help us run our
3 lung and transplant program.

4 Q He was one of Mr. Stewart's doctors.

5 A He certainly was.

6 Q So once you found out that Mr. Stewart did, in fact,
7 have mesothelioma, what did you recommend next or what was
8 done?

9 A So again, as I said, he saw Dr. Crawford, and then he
10 returned -- and I'm going to get the name of the oncologist
11 here, just a second, he was treated in Rock Hill at Carolina
12 Oncology and right now I'm blanking go on that.

13 Q Is that Dr. Sinclair?

14 A Yes.

15 Q And based on your records was this just a regular
16 regiment of chemotherapy?

17 A Well, I wouldn't consider what we use for mesothelioma
18 regular. There are two drugs that are active in it, one of
19 them is very toxic, the other one is not quite as toxic, but
20 it's certainly not a walk in the park. If I had to scale it
21 it's probably a six or seven out of ten for the way
22 chemotherapies run, it certainly knocks you down away. But it
23 is important that when I'm talking to my patients I tell them
24 this is a bad cancer and we tend to want to hit it with all the
25 sledge hammers we have, and so I would consider this a sledge

TESTIMONY OF DAVID HARPOLE, M.D.

1 hammer.

2 Q Was he recommended Alimta and Cisplatin, a combination?

3 A Correct.

4 Q And the Alimta is -- how would you characterize Alimta?

5 A Pemetrexed, which is the generic name of Alimta, is the
6 more easily tolerated of the two. The Cisplatin is a really
7 difficult drug, it's noxious to the kidneys and most
8 importantly it causes what we call neuropathy when you're
9 treated with it, which means you lose feeling in the fingers
10 and toes and frankly it can be permanent in some people where
11 they have trouble walking not that they can't feel their feet.
12 But one of the things that the sensation in our feet does is it
13 lets you know whether your foot is on unlevel things, and when
14 you lose that you can lose your balance. It's one of those
15 double edged sword things, we have to use stronger drugs and
16 you have to suffer sometimes the consequences.

17 Q Now, the jury heard something, when the defense played
18 their bit just a few minutes before you came in Mr. Stewart
19 was describing on the video chemo brain. I don't know if
20 everyone is familiar with that phraseology, I don't know if
21 that's a medical term, but can you tell the jury how the
22 Cisplatin and Alimta, the combination would affect either
23 member or cognitive function?

24 A Well, my mother had it when she was treated for her
25 cancer. It is -- if you think about it the purpose of these

TESTIMONY OF DAVID HARPOLE, M.D.

1 drugs is to kill fast dividing cells and cancer is fast
2 dividing cells. We have one of the best dividing cells in our
3 body, our bone marrow that makes our red blood cells and our
4 white blood cells, our GI tract, which is why there so much
5 nausea and diarrhea and vomiting involved, and it also, because
6 of this neuropathy, if it is hurting the nerves in our hands
7 and feet it also -- and where are most of our nerves? Well,
8 they're in our brain so it also can cause this toxicity of the
9 brain. People describe it as sort of a hazy memory thing where
10 you can't remember well, you lose concentration. Sometimes it
11 gets better and sometimes it doesn't but it is very common, and
12 the term chemo brain is kind of what we use to describe it.

13 Q Doctor, now, after he had been treated with Dr.
14 Sinclair locally, I believe her practice is in Rock Hill,
15 did there come a time when he went back to Duke to see you?

16 A He came back -- I usually tell my patients I want to see
17 them back at two to two and a half months, they usually aren't
18 quite through with their therapy then but I would call it a
19 thumb test, which is my way of saying, "How is it going?" And
20 so he came back and was doing reasonable well and tolerated his
21 therapy pretty well. He then ultimately came back to me when
22 he finished therapy so that we could discuss what will be our
23 next steps.

24 Q And had he lost any weight in that period of time?

25 A Well, everyone -- I always counsel them to exercise 30

TESTIMONY OF DAVID HARPOLE, M.D.

1 minutes twice a way, to take Boost, Ensure, Carnations for
2 breakfast, Equate is the Wal-Mart brand, something in addition
3 to supplements, because everyone loses weight when you lose
4 your appetite during therapy. He did lose some but as I was
5 saying, I think he tolerated it reasonably well.

6 Q Would you consider Mr. Stewart a compliant patient?

7 A Yes.

8 Q He did everything you asked him to do?

9 A He's probably one of my more compliant patients, I wish my
10 children were so compliant.

11 Q Now, what happened next?

12 A So then he came back. And I will say what had changed in
13 him, my decision that I make with the two big operations I do,
14 whether we save the lung or take the lung. And during the time
15 his tumor continued to make lots of fluid all during therapy
16 and so he was consistently at least once or twice to having a
17 to go to the doctor's office and having a needle placed in his
18 chest to drain off quarts of fluid, they did that the entire
19 therapy and that was a little more unusual. Often when they
20 are treated that stops, the drain of the fluid and his did not,
21 and it made me a little more concerned about taking the lung in
22 him that that might not be the best course of action for him.
23 And so when I met with him I told him I think it may be safest
24 to leave the lung in there, because if his chest is making this
25 much fluid now it might make that even more fluid afterwards.

TESTIMONY OF DAVID HARPOLE, M.D.

1 Having the lung in there if I could fix it and get it to
2 reinflate and fill the chest should stop the fluid, so that was
3 our plan.

4 Q And this needle that you referred to, can you describe
5 for the jury the needle and the insertion and the drawing of
6 the fluid?

7 A And I will say since this time we do something different
8 today because it is not pleasant having a thoracentesis done
9 once, I can't imagine having done it once or twice a week for
10 three months. There's a nerve that lives right under each of
11 our ribs, you have to numb up the skin and stick a relatively
12 sizable needle without hitting that nerve or the blood vessels
13 that live under the rib, he had a very skilled physician that
14 was able to do that frankly, and then when it goes in there you
15 drain the fluid, it actually hurts to pull the fluid off
16 because it's put on vacuum and sucks the lung back up. You
17 certainly can breath better when it's done but there's nothing
18 about this that I would consider fun. It is certainly much
19 worse than going to the doctor's office and getting a flu shot
20 every week.

21 Q And in terms of the pain level from one to ten, where
22 are we in your experience?

23 A I will tell you it can be a four, and sometimes I've had
24 patients in excruciating, an eight or nine when it happens. It
25 is fleeting, it's only for 30 minutes, but it can be -- they

TESTIMONY OF DAVID HARPOLE, M.D.

1 can describe it as someone sticking a large knife in the side
2 of their chest. It's not fun.

3 Q What happened next?

4 A So we prepared him -- he actually was in good shape and
5 on -- let me get the date here -- I saw him back on the 5th of
6 March on 2013 and felt he was ready for surgery. So he
7 completed his preoperative evaluation, which were a number of
8 studies we do. We look at heart function, look at his lung
9 function and make sure he can tolerate it, and on the 6th of
10 March of 2013 we took him to the operating room. Now, this
11 surgery requires about two hours of preparation by the
12 anesthesia team. They put on a catheter right outside of the
13 spine called an epidural which is for pain control. They put a
14 very large IV in the neck that goes down in the heart because
15 we need to have access to the central blood vessels. They put
16 an arterial line in one of the arteries in his wrist so we can
17 monitor his blood pressure, catheter in the bladder, so forth,
18 all of that preparation takes time, and then we turn up. Now,
19 I will tell you the thing about mesothelioma that's very
20 different than every other tumor we operate on is that we like
21 to say if you take it and throw it down the street it will
22 grow, and what it does is it grows out wounds which is why I
23 specifically did a very tiny incision in him to do his biopsy.
24 I get patients sent to me that have a large incision and
25 unfortunately the mesothelioma will grow out those wounds and

TESTIMONY OF DAVID HARPOLE, M.D.

1 make it difficult to control, so the fact that I only did one
2 little hole was good. So we felt like confidently we could get
3 into the chest without having the tumor spread from the inside
4 of the chest to the outside of the chest.

5 Q Now, in your experience, Doctor, have you had tumors
6 grow out the incision?

7 A Well, on every case I do we always excise all of the old
8 incisions they had beforehand for diagnosis, so that means
9 going -- when they're asleep we do what we call lifts, it looks
10 like an eye, we cut that shape out so that you can close it.
11 You have to take that all of way to the chest wall, which means
12 the fatty tissue, the muscle, everything, because that track is
13 where the tumor grows and about a third of the time those are
14 positive with cancer about one in three. Unfortunately, yes,
15 I've had some patients where it's been so aggressive that it
16 has actually grown out the hole and then down the chest and up
17 on the abdomen, it's like roots growing in the tissues. And
18 fortunately Mr. Stewart did not have that.

19 Q Now, Doctor, the mesothelioma -- and you said you feel
20 like sometimes you could throw it on the ground and it will
21 grow, I don't want to suggest something that's not accurate
22 here, but in order for the jury to keep this sort of walking
23 around type of knowledge, is mesothelioma akin to crabgrass?

24 A It's certainly --

25 Q How would you categorize it?

TESTIMONY OF DAVID HARPOLE, M.D.

1 A It's certainly an aggressive weed. I've used that term
2 like crabgrass like if you pull it up and burn it it doesn't
3 show up. I have a problem with bamboo in my neighbor's yard
4 and it that tends to come up 50 feet in the middle of my yard,
5 I think it's probably a lot like that, it just pops up. And
6 it's the cells -- most cancers, you know, get their oxygen and
7 everything from making blood vessels grow in the tumor, and
8 mesothelioma is just amazingly vibrant and sticking in tissues
9 and making blood and things grow into it so it can grow and
10 divide, so it's a very locally aggressive cancer.

11 Q Now, walk the jury through, and if you -- did you want
12 to draw on something?

13 A If I had something to draw on.

14 Q Well, I've got a little piece of paper here and we can
15 put it on the easel, can we draw on that?

16 A Sure.

17 MR. GRAHAM: Your Honor, can we approach?

18 THE COURT: Does the easel have a white board on it?

19 MR. GRAHAM: It does but since I don't own the white board
20 I don't want to ruin it.

21 THE COURT: Any problem with him drawing on the white
22 board?

23 MR. COLLIER: I don't have a problem as long as he has got
24 a white board marker.

25 A It says permanent marker and I don't want to get in

TESTIMONY OF DAVID HARPOLE, M.D.

1 trouble with the Court. I appreciate y'all letting me do this
2 because this is an unusual operation, it's only done in a
3 handful of centers around the world, it's difficult to explain
4 verbally so I always draw pictures for my patients.

5 THE WITNESS: Where can I put it, Your Honor? Like that.
6 Can y'all see that?

7 THE COURT: Can all of the jurors see that? Yes.
8 Attorneys?

9 MR. YOUNG: Yes, Your Honor.

10 THE COURT: Very good.

11 A I'll try to draw it big because I'm nearsighted. So the
12 first thing I want to draw is what I talked about earlier and I
13 want to draw a right lung, and it has three parts; upper,
14 middle and lower lobe. So when I talk about the cellophane
15 sack that's the chest, that's that one. And then the lung --
16 why I drew this is important because the mesothelium surrounds
17 the lung, it also goes down in the lung what they call the
18 fissures where the lung is separated, and I'm drawing it on
19 there and then it's on the line. So why it's important is the
20 tumor is here and here and here, so it grows -- it sheets all
21 around and completely incases the lung. And your lung is a
22 sponge as I said earlier, so if you think about it when you get
23 an orange peel it contracts and so the lung gets squashed by
24 the tumor and becomes nonfunctional. So we have out here our
25 ribs, and underneath the ribs we have I mentioned the little

TESTIMONY OF DAVID HARPOLE, M.D.

1 blood vessels and the nerves, and then there's a little bit of
2 muscle in between the ribs. There's actually a little bit of a
3 scar lining that's outside of the chest, and that's really
4 great because that gets us -- the tumor very seldom crosses
5 that scar lining and we're trying to take the cancer out and
6 you want to be beyond the cancer and so there is this area.
7 Then we have below us the diaphragm. The diaphragm is the muscle
8 that helps us breath, it has a muscle layer and it has a sack
9 layer called the perineum that keeps or intestinal contents
10 down, and the tumor invades into the muscle. And then over
11 here in the front is our heart, and the heart sack, called the
12 pericardium, sits in the right chest shaped like this with the
13 heart, and it is exposed to this so there's tumor on that. So
14 unlike a lung cancer where it's here and you take out this part
15 of the lung, you're fine, this is actually everywhere in the
16 chest. And when I described this cancer to my patients I tell
17 them that mesothelioma is different than most cancers. Most
18 cancers like breast cancer and lung cancer and what my mother
19 had, melanoma, skin cancer, you don't die from it on your skin
20 or on your breast, you die when the cancer gets in the
21 bloodstream and goes elsewhere. Mesothelioma tends not to do
22 that very often. But if you think about it, it's all here, it
23 can go into the heart sack, it can go in the heart and cause
24 heart problems. It can go through the diaphragm and get around
25 your intestines. If you think about it it's like an intense

TESTIMONY OF DAVID HARPOLE, M.D.

1 scar. So you get bowel obstructions, or it can go into the
2 other chest, get around the other lung and so you can't breath
3 and that's what most people die of. It's not a very pleasant
4 way of dying, the heart failure, bowel obstruction or intensive
5 shortness of breath. And it's also since the horses, as I tell
6 my patients, aren't out of the barn but they're still in the
7 coral here, if we can do something to eliminate most of the
8 tumor, and we say 99 percent of it and get the lung back up and
9 keep it from getting elsewhere we can significantly improve
10 your life. As you say, it's unfortunate that the usual time
11 from diagnosis to death is somewhere between six and nine
12 months, it's pretty short and it's not a very pleasant six to
13 nine months, so the sooner we see patients the better. But
14 getting back to the thing, we went to get in this plane right
15 here, that's scar tissue I talked about because it literally
16 will shell down like you're shelling down -- taking the
17 covering off an orange, to do that you've got to get in that
18 area and that means we've got to take out a rib. So we take
19 out -- usually it's the sixth or seventh rib because that's
20 about this level sort of half way down and I take out the rib,
21 so part of the operation is removing a rib which is unpleasant
22 but it's the only way for me to get to that layer outside of
23 the chest, and then literally you use your hands and we shell
24 this line down. You separate that muscle part of the diaphragm
25 off the sack part called the peritoneum and then we open up the

TESTIMONY OF DAVID HARPOLE, M.D.

1 heart sack and take that off the heart, that takes two and a
2 half or three hours. And at that point then what I did with
3 him, I had everything freed up and so I've got this sort of
4 ball material here and inside that is his collapsed lung. So
5 then you go -- I take the knife and I take all this off the
6 lung. This is tedious, that takes about two hours to tediously
7 use little sponges and things and get all of this tumor off the
8 lung. The lung isn't very pretty when you're done but it will
9 inflate and function, and so then reinflate it. Then we take a
10 piece of vortex and reconstruct the diaphragm because we took
11 that out to keep the intestines and everything down, and then
12 we take a piece of vortex and reconstruct the heart sack and
13 put that in. We did that operation on him and he luckily did
14 well.

15 Q Doctor, before you go I have a follow-up question.
16 Now, the jury heard Dr. Brody talk about something called a
17 pleural plaque, do you know what that is?

18 A Well, when one is exposed to the fibers -- and as again,
19 the other thing I tell my patients there are little glass
20 spikes in the asbestos fibers, they're just the right size that
21 you can inhale them and they work themselves out in the lung so
22 they can cause scarring in the lung. And then a lot of them
23 actually work themselves out into spaces, and I'm talking when
24 you have got the lining of the lung and the lining of the
25 chest, and they actually get out here. This is where the fluid

TESTIMONY OF DAVID HARPOLE, M.D.

1 fills up in the chest, and when they get here and sit on the
2 wall over time they cause scarring and inflammation, the lining
3 gets angry and they form these hard plaques. Some of them
4 actually get calcified like concrete and you can see them on
5 x-ray. They are hard like plastic. The way I describe them
6 too is when you take them out they won't bend, they're hard
7 white things that look like a hard white piece of plastic.

8 Q Did Mr. Stewart have this situation?

9 A Yes. He had some very large plaques that I took out.
10 When I shelled out his pleurectomy there was a tumor on there
11 with plaques as well that came out with it.

12 Q So when you did the surgery you saw the plaques.

13 A Correct.

14 Q Were they on the left or the right lung?

15 A The right lung.

16 Q All right, sir. And in the situation, does this
17 complicate your ability to remove the tumor from the lung?

18 A If the plaques -- most patients have small plaques and so
19 it's not an issue, he had actually large ones. They have been
20 there likely for years and they are really stuck to the tissue
21 so you have -- to get them off -- if they're out here it's fine
22 but frankly they're down -- a lot of the times they're on the
23 diaphragm, which the liver is right next to that, sometimes
24 they're over on the heart sack, obviously the heart is right
25 there, and sometimes they're near the major blood vessels in

TESTIMONY OF DAVID HARPOLE, M.D.

1 the chest. It could be -- those -- when I find those you have
2 to take extra time to get them off so you don't get into
3 something that you shouldn't.

4 Q And what was the situation regarding Mr. Stewart?

5 A He had some large ones on the diaphragm and over on the
6 chest wall.

7 Q But you were able to deal with those and remove those
8 as well.

9 A Right.

10 Q Now, I don't want the record to reflect, the pleural
11 plaques did not cause the tumor in and of themselves?

12 A The pleural plaques, for us we call that pathognomonic
13 which means it definitely is an association, it just means he
14 has had significant asbestos exposure, they don't happen
15 without that. They of themselves denote that he had asbestos
16 exposure but they don't have anything necessarily to do with
17 the cancer. The cancer formed in a different area for a
18 different reason.

19 Q I believe in the medical literature it is referred to
20 as an asbestos related lung disease.

21 A Correct.

22 Q It is a benign condition, the pleural plaque, but
23 mesothelioma obviously is something quite different.

24 A Correct.

25 Q All right, sir. Now, Doctor, postoperatively how did

TESTIMONY OF DAVID HARPOLE, M.D.

1 Mr. Stewart do?

2 A He did fine. And his pathology from his specimen was
3 relatively good. All of the lymph nodes we took out did not
4 show evidence of cancer and his margins that I showed you there
5 all appeared negative. So when I'm looking at what I think is
6 the best outcome we can have we were hopeful he was going to be
7 in that group. I can't give guarantees, you know, but it went
8 okay. Now, this a huge operation, and it's not only a huge
9 operation if you think about it, it's a huge operation for
10 somebody in great shape. For someone who had just gone through
11 two and a half or three months of chemotherapy it's even a
12 bigger issue, so no one runs out of the hospital after this
13 thing. It is a slow process of usually somewhere around three
14 or ten months for them to recover after the surgery from all of
15 that as you can imagine, there's lots of intense pain. Most
16 patients end up having some chronic pain from it because it's
17 not what we call minimally invasive, we call this maximally
18 invasive. But there's no other way to get the cancer out than
19 to -- as we say, big cancer unfortunately big operation.

20 Q This is not one of those types of tumors that presents
21 where you can scope it out and take out laparoscopically or
22 anything like that?

23 A No. We do most of our lung cancer surgery now with a two
24 day hospital stay, two little incisions and people are playing
25 golf and tennis in two weeks, this is not that.

TESTIMONY OF DAVID HARPOLE, M.D.

1 Q I know when you see patients in the Clinic, Doctor,
2 everyone is a little bit different. In this particular case
3 how did you rate the prognosis, and why was it that in
4 consultation with Mr. Stewart you all decided, or you
5 decided to recommend surgery?

6 A You know, I wish we could take care of everyone with
7 mesothelioma. But the one thing about it is the time between
8 exposure and the presentation of this disease ranges between 20
9 and 50 years, and I think it's just this long term irritation
10 of that asbestos in the lung that eventually causes that lining
11 to get angry and become cancer, so it's not an instantaneous
12 process and so our patients tend not to be young. Now, the
13 lady I operated on yesterday was 46 and that's unfortunate, was
14 exposed as a child, but most of our patients -- if they're
15 starting off older and they get a severe disease, like there
16 are some that we just can't do anything with. He was one of
17 our more young and more robust patients and so if they can be
18 sent to me relatively early then we can usually impact their
19 situation. And our goal with this disease, I probably cure --
20 one in five or six of my patients truly cure, but our goal here
21 it to extend their life to the point that they can be
22 functional and have good quality. And we measure that if it
23 ends up being 14 months, eight months, two years, there is that
24 birth of a grandchild, that graduation of your child or the
25 birth -- or a marriage and things like, we set goals to try to

TESTIMONY OF DAVID HARPOLE, M.D.

1 do that with our patients.

2 Q And patients agree to go through this surgery and pain
3 to reach sort of a nest life goal or a milestone in their
4 life, is it that a fair statement?

5 A Yes. This is not free, this is the proverbial rock and a
6 hard place, there are no options here. And everyone who gets
7 this and pulls the Internet up and starts reading about it
8 realizes that this is truly a death sentence, and so anything
9 we can do to try to improve their lives is what we try to do.

10 Q As you close the wound I believe there is a laser that
11 you use in this procedure. Can you describe for the jury
12 what you do to sort of seal the area? And then we'll move
13 on.

14 A Well, I've taken that lining off the chest. Underneath
15 that lining there are no big blood vessels but it's kind of an
16 oozy area, and to make sure that the cancer hasn't spread
17 through there I use a thing -- it's called an argon beam, it's
18 called a laser and I actually just cut the inside of the entire
19 chest, it takes about 30 minutes to do. As you can imagine
20 that in itself would not be something you would want to have
21 done to you, but it is what we hoped then and if there were any
22 remaining cancer cells there that that they would be killed
23 when we do that.

24 Q Now, the old former technique as I understood was to
25 pour heated chemo into the lung cavity but you don't do that

TESTIMONY OF DAVID HARPOLE, M.D.

1 anymore.

2 A We don't that, because although that's somewhat effective
3 is we found that when you do that a lot of that gets absorbed
4 in the body and we had problems with patient's kidneys failing
5 and things. When you get chemotherapy through the veins you
6 know exactly how much you're getting, when you pour a whole
7 bunch in the chest you just don't know how much was absorbed.

8 Q And you can result in kidney failure in that stage.

9 A Correct, and it happened.

10 Q I asked you about the pleural plaque before, and in the
11 defendant's (sic) discovery deposition that was played
12 previously he was asked about previous cancers. Is
13 mesothelioma in any way related to bladder cancer?

14 A No.

15 Q Prostate cancer?

16 A No.

17 Q Skin cancer?

18 A No.

19 Q Any other cancers?

20 A Interestingly enough, lung is the only one that asbestos,
21 not mesothelioma, asbestos is related to a risk for lung cancer
22 but not the converse.

23 Q So smoking is not related to it?

24 A Correct.

25 Q As far as you know in your training and your

TESTIMONY OF DAVID HARPOLE, M.D.

1 experience, is there any -- well, what is the cause of
2 mesothelioma as far as you know?

3 A There are three causes, two unusual, one more common.
4 There are some very rare groups of families that genetically
5 can get it, there is only a handful of those that have been
6 found in the world but they do exist. Radiation exposure can
7 cause this. I've had a number of patients that when we first
8 started treating lymphomas they used old style radiating
9 machines where they burned the cancer, well, it also burned the
10 chest and people developed mesothelioma from it, thankfully we
11 don't have those old machines now and that's gone. The vast
12 majority of mesothelioma are caused by asbestos exposure.

13 Q And, Doctor, in your medical opinion to a reasonable
14 degree of medical certainty, what was the cause of Mr.
15 Stewart's cancer?

16 A It was asbestos exposure from his work with the paper
17 mill.

18 Q Now, he had also had in his medical history I believe
19 in the defendant's tape previously that the jury heard, he
20 had a bypass. I think in the medical records it's referred
21 to a CABG, coronary artery bypass graft. Now, would that
22 have caused a pleural plaque?

23 A First of all, no, because those are absolutely caused by
24 asbestos exposure. And secondly, when we -- I used to do
25 bypass surgery, you actually used an artery in the left chest

TESTIMONY OF DAVID HARPOLE, M.D.

1 to do the bypass and we don't go in the right chest. If it
2 were on the left hand side you would might say it could that
3 have had a relationship, even though I don't think so it could
4 have been possible, but the right chest is always free. So no,
5 that would be very unlikely.

6 Q In a situation like this in Mr. Stewart's case, from
7 the date of the diagnosis or pre-diagnosis is the patient in
8 daily pain?

9 A Well, I mentioned that each rib that little drawing has
10 blood vessels and a nerve called the intercostal, the nerve
11 that runs under that. When this tumor develops the sheets of
12 tumor I talked about, they compressed those nerves, so most
13 patients start complaining of this sort of aching and fullness
14 pain in the chest. Eventually they can invade in the nerves
15 and it becomes from an aching severe pain to more of a stabbing
16 sharp pain, so this is not pleasant.

17 Q Doctor, did you see Mr. Stewart again?

18 A I saw him several times through the spring and early
19 summer of 2013 where I would describe as he limped along. He
20 had kind of a difficult time with pain and physical activity
21 and so forth, which usually means that there's recurrence
22 occurring, because often they will have that and start getting
23 better, and he never really, as I said, perked up
24 appropriately. It wasn't that he didn't try. We put him in a
25 long rehab program which he tried his best to do and everything

TESTIMONY OF DAVID HARPOLE, M.D.

1 but I think he was just too debilitated.

2 Q Just real quickly for the jury, what's a lung rehab
3 program, what are you trying to do there?

4 A You've heard of people that have heart attacks when they
5 do and they do a rehab program where they work with them to get
6 their exercise tolerance back up safely monitored after a heart
7 attack, it's the same thing. But instead of just with that we
8 have a respiratory therapist who watches your oxygen level and
9 a physical therapist that works with their activity, and they
10 teach you how to increase your activity safely and what to do
11 when you get sort of breath. I've put thousands of patients
12 through it and it always makes people better but they have to
13 be able to get stronger to get better, and I think his biggest
14 challenge was that he was just so weak it just was difficult
15 for him to really obtain the goals he wished.

16 Q And Doctor, at some point Mr. Stewart failed to return
17 to you, was that because he had passed away?

18 A I got a note from his oncologist, he was supposed to see
19 me later in the summer and they said he could not make the trip
20 and then I was notified that he had passed.

21 Q And again, just as a wrap-up matter, about how many of
22 these cases do you see a week or a month?

23 A Well, our program probably sees somewhere between 40 and
24 60 patients a year, I operate on somewhere between 25 and 30 a
25 year, which makes us one of the certainly top five programs in

TESTIMONY OF DAVID HARPOLE, M.D.

1 the U.S. In clinic on Wednesday I saw two new mesotheliomas
2 and I did a surgery yesterday.

3 Q And that was the lady you referred to a few minutes
4 ago?

5 A Yes, the young lady.

6 Q And you were at a recent meeting in Washington where
7 all of the experts on mesothelioma gathered. What was that
8 discussion if you could tell the jury real quickly?

9 A Well, we're doing better surgery and we can do that
10 safely, we've got chemotherapy and that sort of work, that's
11 great. The purpose of this was a meeting that I put together,
12 I'm one of the leaders in the lung cancer and chest cancer for
13 the National Cancer Institute so we had all the world's experts
14 and we came in, it was March 2nd and 3rd of last year, to try
15 to figure out what can be the next steps and get the National
16 Cancer Institute to help support research of mesothelioma. I
17 can't say there's any magic bullets coming out but I'm hoping
18 with some coordination of care that things will get better.

19 MR. GRAHAM: Doctor, thank you very much. Your Honor, I
20 have a couple of exhibits I would like to mark and enter them
21 into the record. And I wanted to ask Your Honor and the Court
22 whether or not it would be appropriate -- I don't know how we
23 would want to --

24 THE COURT: Well, I think at a minimum we would like to
25 take a screen shot of this so that, A, it could be in the

TESTIMONY OF DAVID HARPOLE, M.D.

1 record and, B, the jury can have it in the jury room. So I
2 think you would want to take a screen shot of it and reduce it
3 to colored copy form. So the first thing you ask is plaintiff
4 will photocopy this exhibit, it was used as an aid to
5 testimony, and we can first turn to defense, objection or not?

6 MR. YOUNG: No, Your Honor.

7 THE COURT: No objection. Without objection you will
8 photocopy it at a certain point so that it will be in the
9 record and the jury will have it, and so we know about this
10 exhibit and you can make the appropriate numbering when you go
11 to the next exhibits -- is going to be a photocopy of a
12 whiteboard drawing used in Dr. Harpole's testimony and made by
13 him, so you will title it that way.

14 MR. GRAHAM: Your Honor, when the photo -- for the record
15 when the photo is taken it will be Plaintiff's Exhibit Number
16 43 for the record.

17 THE COURT: All right. And then what other exhibits do
18 you have?

19 MR. GRAHAM: Your Honor, I have the CV referred to that
20 Dr. Harpole has in his possession, that will be Plaintiff's
21 Exhibit Number 44.

22 THE COURT: All right. And what else?

23 MR. GRAHAM: Plaintiff would ask Dr. Harpole to pass those
24 medical records that he testified from, pass those to the clerk
25 and ask that those be marked, unless there's an objection, as

TESTIMONY OF DAVID HARPOLE, M.D.

1 Plaintiff's Number 45.

2 MR. YOUNG: Your Honor, we had already told the Court, we
3 are not objecting to those records.

4 THE COURT: Thank you very much.

5 MR. GRAHAM: Your Honor, in the interest of time I did not
6 go through all of the cytopathology and pathology material that
7 Dr. Harpole referred to in making the diagnosis for
8 mesothelioma and we would like to enter those into the record,
9 the slides and the photos of the slides with meso chemistry and
10 if I could do that without objection.

11 THE COURT: This is the psychology --

12 MR. GRAHAM: And the cytopathology.

13 THE COURT: And cytopathology and meso chemistry is going
14 to all be put together as Exhibit 46.

15 MR. GRAHAM: Yes, ma'am.

16 THE COURT: It's without objection.

17 MR. GRAHAM: And just one more thing, I wanted just to
18 make sure that the record was complete, that each cytopathology
19 report from the various dates that was 10/2/12, 10/18/12,
20 10/24/12 and 3/6/2013, and submit those to the clerk as one
21 exhibit.

22 THE COURT: That's all going to be Exhibit 47. All right,
23 very good. What would you term that?

24 MR. GRAHAM: Your Honor, for the record these are the
25 cytopathology reports --

TESTIMONY OF DAVID HARPOLE, M.D.

1 THE COURT: Reports.

2 MR. GRAHAM: -- that match --

3 THE COURT: The other are data and the photographs and
4 this was the reports.

5 MR. GRAHAM: These are the recorded reports in the medical
6 record that matched the photographs that were provided for the
7 slides.

8 THE COURT: Very good. Does that complete it? Members of
9 the jury, what I am trying to do is get him to complete the
10 record and then I promise you we will give you a break before
11 we proceed with anything further, but I wanted the defense to
12 have the benefit of everything that's going to be an exhibit so
13 that during the break they can arrange their examination as
14 they see fit.

15 MR. GRAHAM: As Your Honor would say it is time to be
16 refreshed.

17 THE COURT: Very good. Ladies and gentlemen, it is 11:24
18 now, we have been at it for awhile, I think we will go on and
19 complete Dr. Harpole's testimony, but let's take until quarter
20 of 12:00 and give you a lengthy period of time in which
21 everyone can be refreshed and relax a little bit, we'll see you
22 at a quarter to 12:00.

23 (The jury left the courtroom and a recess was taken.)

24 THE COURT: Now, are we ready to bring the jury?

25 MR. YOUNG: Yes, ma'am.

TESTIMONY OF DAVID HARPOLE, M.D.

1 THE COURT: We have got cross examination.

2 MR. YOUNG: Yes, Your Honor.

3 THE COURT: Okay, very good. Bring the jury in.

4 (The jury returned to the courtroom.)

5 THE COURT: Thank you very much, members of the jury,
6 please be seated. Thank you, Dr. Harpole, you may be seated.

7 Continuation of direct examination, Mr. Graham?

8 MR. GRAHAM: Your Honor, for the record the direct of
9 examination of Dr. David Harpole was concluded for the record,
10 we pass the witness to Mr. Young for cross.

11 THE COURT: Very good. Mr. Young, cross examination of
12 the witness.

13 MR. YOUNG: Thank you, Your Honor.

14 CROSS EXAMINATION

15 BY MR. YOUNG:

16 Q Dr. Harpole, you and I have never met before but we
17 introduced each other during the break, correct?

18 A Correct.

19 Q You know that I'm Lane Young and I'm one of the lawyers
20 for the defendant in the case, correct?

21 A Correct.

22 Q Okay. I just want to ask you some questions about some
23 of the opinions you gave today, is that good?

24 A That's fine.

25 Q You started testifying -- testified for the first time

TESTIMONY OF DAVID HARPOLE, M.D.

1 in 1994; is that right?

2 A Yes, it is.

3 Q And though you were Mr. Stewart's treating physician
4 you're charging \$5,000 to come here today to testify,
5 correct, your daily rate?

6 A Yes.

7 Q And you charge \$500 an hour for any other consulting
8 work you do in a case like this.

9 A Yes.

10 Q And how long have you been doing that?

11 A Since 1994.

12 Q Can you tell the ladies and gentlemen of the jury a
13 ballpark about how much you're going to charge Mr. Jekel or
14 Mr. Graham for your consulting work here?

15 A I charged -- I think I spent hour or an hour and a half in
16 time, so that would be \$500 or \$750, something like that, plus
17 today for the trial. I had to cancel my clinic and --

18 Q I understand. I'm not saying you're not entitled to
19 it, just --

20 A Right.

21 Q So since 1994 you mentioned on direct examination that,
22 I think I wrote this down, that most of the cases of
23 mesothelioma you see involve ship builders?

24 A No. I said I have seen a number of ship builders.

25 Q Okay. And those ship builders' primary exposure to

TESTIMONY OF DAVID HARPOLE, M.D.

1 asbestos is thermal insulation, correct?

2 A Correct.

3 Q And you can certainly agree with me that you've seen
4 countless cases of mesothelioma in which the exposure was
5 thermal insulation.

6 A Correct.

7 Q And I take it from what you've told the ladies and
8 gentlemen of the jury here today, Mr. Stewart never
9 mentioned to you any work around thermal insulation at the
10 Bowater Paper Plant; is that right?

11 A Correct.

12 Q If, in fact, he was around people cutting and replacing
13 thermal insulation and dust was created, that would
14 certainly in your opinion be a cause of mesothelioma,
15 correct?

16 A It would be a cause for some potential asbestos exposure,
17 whether or not -- the association between meso and asbestos, if
18 I had mesothelioma it's likely caused by asbestos. But there
19 are thousands and thousands of people around who have had
20 asbestos exposure who did not have mesothelioma.

21 Q Right. Because there's asbestos that has been in the
22 ambient air, everybody breaths a little bit of asbestos and
23 doesn't get mesothelioma.

24 A There has certainly been low level exposure for all of us.

25 Q Now, you don't know anything about dryer felts,

TESTIMONY OF DAVID HARPOLE, M.D.

- 1 correct?
- 2 A Excuse me? I couldn't hear what you said.
- 3 Q You don't know anything about dryer felts, right?
- 4 A All I have is what I put in my notes when I met with Mr.
- 5 Stewart.
- 6 Q Never seen one made.
- 7 A No.
- 8 Q Never seen one used in a paper mill.
- 9 A No.
- 10 Q Don't even know if they had asbestos in them, right?
- 11 A I just wrote down what he told me.
- 12 Q Okay. So you don't certainly have any personal
- 13 information or knowledge that Mr. Stewart was exposed to
- 14 asbestos from a dryer felt, do you?
- 15 A Except that I took the man's word for it, and that's --
- 16 when I take a history, an occupational exposure history of
- 17 patients I write down what they told me.
- 18 Q Never published anything about a dryer felt.
- 19 A No.
- 20 Q Do you even know how many dryer felts SCAPA had at
- 21 Bowater when Mr. Stewart was there that may have contained
- 22 asbestos?
- 23 A No. He just told me he worked on them for decades.
- 24 Q Well, he said dryer felts, right?
- 25 A Yes.

TESTIMONY OF DAVID HARPOLE, M.D.

1 Q He didn't say a particular manufacturer.

2 A No.

3 Q And you don't know how much manufacturers there were.

4 A No.

5 Q It would be fair to tell the ladies and gentlemen of
6 the jury that Mr. Stewart had a number of medical conditions
7 unrelated to asbestos and his mesothelioma, correct?

8 A True.

9 Q Do you need your report to go over these or will you
10 take my word for it?

11 A If I have any questions I'll ask for it.

12 Q All right. I had a little trouble pronouncing this
13 one, but he had immunodeficiency syndrome; is that right?

14 A That will be a pronunciation, yes.

15 Q And Mr. Stewart had that.

16 A I would have to look that one up actually, I don't recall
17 that so maybe I would like my notes.

18 Q I don't have them but?

19 THE COURT: Wait a minute, that's very easily remedied.
20 Where are the notes?

21 MR. GRAHAM: May I approach the witness, Your Honor?

22 THE COURT: Are you asking him to look at his notes or are
23 you referring to a particular page to look in his notes are --

24 MR. YOUNG: Judge, I apologize, I took this question from
25 deposition, not from the notes. I could give him the page of

TESTIMONY OF DAVID HARPOLE, M.D.

1 his deposition where he references that condition if that would
2 help.

3 A I should be able to find it, because -- I remember, I just
4 want to make sure that I don't misspeak under oath. I don't
5 see the statement but it looks like he's on some medication
6 that would be for that.

7 Q Could you tell the ladies and gentlemen of the jury
8 what that condition is?

9 A Well, there's lots of types of that. It normally means
10 that your body has more trouble fighting off infections and can
11 also have more difficulty fighting off cancers.

12 Q And do understand when you saw him he was on medication
13 for that condition?

14 A Well, he was on a number of medications, several
15 antibiotics and things chronically to protect him.

16 Q And he had hypertension; is that right?

17 A Yes.

18 Q Could you tell the ladies and gentlemen of the jury
19 what that is?

20 A High blood pressure.

21 Q He had hyper cholesterol?

22 A He had hyper cholesterol, yes.

23 Q Is that elevated cholesterol.

24 A Yes, associated with heart disease.

25 Q And he had had a heart attack; is that right?

TESTIMONY OF DAVID HARPOLE, M.D.

- 1 A Yes.
- 2 Q And he had had prostate cancer.
- 3 A Yes.
- 4 Q Bladder cancer.
- 5 A Yes.
- 6 Q Skin cancer.
- 7 A Yes.
- 8 Q And you would agree with me that conditions like the
- 9 heart problems, the high cholesterol, hypertension could
- 10 potentially impact his life expectancy without regard to the
- 11 mesothelioma, correct?
- 12 A Yes.
- 13 Q And the histories of cancers could also potentially
- 14 impact his life expectancy.
- 15 A Yes.
- 16 Q He had a number of co-morbidities; is that right?
- 17 A Yes.
- 18 Q Could you tell the ladies and gentlemen of the jury
- 19 what a co-morbidity is.
- 20 A Well, one of those we have talked about, several of them.
- 21 It's anything that one has another condition that may effect
- 22 your outcome, and heart disease would be a co-morbidity.
- 23 Q I believe it was your conclusion he was in severe risk
- 24 for further problems with heart disease, is that fair?
- 25 A Yes. Which is why we had him worked up to make sure that

TESTIMONY OF DAVID HARPOLE, M.D.

1 surgery would be safe for him.

2 Q And you wouldn't be able to give the ladies and
3 gentlemen of the jury a definitive life expectancy for Mr.
4 Stewart at the point in time you saw him without record to
5 his mesothelioma, would you?

6 A If he did not have mesothelioma?

7 Q Right.

8 A No.

9 MR. YOUNG: May I have just one second, Your Honor? Thank
10 you, Dr. Harpole, I appreciate your time. Thank you, Your
11 Honor.

12 THE COURT: All right. Mr. Graham?

13 REDIRECT EXAMINATION

14 BY MR. GRAHAM:

15 Q Briefly, Your Honor. Dr. Harpole, just to wrap it up.
16 The heart disease that Mr. Young drew our attention, was he
17 on medication for that?

18 A Yes.

19 Q Did it appear from your record and exam that he was
20 being well-maintained for that condition?

21 A Yes.

22 Q Due to the medication he was receiving?

23 A And in fact, he went through -- we had him worked up and
24 he was cleared for surgery and he went through the operation
25 without any cardiovascular heart problems.

TESTIMONY OF DAVID HARPOLE, M.D.

1 Q Would it be fair to say that before you do the surgery
2 you told the ladies and gentlemen of the jury about someone
3 has to be in pretty good shape?

4 A It's a very big operation, yes.

5 MR. GRAHAM: Thank you, sir.

6 THE COURT: All right. Anything further?

7 MR. YOUNG: No, Your Honor, thank you.

8 THE COURT: Very good. Dr. Harpole, thank you very much
9 for your testimony, you may be excused.

10 THE WITNESS: Thank you.

11 THE COURT: Mr. Jekel?

12 MR. JEKEL: There is a considerable amount of evidence
13 that I need to get into the record at this point. I've got
14 documents by agreement I would like to -- the exhibits that we
15 have by agreement I want to introduce those into evidence
16 before we do them.

17 THE COURT: I want everything about the plaintiff's case
18 to come in before we go to lunch.

19 MR. JEKEL: I'm just going to enter this into the
20 evidence --

21 THE COURT: Right. But we don't have any exhibits about
22 which there is a disagreement, is there?

23 MR. JEKEL: There's a few where Mr. Young would like to
24 make a short record, we've been through them together. We
25 could do that after the lunch break and we could just --

1 MR. YOUNG: It won't take very long, Judge, but there are
2 more than a few that I need to make a record on.

3 THE COURT: Let me suggest a method of handling this, Mr.
4 Young and Mr. Jekel, if this will facilitate things. All
5 records that are un-objected to will come in and you will
6 introduce those first, then you will have a series of matters
7 that are objected to and you say the record can be made
8 quickly?

9 MR. YOUNG: I believe so, Your Honor.

10 THE COURT: All right. Is it something I need to send the
11 jury out for?

12 MR. YOUNG: It's probably going to take ten minutes, it's
13 up to you, maybe 15.

14 THE COURT: Well, I would intend then to put them on a
15 break and then bring them back for the video and then the case
16 to conclude, right?

17 MR. JEKEL: Right. So why don't you do the agreed upon
18 documents --

19 THE COURT: Let's let you do the first ones and we can do
20 the ones that are objected to -- I wish I would have seen these
21 beforehand I could have very easily done this.

22 MR. YOUNG: Your Honor, I apologize, but the final list
23 was --

24 THE COURT: But be that as it may, let Mr. Jekel first
25 introduce his.

1 MR. JEKEL: Your Honor, we have two photographs from the
2 inspection of Christopher DePasquale, they will be marked as
3 one exhibit, Exhibit 48.

4 THE COURT: Without objection?

5 MR. YOUNG: No objection, Your Honor.

6 MR. JEKEL: We have a Mastercard BWC 7A and 7B, that will
7 be 49.

8 MR. YOUNG: We don't object to any of the Mastercards,
9 Your Honor.

10 THE COURT: Without objection.

11 MR. YOUNG: Correct, Your Honor.

12 MR. JEKEL: The next document is Your Honor, is BWC 11A
13 and B, it's another Mastercard, this will be Plaintiff's 50.

14 THE COURT: Without objection.

15 MR. YOUNG: Correct, Your Honor.

16 MR. JEKEL: The next is BWC 13A and B, Your Honor, this
17 will be Exhibit 51.

18 THE COURT: Without objection.

19 MR. YOUNG: Correct, Your Honor.

20 MR. JEKEL: The next, Your Honor, is BWC 15A and B,
21 another Mastercard.

22 THE COURT: Without objection. 52?

23 MR. YOUNG: Correct, Your Honor, no objection.

24 MR. JEKEL: The next, Your Honor, is BWC 16A and B,
25 another Mastercard, Exhibit 53?

1 THE COURT: Without objection.

2 MR. YOUNG: Correct, Your Honor.

3 MR. JEKEL: Your Honor, BWC 20A and B, another Mastercard,
4 exhibit 54.

5 THE COURT: Without objection.

6 MR. YOUNG: Correct, Your Honor.

7 MR. JEKEL: BWC 21A and B are Mastercard, Exhibit 55.

8 THE COURT: Without objection.

9 MR. YOUNG: Correct, Your Honor.

10 MR. JEKEL: BWC 24A and B, Exhibit 56.

11 THE COURT: Without objection.

12 MR. YOUNG: Correct, Your Honor.

13 MR. JEKEL: The last Mastercard that I have to admit is
14 BWC 27A and B, another Mastercard, that will be Exhibit 57,
15 Your Honor.

16 THE COURT: Without objection.

17 MR. YOUNG: Correct, Your Honor.

18 MR. JEKEL: The next document --

19 THE COURT: Ladies and gentlemen of the jury, these are
20 the Mastercards I'm guessing of the other SCAPA felts. I'm
21 sure they'll be referred to in closing arguments and that's
22 what he's putting forward at this time. All right, Mr. Jekel?

23 MR. JEKEL: Yes, Your Honor. The next document I would
24 like to admit and I will publish just a portion of this,
25 February 10, 1975. It has been previously identified, number

1 733641, it contains redactions, Your Honor. And I don't know
2 if you want to explain that, I think it's self explanatory but
3 we've redacted some information by agreement out of this
4 document.

5 THE COURT: Show me the document. This is an internal
6 memorandum from officials within the SCAPA Group, Inc.,
7 February 10th of 1975, and it looks like it's not so redacted
8 that it is not understandable, I assume it will be referred to.

9 MR. JEKEL: Your Honor, we will offer this as 59.

10 MR. YOUNG: Your Honor, we object to this on the basis it
11 contains financial information, it's not relevant in this
12 phase. But Your Honor I think had overruled a similar
13 objection in the interest of time.

14 THE COURT: I see nothing in here that touches financial
15 information in such a way that it would not fit in the
16 dimensions of this portions of the trial so I would overrule
17 the objection and admit it.

18 MR. JEKEL: The next document, Your Honor, that will be
19 entered -- that was 58 Your Honor, the one we just did the
20 redacted document. The next document is September 22, 1976,
21 dryer felt wear causes and elimination, previously identified
22 as 781893, plaintiffs would seek to admit this with agreement
23 as --

24 THE COURT: Mr. Jekel, your voice is dropping and I want
25 to be sure that the court reporter as well as I -- this is

1 September 22nd, 1976?

2 MR. JEKEL: Yes.

3 THE COURT: Is it an internal memo of SCAPA's?

4 MR. JEKEL: It's SCAPA Blackburn, Your Honor, and it
5 addresses dryer felt wear and its causes.

6 THE COURT: Very good. I think we have heard that
7 referred to before.

8 MR. JEKEL: Well, there have been others again in a line
9 of --

10 THE COURT: Right, and this is another one.

11 MR. YOUNG: Judge, just to be consistent, we object as
12 it's a SCAPA Blackburn, not a SCAPA Waycross.

13 THE COURT: Understood, and overruled and the document is
14 admitted.

15 MR. JEKEL: Exhibit 59 that was, Your Honor. Your Honor,
16 the next document is -- it was previously marked as 74244, it's
17 recent advances and paper machine by Edward Ray, SCAPA Dryers,
18 LTD, this will be 60. It's admitted without objection.

19 THE COURT: Very good, without objection.

20 MR. JEKEL: Your Honor, the next document that we would
21 seek to have admitted is Exhibit 61 is a March 8, 1976 SCAPA
22 internal document addressing asbestos yarn replacement.

23 THE COURT: Asbestos what?

24 MR. JEKEL: Asbestos yarn replacement.

25 THE COURT: Very good.

1 MR. YOUNG: No objection.

2 MR. JEKEL: Your Honor, the next document was previously
3 marked as 73263, it's a telex that is exchanged between
4 Blackburn and Waycross regarding the asbestos policy.

5 MR. YOUNG: Judge, we had earlier objected to this, and
6 we -- I probably need to put something on the record about that
7 but I thought you had already ruled on this one --

8 THE COURT: Yes.

9 MR. YOUNG: -- and let it in.

10 THE COURT: I've admitted it, I believe.

11 MR. YOUNG: I think you have, Judge.

12 MR. JEKEL: Well, if it's a duplicate we will remove it
13 and make a record of it.

14 THE COURT: Your objection is preserved, overruled and
15 it's admitted.

16 MR. JEKEL: Sixty-two, that was.

17 MR. YOUNG: Judge, can the record reflect that I'm
18 adopting whatever I said before because I don't remember what
19 that was.

20 THE COURT: Sure, and I'm protecting you with that regard.

21 MR. JEKEL: SCAPA dryers. Again, this, Your Honor, will
22 be 62. It was previously identified as 71837, it's a
23 internal -- 63, rather. It's an internal SCAPA document
24 discussing asbestos Uniroyal yarn.

25 MR. YOUNG: No objection, Your Honor.

1 THE COURT: No objection, it's admitted.

2 MR. JEKEL: And then the redacted document --

3 THE COURT: The redacted document is admitted over
4 objection. He had contended that that exhibit might have
5 financial implications, I see none that would be objectionable
6 at this phase, the liability phase of this matter.

7 MR. JEKEL: Your Honor, the only other thing that I think
8 we might do here is the life expectancy table.

9 THE COURT: The mortality table, yes. I always admit
10 them, they're statutory in nature.

11 MR. JEKEL: We can do that after the break.

12 THE COURT: Just be sure you do.

13 MR. JEKEL: I have it in one of these notebooks, Your
14 Honor, I've moved so much paper around this morning I can't lay
15 my hands on it.

16 MR. YOUNG: Judge, we're not going to object if he needs
17 to put it in later.

18 THE COURT: It is in without objection, the South Carolina
19 code latest mortality tables.

20 MR. JEKEL: Yes, Your Honor. And we'll need to make the
21 record on the rest of the documents that we seek to admit.

22 THE COURT: Yes. And what I would suggest be done is
23 let's go on and deal with the video.

24 MR. JEKEL: You want to do that and then we'll --

25 THE COURT: Oh, no, I said I would give you a ten minute

1 break and do that. Ladies and gentlemen of the jury, I'm going
2 to give you a ten minute break while we straighten out the rest
3 of these documents, I don't think it's going to even take ten
4 minutes but no sense in your sitting here while objections are
5 aired, so go to your jury room for ten minutes and we'll bring
6 you in for the final.

7 (The jury left the courtroom.)

8 MR. JEKEL: Your Honor, the next document we wanted to
9 address is -- it's a memo from Blackburn regarding the
10 publicity recently concerning the use of asbestos, it's a SCAPA
11 Blackburn document.

12 THE COURT: All right. This is the coversheet for it,
13 where is the attached letter?

14 MR. JEKEL: All we are -- we do not have a copy of the
15 attached letter, Your Honor, we'll be putting in the cover
16 letter.

17 THE COURT: So it's just a memo -- who are these people in
18 the memo?

19 MR. JEKEL: Your Honor, it's Ginsberg B. J. Ginsberg is
20 the author of the memo. These are all -- it is SCAPA U.K.
21 personnel, Your Honor.

22 THE COURT: Okay, very good. Mr. Young?

23 MR. YOUNG: Judge, the first objection is this is
24 completely a SCAPA U.K. document, there's no indication at all
25 that it made it to Waycross, but it's also incomplete, Judge.

1 I think it's not proper to introduce it without a copy of the
2 letter that was attached so they can get their full document.

3 MR. JEKEL: And I'm not sure -- I just don't know that we
4 ever got the letter.

5 THE COURT: This is what you would have produced in
6 discovery and all you were produced in discovery, is that what
7 you're saying?

8 MR. JEKEL: If SCAPA has a copy of the letter that goes
9 with this and they would like to make it complete I'm happy to
10 put it in there with it, I just don't think I have ever seen a
11 copy of the letter. I think it has relevance without the
12 attachment.

13 THE COURT: Do you have a copy of letter, Mr. Young?

14 MR. YOUNG: Judge, I have no idea, I apologize. I would
15 assume they copied all of our documents so I just don't know,
16 Judge.

17 MR. JEKEL: He can't really say it's incomplete.

18 MR. YOUNG: Well, I can say it's incomplete, Judge, but I
19 don't know if it got separated when they copied it. We're
20 talking about thousands of documents.

21 THE COURT: Well, here is my deal, you evidently had it
22 for some time, if it were incomplete you should have asked for
23 the rest of it. It is incomplete in my view as it sits right
24 now, therefore I will not admit it, the objection is sustained.

25 MR. JEKEL: Your Honor, this is again these -- we're going

1 through a series of Blackburn documents.

2 THE COURT: Right.

3 MR. JEKEL: The next is asbestos regulations in 1969 in
4 England. They talk about the sampling. They want to know how
5 their yarn suppliers are doing the sampling, Turner is down
6 there. I think we are limited to three tests a year. Again,
7 it goes to, they knew yarns are releasing -- I would make the
8 argument it goes to their knowledge that asbestos yarns
9 released fibers and that there are regulations prior to the
10 United States in England on asbestos fiber release.

11 THE COURT: Very good. Your response, Mr. Young?

12 MR. YOUNG: There's nothing that indicates that went to
13 SCAPA Waycross, Your Honor. Again, this is a deal with a
14 manufacturer of yarns, it's not even gotten to the part of
15 manufacturing of dryer felt, much less gotten to a paper mill.
16 We would argue that it's completely irrelevant on two levels,
17 or three levels.

18 THE COURT: Somewhere in the back side of my brain I am
19 remembering some material on another document that has been
20 admitted and perhaps it is the SCAPA history, but it might be
21 something else that deals with Turners and BBA and their supply
22 of yarns that went in to some of these felts.

23 MR. JEKEL: Turner Brothers was both Blackburn and a
24 Waycross supplier.

25 THE COURT: Supplier, exactly, that's what I remember,

1 therefore I'm going to admit it.

2 MR. JEKEL: That would be Exhibit 63, Your Honor.

3 THE COURT: Admitted over objection, Your Honor.

4 MR. JEKEL: The next, Your Honor, and the first thing I
5 want to point out is the yarn type here is ZYU902 asbestos
6 yarn, that's a resin coated yarn. And what you see here is --
7 again, this is Blackburn, this is England, they are taking
8 samplings again in the manufacturing of dryer felts, this is
9 the production part of SCAPA LTD, but the use of resin coated
10 yarn is giving off fibers and creating exposures in the
11 production.

12 THE COURT: Okay. I got why you want it. Mr. Young?

13 MR. YOUNG: Your Honor, it's the same objection. This is
14 a SCAPA U.K. document only, never went to Waycross, it does not
15 involve paper making and it involves, I guess, the manufacturer
16 of dryer felts. But that's not the issue in the case whether
17 there's asbestos exposure when you're making the dryer felts.

18 THE COURT: My recollection is that there's been evidence
19 introduced that some of the yarn used in the dryer felts that
20 SCAPA shipped to Bowater were resin coated, and there was
21 always kind of a discussion about whether resin coating helped
22 to keep the asbestos fibers incapsulated, and then there was
23 some other discussion that it wore off rather quickly and so
24 forth and so on. So I think there's a connection between the
25 observations about what the resins do and the supply of resin

1 coated material by their subsidiary or a related company to
2 Bowaters that it can be admitted and I will admit it over
3 objection.

4 MR. JEKEL: Your Honor, the next document was
5 previously -- no, this one we've talked about. Your Honor, the
6 next document that we talked about was previously identified as
7 73954, this is January 1980, it identifies -- even -- I don't
8 know what they said in opening when they stopped selling felts,
9 but this shows that they're selling felts in 1980 that contains
10 asbestos.

11 THE COURT: All right. Mr. Young?

12 MR. YOUNG: Judge, first of all we did not say in opening
13 or ever that we weren't selling felts in 1980, we've agreed
14 that we sold asbestos containing felts to Bowater and we
15 produced the Mastercards. All this is designed to do, Your
16 Honor, is to prejudice the jury with a bunch of numbers at the
17 very tail end of any asbestos containing felts. I think at the
18 very least its prejudice outweighs its probative value given
19 the fact that we have not disputed that we sold asbestos
20 containing felts to Bowater and have no reason for these
21 numbers to into evidence.

22 MR. JEKEL: Again --

23 THE COURT: Well, let me ask you this, my recollection
24 is -- and again, I don't have a perfect memory, but my
25 recollection is in the opening statements is that there was

1 discussion about a time beyond which SCAPA did not supply
2 asbestos containing felts to Bowaters, and there's, of course,
3 been a good deal of questioning of Mr. Stewart in the various
4 depositions that we've just heard and of other witnesses about
5 when these weave felts came in and when asbestos containing
6 felts went out and so forth and so on. And this document
7 indicates that in January of 1980 in its panoply of products
8 could be sold by SCAPA, SCAPA was still manufacturing and
9 selling SRA, which is an asbestos containing felt, and
10 therefore I think it's relevant on that basis. I do not think
11 its prejudicial in nature outweighs its probative value and
12 therefore I will admit it.

13 MR. YOUNG: Your Honor, just for the record, the entire
14 trial the time period for the asbestos felts at Bowater from
15 SCAPA has been '63 to '81, so I was --

16 THE COURT: Well, this is 1980, so even if that were the
17 case this is within that timeframe.

18 MR. YOUNG: Right, so it's not probative of anything that
19 we haven't already admitted. I'm not arguing with you, Judge,
20 I just want to make sure that the record is clear.

21 THE COURT: They can proven by more than one piece of
22 evidence.

23 MR. JEKEL: Your Honor, the next document previously --
24 again, this is a Blackburn document, 71918 and it deals with
25 the cleaning of dryer fabrics, and I just want --

1 THE COURT: Wait a minute, put it there where I can see
2 it.

3 MR. JEKEL: Yes, Your Honor.

4 THE COURT: Okay.

5 MR. JEKEL: There is attached to this document, Your
6 Honor, air cleaning at 90-degree angle. But, again, knowledge
7 that they were 90-degree angles putting air cleaning on felts
8 so that's why we believe this is relevant.

9 MR. YOUNG: Your Honor, this is a SCAPA Blackburn
10 document. And importantly, Judge, there's absolutely no
11 evidence that this ever went to Bowater with any instructions
12 like this, so it hasn't been tied up at all in this case so we
13 believe at the very least its prejudice outweighs its probative
14 value.

15 THE COURT: All right. Been a good deal of discussion
16 about how you blow across these felts, I think this is
17 pertinent from those various discussions. I do not think the
18 prejudicial value outweighs the probative value and I would
19 admit it.

20 MR. JEKEL: Your Honor, the next is we've seen something
21 similar, but this is for 1964. And this is, again, yarn sales
22 by the month for the year of 1964.

23 MR. YOUNG: Your Honor, I'm sorry to backtrack but I just
24 want to make sure, the discussion we just had was about Exhibit
25 67; is that right?

1 MR. HYLAND: Yes.

2 THE COURT: Why are we back --

3 MR. YOUNG: Well, I couldn't remember if the document
4 number had been announced when I was making my objection.

5 THE COURT: All right. The one we just dealt with is
6 Exhibit 67 that I just admitted; is that correct?

7 MR. HYLAND: Yes, ma'am.

8 MR. YOUNG: Over objection, yes, Your Honor.

9 THE COURT: Very good, the record is clear.

10 MR. JEKEL: All right. And this was, again, Your Honor,
11 we put in 1963, this is 1964.

12 THE COURT: Right. Mr. Young objected to '63, I will
13 preserve those objections and overrule them as I did before and
14 admit the document, it will be 68.

15 MR. JEKEL: Your Honor, the next document is 73364.
16 This -- it's actually SCAPA -- I believe this is a Waycross
17 document, SCAPA Dryers, Inc. March 24th of 1977. There is a
18 discussion about replacement yarns and the like and Waycross
19 are planning to have asbestos out of all designs in 1977 and
20 more are already being made than non-asbestos. The details of
21 the changeover are cap underlined not being discussed with
22 sales and customers to avoid the danger of customers not
23 wanting to take felts already made and in stock at Waycross.

24 THE COURT: Very good. Mr. Young?

25 MR. YOUNG: Yeah. Judge, the way that they plan to use

1 this document is to suggest that there's something about
2 asbestos hazards in here, and this document doesn't say
3 anything about dryer felts with asbestos being hazardous from
4 an asbestos standpoint.

5 MR. JEKEL: Again --

6 THE COURT: Mr. Jekel, don't interrupt him, please, sir.

7 MR. YOUNG: So Judge, putting that spin on it there's been
8 no foundation laid by the plaintiffs as to who wrote this, what
9 it meant, anything. It's taken completely out of context and
10 we believe this is extremely prejudicial, and certainly its
11 prejudice outweighs its probative value given the way that they
12 plan to use it.

13 THE COURT: Put the header back up there so I can see who
14 wrote this. This is Beloit, Wisconsin SCAPA, Joliet, SCAPA
15 Waycross. It's sales contacts and it lists a bunch of salesmen
16 and mill visits, Burkes paper. This is a memorial of visits to
17 various companies by SCAPA officials and it has a received
18 March 24th, 1974 and SCAPA Dryers, Inc. that's the Waycross
19 group. And again, I was impressed is who -- Mr. Jekel, I don't
20 see how you can talk to him and still listen to what I am doing
21 here, I'm trying to divine from this document if I can who
22 wrote it.

23 MR. JEKEL: Mr. Hebblewhite (phonetically.)

24 THE COURT: He is an official of --

25 MR. JEKEL: SCAPA Blackburn.

1 THE COURT: Of SCAPA Blackburn. And SCAPA Blackburn is
2 Mr. Hebblewhite is writing about visits that were made to
3 various clients that included sales contacts escorting him
4 around these plants I'm guessing from what this document says.
5 So this is SCAPA's bridge office and that bridge office is
6 saying we plan to eliminate asbestos but we're not going to
7 tell the customers until SCAPA Waycross sells all of the stuff
8 they've got made that contains asbestos, isn't that right?
9 Isn't that essentially what this thing says?

10 MR. YOUNG: Yes, Your Honor.

11 THE COURT: I'm going to admit it. I think it's highly
12 relevant and anything that's not that -- takes a spin that is
13 in favor of one side or another is prejudicial to the other
14 side, this isn't prejudicial in the evidentiary sense of that
15 word.

16 MR. JEKEL: Your Honor, that was Exhibit 69. The next,
17 Your Honor, is plaintiff's 71847, it's a SCAPA news document
18 and really --

19 MR. YOUNG: Judge, we don't object to this.

20 THE COURT: No objection. No objection, this will be
21 Plaintiff's 70.

22 MR. JEKEL: Your Honor, this is a Waycross document going
23 to England discussing the yarn ZY0983 -- quantities of resin
24 treated ZOU938 for Turner. Earlier, and I don't know what
25 exhibit number it was but it was the document that was marked

1 for identification 717808 where they did air sampling on this
2 very yarn.

3 THE COURT: Yes.

4 MR. JEKEL: So I think that this establishes the resin
5 coated yarn.

6 THE COURT: Yes. That's the resin coating that we've
7 talked about in some other materials on the asbestos containing
8 yarns.

9 MR. YOUNG: Right, Your Honor. I have the same objections
10 I had to the earlier document.

11 THE COURT: Very good, all right. The objection is
12 overruled and then the document is admitted.

13 MR. JEKEL: Your Honor, I think we have an agreement on
14 plaintiff's 718957, December 6, 1972, Turner Brothers document
15 to SCAPA Dryers regarding warnings, and they also talk about
16 the ZYU yarn we were discussing, that will be 71.

17 THE COURT: Admitted without objection.

18 MR. HYLAND: I believe the previous one was 71 and this is
19 72.

20 THE COURT: 72 is in without objection.

21 MR. JEKEL: Your Honor, I --

22 THE COURT: We have done them all.

23 MR. GRAHAM: Your Honor, for --

24 THE COURT: Wait a minute, ten people can't talk at one
25 time. Mr. Graham, next?

1 MR. GRAHAM: This is the mortality table.

2 THE COURT: Right, the mortality table, that is introduced
3 as an exhibit and it's without objection.

4 MR. HYLAND: Seventy-four.

5 THE COURT: Without objection.

6 MR. GRAHAM: Your Honor, it's 2012 and the general
7 assembly -- I don't see a label.

8 THE COURT: Well, that is a place holder and substitute
9 for the one you can find, go on and put that in as a place
10 holder.

11 (Break in proceedings.)

12 MR. EARLY: With regard to the day in the life video
13 obviously we would like to state our previous objections we
14 made in the motion in limine and you rule against it, but also
15 you said you would only allow a couple of minutes, the video is
16 six minutes and I have talked to Mr. Graham, he said he will
17 only play two minutes of it.

18 THE COURT: Listen, six minutes is fine with me. I don't
19 think you get to limit it to two minutes versus six minutes,
20 that's a silly kind of distinction in my view.

21 MR. EARLY: Well, I was going by what Your Honor said, you
22 said a couple of minutes.

23 THE COURT: Well, a couple of minute can be six minutes as
24 far as I'm concerned.

25 MR. EARLY: I'm more concerned with my objection and

1 having raised the objection at this time, but it is introduced.

2 THE COURT: I know, you're looking after my betters and
3 they get mighty particular about such things, I think you're
4 completely preserved. Mr. Early, your position is it shouldn't
5 be used at all.

6 MR. EARLY: That's right, Your Honor, thank you.

7 (Exhibits 48-74 were received into evidence.)

8 (The jury returned to the courtroom.)

9 THE COURT: Thank you, ladies and gentlemen of the jury,
10 you may be seated. All exhibits have been taken care of and
11 the objections recorded so we are in good shape there, we're
12 now down to the conclusion of the case and Mr. Graham, will you
13 introduce the exhibit?

14 MR. GRAHAM: Thank you, Your Honor. Good afternoon ladies
15 and gentlemen of the jury, the plaintiff would now like to play
16 the day in the life video of Steven R. Stewart and it will be
17 several minutes --

18 THE COURT: What is the date?

19 MR. GRAHAM: August 20, 2013.

20 THE COURT: 2013?

21 MR. GRAHAM: Yes, ma'am.

22 THE COURT: All right, very good.

23 (The video was played.)

24 MR. GRAHAM: Your Honor, that concludes the video.

25 THE COURT: Very well.

1 MR. JEKEL: And, Your Honor, the plaintiff rests.

2 THE COURT: Very good. Ladies and gentlemen of the jury
3 the plaintiff has rested their case. It is now 12:46, let's be
4 ready to go at -- will 2:00 give you enough time? Okay, very
5 good, we will see you back here at 2:00.

6 (The jury left the courtroom.)

7 (A lunch break was taken.)

8 THE COURT: All right. All are present and all are ready
9 to go. Mr. Young, is your witness ready to proceed?

10 MR. YOUNG: Yes, Your Honor, we're ready.

11 THE COURT: Bring in the jury, please, sir.

12 (The jury returned to the courtroom.)

13 THE COURT: Please be seated, ladies and gentlemen of the
14 jury. We will proceed now to the defendant's case, and Mr.
15 Lane Young will begin the presentation for the defendants. Mr.
16 Young?

17 MR. YOUNG: Thank you, Your Honor. At this time SCAPA
18 would call to the stand its corporate representative, Mr. Jim
19 Doherty.

20 The witness, JIM DOHERTY, was first duly sworn and
21 testified as follows:

22 DIRECT EXAMINATION

23 BY MR. YOUNG:

24 Q Mr. Doherty, good afternoon.

25 A Good afternoon.

TESTIMONY OF JIM DOHERTY

1 Q You know that I am Lane Young and I'm one of SCAPA's
2 lawyers, correct?

3 A Yes, sir.

4 Q When you testify today I would appreciate it if you
5 would testify to the ladies and gentlemen of the jury as
6 opposed to looking at me.

7 A Will do.

8 Q Would you introduce yourself to the Court and the
9 ladies and gentlemen of the jury, please?

10 A My name is James Edward Doherty, I am from Raleigh, North
11 Carolina.

12 Q Did you used to work for SCAPA?

13 A I did. I began working for SCAPA in late 1990 or early
14 1991.

15 Q All right. And are you here to tell the ladies and
16 gentlemen of the jury some things about SCAPA and its dryer
17 felts?

18 A Yes, I am.

19 Q All right. And are you doing that because we asked you
20 to?

21 A That's a big part of it, yes, sir.

22 Q You don't work for SCAPA anymore, right?

23 A No, it has been many years.

24 Q Are you married?

25 A I am.

TESTIMONY OF JIM DOHERTY

1 Q Tell the ladies and gentlemen of the jury how long have
2 you been married?

3 A Forty years.

4 Q Do you have any children?

5 A Four.

6 Q I'm not going to ask you their names and ages, but
7 could you give the ladies and gentlemen of the jury just a
8 little bit of your background starting with where you were
9 born and where you grew up?

10 A I'm originally from Troy, New York which is in upstate New
11 York near Albany, New York, and I grew up there. I lived there
12 until I was in my twenties, and since then I've moved around
13 all over the world. But I began working in Albany
14 International Corporation when I was in my late teens.

15 Q We're going to come back to that in just a second.
16 Tell the ladies and gentlemen of the jury what you do now.

17 A Now I'm an independent consultant, I have my own
18 consulting company and I work for a company called the C12
19 Group.

20 Q And what does that company do?

21 A We hold small business roundtables for Christian business
22 owners, and our mission is to change the world by bringing
23 forward the Kingdom of God in the market place in the companies
24 and lives of those whose are called to run businesses for Him.

25 Q And how long have you been doing that, Mr. Doherty?

TESTIMONY OF JIM DOHERTY

- 1 A My first small business roundtable was in 2009..
- 2 Q Would it be fair to say that's the main thing you do?
- 3 A By far, yes, sir.
- 4 Q Do you spend a lot of time working on these cases with
- 5 us?
- 6 A No, sir.
- 7 Q You were telling the ladies and gentlemen of the jury
- 8 about early in your life in Albany, New York, where did your
- 9 mom and dad work?
- 10 A They worked -- at one time in their life my dad had his
- 11 entire career after Army and World War II, he was in the Albany
- 12 Felt Company, and my mom worked there until the babies started
- 13 to come, my sister worked there briefly and I began there when
- 14 I was a teenager.
- 15 Q The ladies and gentlemen of the jury have heard about
- 16 Albany and sales of Albany felts to Bowater, is that the
- 17 same company?
- 18 A Yes, that's the same company.
- 19 Q So did Albany make dryer felts?
- 20 A Yes, Albany made dryer felts.
- 21 Q Do they make some that contained asbestos?
- 22 A Yes, they did.
- 23 Q All right. And at some point in your life did you
- 24 start working for Albany?
- 25 A I did, yes, I did.

TESTIMONY OF JIM DOHERTY

1 Q Can you tell the ladies and gentlemen of the jury about
2 that?

3 A My dad realized I was old enough to get a paycheck so he
4 got me on there part-time, he'd been working there most of his
5 life. So I started part-time and they let me work vacations
6 and part-time and things like that, then I went full-time and I
7 began as cleaning up around the looms and kind of a janitor,
8 then I began to learn a little bit about the process of weaving
9 and things like that. I began my career as an hourly employee,
10 then I went away to college and I graduated from college in
11 1976 and I came back to the Albany Felt Mill and I was a second
12 shift foreman at that time.

13 Q Give us a timeframe from when you were first in Albany.

14 MR. JEKEL: Your Honor, I'm going to object at this time
15 for relevance, I thought this witness was here as a corporate
16 representative of SCAPA.

17 THE COURT: All right, overruled.

18 A I began I believe it was around 1971 or so with Albany and
19 I worked there until 19 -- probably about 1974. And then I
20 went away to college and I spent two years at textile college
21 and Albany helped me with that, and I already had two years of
22 college in so I got a four year degree at that time.

23 Q And when you were first at Albany were they making
24 asbestos containing felts?

25 A Yes, sir.

TESTIMONY OF JIM DOHERTY

1 Q I want to fast forward just a little bit. You've
2 investigated the manufacturing process for SCAPA asbestos
3 containing felts, correct?

4 A Yes, I have.

5 Q Were the two manufacturing processes, Albany and SCAPA,
6 essentially the same?

7 A They were very similar, yes.

8 Q Were most of the dryer felts back then that had
9 asbestos in them made essentially in the same fashion?

10 A Yes, it was very similar.

11 Q You mentioned just a minute ago that you went to a
12 textile college, did I hear that right?

13 A I did. At the time it was called Philadelphia College of
14 Textiles and Sciences, and then it became Philadelphia
15 University, and I think they just joined another university at
16 this point in time.

17 Q When you were at the university, were you also working
18 at Albany?

19 A When I had vacations and time off and things like that I
20 would still work at Albany, yes.

21 Q And at Albany did they also make press felt?

22 A They did. That was their primary business was press
23 felts.

24 Q The ladies and gentlemen of the jury haven't heard much
25 about a press felt, can you tell them what that is? They

TESTIMONY OF JIM DOHERTY

1 have heard something about making the paper, but in the
2 overall scheme of things for making paper where does a press
3 felt come in?

4 A The press felt is the middle section on the paper machine,
5 and it's made out of primarily now polly ambits and it's
6 nylons. It's kind of like a ringer washer, it mechanically
7 removes the water from the felt through the presses and it
8 dries the sheet in that manner.

9 Q All right. Is there any asbestos in press felts?

10 A No, there's not.

11 Q And did all of the dryer felts contain asbestos?

12 A No, not all of them. Some of them did, not all of them.

13 Q Now, what year did you graduate from the textile
14 university?

15 A 1976.

16 Q All right. When you were studying there in 1976, do
17 you recall any study or mention of asbestos?

18 A No, I really don't.

19 Q Do you recall anything or any studies or information
20 being given to the students about asbestos drying felts
21 being harmful?

22 A No, nothing like that.

23 Q Okay. Did you go there to learn how to work in the
24 dryer felt industry?

25 A Yes, I did.

TESTIMONY OF JIM DOHERTY

1 Q Tell us when your first like full-time job was at
2 Albany.

3 A I believe I worked full-time briefly before I went away to
4 college, and then when I came back I was a foreman on the
5 second shift in the weave room.

6 Q And do you remember what year that was?

7 A That would have been the summer of 1976.

8 Q And when you say the weave room, tell the ladies and
9 gentlemen of the jury what goes on there.

10 A Weaving is a fabric formation process where looms
11 interlace fabrics, and we make an industrial product for the
12 paper industry and there are various sizes and various lengths
13 and each one is individually -- each substructure is woven
14 individually for that particular position on the paper machine.

15 Q Okay. So were they weaving dryer felts?

16 A We were weaving dryer felts and press felts, yes.

17 Q Okay. And some had asbestos and some didn't?

18 A Yeah, some of the dryer fabrics had asbestos.

19 Q I just want to break it down just a little bit. But
20 can you tell the ladies and gentlemen of the jury like where
21 the yarn is and where the press is and how they get
22 together?

23 A In the back of the weaving loom there is a yarn with --
24 there's a yarn in -- and it's on bobbins and that's fed up into
25 a loom, and then a web is passed back and forth and interlaced

TESTIMONY OF JIM DOHERTY

1 and then it is wound up. It can be then moved to another
2 department for further processing.

3 Q The dryer felts when they were woven, were they
4 initially tightly woven like this?

5 A They were very tightly woven, yes, sir.

6 Q Like a rug?

7 A Yes, they are very much like a rug. It's a very heavy
8 fabric. It can't have too many uses but to be a dryer fabric
9 because it is this, it's heavy and it is course.

10 Q Is it dusty?

11 A No, it's not dusty. The product that comes in is
12 normally -- the yarns are normally, especially in asbestos,
13 it's all coated and it's normally coated in the process. It's
14 not a dusty process.

15 Q Did you actually work weaving asbestos felts at Albany?

16 A I did. I worked weaving them and before I wove them and
17 before I cleaned up the waste on the floor, the waste yarn and
18 did whatever else they told me to do, yes.

19 Q And have you seen the loom at SCAPA Waycross where they
20 made their asbestos containing felts?

21 A Yes, I have. I've seen the loom and that loom was there
22 when I ran SCAPA Waycross.

23 Q The process is the same at Albany and at SCAPA for
24 making felts?

25 A Very, very similar, yes.

TESTIMONY OF JIM DOHERTY

1 Q When you were doing that weaving, did you wear a
2 respirator?

3 A No, no respirators.

4 Q After you left Albany -- well, let me ask this, were
5 you concerned at that time that dryer felts might be a
6 hazard from an asbestos standpoint to you or to anyone else?

7 A No, sir.

8 Q After you left Albany where did you go?

9 A I left Albany around 1985 and I went to a company called
10 Niagra Lockport Corporation, and I began my career with them in
11 Starkville, Mississippi where they manufactured press fabrics.

12 Q So no asbestos there.

13 A No asbestos there.

14 Q Okay. And after Lockport where did you go?

15 A After Lockport in late '90 or early '91 I went to SCAPA
16 Dryer Fabrics in Waycross, Georgia.

17 Q And can you tell the ladies and gentlemen of the jury
18 what your title was there?

19 A I was vice president of manufacturing.

20 Q And this probably goes without saying at this point in
21 the trial, but you've looked at some information about the
22 case specifically; is that right?

23 A Yes, I have.

24 Q And we can agree that the SCAPA felts that were at
25 Bowater that was used at Bowater and purchased by Bowater

TESTIMONY OF JIM DOHERTY

1 were manufactured at SCAPA Waycross.

2 A Yes, they were.

3 Q You didn't see any information in anything you looked
4 at that any SCAPA felts came from anywhere else.

5 A No, I didn't.

6 Q Now, the facility you worked at SCAPA Waycross, is that
7 where they made the asbestos containing felts?

8 A Yes, it is.

9 Q When you got there in 1990, were they still making
10 asbestos containing felts?

11 A No, they were not.

12 Q All right. And how long did you work there?

13 A I was in SCAPA Waycross in two different positions. I
14 began in vice president of manufacturing in '93, in '94 they
15 made me vice president/general manager, and then in 1997 I was
16 transferred to Blackburn, England.

17 Q At our request have you gone back and read documents
18 and read depositions like the deposition we heard yesterday
19 of Mr. Merk, and other depositions to educate yourself with
20 respect to SCAPA and its asbestos containing felts in the
21 60's and 70's?

22 A Yes, I have.

23 Q And I think you've already said this, but the
24 manufacturing process, was it essentially the same as you
25 were familiar with in Albany?

TESTIMONY OF JIM DOHERTY

1 A Yes, it was. Even the yarn nomenclatures were pretty easy
2 to figure out. We thought they were a secret when we were
3 young but we didn't have too many secrets.

4 Q Is it your recollection, Mr. Doherty, that asbestos
5 felts were manufactured at SCAPA from some time in the 50's
6 to the end of the 70's give or take?

7 A Yes, sir.

8 Q You said the loom that they made it on was still there?

9 A Yes, it is.

10 Q Now they make different -- more open weave polyester
11 type felts?

12 A They do. It was a transition in the 1970's to model
13 filament type fabrics and generation type fabrics.

14 Q And SCAPA Waycross still exists?

15 A Yes, it does.

16 Q Was it purchased by another company?

17 A It was. It was purchased by a German company called Voith
18 A.G. based in Heidenheim, Germany, and I believe it was in
19 1999.

20 Q Are any of the folks from the 60's and the 70's still
21 around?

22 A No, they aren't.

23 Q Mr. Doherty, tell the ladies and gentlemen of the jury
24 what hydrolysis is.

25 A Hydrolysis -- often called moist heat, hydrolysis is the

TESTIMONY OF JIM DOHERTY

1 effect that water, moisture and heat have in breaking down
2 something. It's kind of steaming it and cooking it and baking
3 it all at the same time.

4 Q Are all of those things involved in paper making?

5 A Yes. In the dryer section of a paper machine it's
6 extremely hot and it's extremely wet and extremely humid. They
7 actually have high pressure hoods there so that it will dry the
8 paper faster, and so hydrolysis has a major effect on the paper
9 machine.

10 Q And is that the reason that some of the foremen at the
11 paper mills wanted an asbestos containing felt as opposed to
12 a non-asbestos containing because it would fight hydrolysis
13 more?

14 MR. JEKEL: Objection, Your Honor, foundation.

15 THE COURT: All right. I don't understand the objection.

16 MR. JEKEL: He was talking about why paper mill managers
17 wanted asbestos felts and I don't believe he laid any
18 foundation for that question.

19 THE COURT: I'll allow it. Well, I'm usually pretty
20 flexible about these things, Mr. Young, but it would help to
21 know what he knows about paper mills.

22 Q Mr. Doherty, have you been to paper mills and seen
23 paper made?

24 A I have. I've been to many paper mills in Europe and in
25 North America.

TESTIMONY OF JIM DOHERTY

1 Q Have you seen paper made with asbestos containing felts
2 and non-asbestos containing felts?

3 A Yes, I have.

4 Q Talked to the people at the paper mills about what they
5 liked and what they didn't like?

6 A Yes, I have.

7 Q Been involved in the sales of dryer felts?

8 A Yes, I have been in sales.

9 Q I go back to my original questions, is one of the
10 reasons that the -- who was it at the paper mill that
11 decided who to buy dryer felt from and what kind?

12 A Normally it would be the paper machine superintendent,
13 sometimes it would be the mill manager, but normally it was the
14 man who ran the paper machine.

15 Q All right. And did those individuals like asbestos
16 containing felts because they were able to withstand
17 hydrolysis more than the non-asbestos containing felts?

18 A They did, they felt that it added life to their machine.
19 There's a tremendous cost for downtime on a paper machine, so a
20 paper machine superintendent would want fabric to run as long
21 as it could and produce the best quality that it could, and so
22 he was always interested in the continuous improvement all the
23 time on his machine. He would like the fabric that could
24 withstand the hydrolysis that had the asbestos in it and so
25 they would request it.

TESTIMONY OF JIM DOHERTY

1 Q Is there any secret that there were some felts with
2 asbestos in them back in the 60's and 70's?

3 A No, there was no secret.

4 Q Based upon the information that you saw and looked at
5 when you were working on this case, did you see that there
6 were -- from the time period where there were asbestos felts
7 and Mr. Stewart was there around '63 to '80 or '81, that
8 there were 23 SCAPA asbestos containing felts?

9 A Yes, 23 was the number.

10 Q And that we sold a total of 72 felts to Bowater then.

11 A Yes, sir.

12 Q Does that range sound about right to you?

13 A It does. SCAPA wasn't that big of a supplier at Bowater
14 compared to its competitors, so that may sound like a small
15 number for dryer felts but that number sounds correct based on
16 the records I've seen.

17 Q About how many dryer felts, assuming that the witnesses
18 are correct that they're changed out about every six months
19 on the dryer four sections, about how many dryer felts total
20 would have been used at Bowater on paper machine number one
21 from '63 to '81?

22 A I believe it would have been over 600.

23 THE COURT: I didn't hear what you were saying, Mr. Jekel.

24 MR. JEKEL: It was not an objection, Your Honor, I
25 apologize.

TESTIMONY OF JIM DOHERTY

1 Q In our case would it be fair that Bowater was the
2 customer?

3 A Yes, Bowater was the customer.

4 Q And Mr. Doherty, during the time period we're talking
5 about from '63 to late 70's, '80, are you with me?

6 A I'm with you.

7 Q Were the yarns that were -- asbestos containing yarns
8 that were put into the SCAPA dryer felts that went to
9 Bowater, were they resin coated?

10 A Yes, they were.

11 Q And you were talking a minute ago -- well, did SCAPA
12 make any of those yarns?

13 A No, SCAPA never made asbestos yarns. SCAPA was never in
14 the asbestos textile business.

15 Q Do you recall some of the people they got them from?

16 A Yes. They got them from companies like Turner Brothers,
17 Turner and Newall, Uniroyal.

18 Q Have you looked at some documents that SCAPA received
19 from Uniroyal or Turner and Newall about the resin coated
20 yarns?

21 A Yes, I have.

22 Q Did they report to SCAPA that there was no need to put
23 a warning on the dryer felt because their yarns are resin
24 coated?

25 A Yes, they did, both Turner Brothers and Uniroyal said

TESTIMONY OF JIM DOHERTY

1 that. And if you looked at the yarn it made a lot of sense
2 because it was coated.

3 Q Was that consistent the whole time?

4 A Yes.

5 Q Now, after the felt -- well, I don't want to get too
6 far ahead of myself, but you said earlier that the yarns
7 would be on bobbins.

8 A Yes, sir.

9 Q Tell the ladies and gentlemen of the jury what a bobbin
10 is. They may already know.

11 A The bobbin is wound like a spool and the yarn comes off it
12 and feeds through a creel, it's on a creel and it feeds from an
13 eye board which then feeds to the back of the loom and feeds up
14 to the front of the loom and the sheds move up and down and it
15 creates a weave pattern as the web passes back and forth and
16 interlaces it.

17 Q That probably made perfect sense to you, but can we
18 break it down just a little bit? So we've got a spool of
19 yarn over here on an eye board, right, on a stick coming out
20 of the board?

21 A Yes, sir.

22 Q Just like somebody's pulling knitting from a knitting
23 ball and making a sweater?

24 A Yes, sir.

25 Q And it goes through an eye board, which is just a big

TESTIMONY OF JIM DOHERTY

1 board with little holes so it doesn't all get mixed up.

2 A Yes.

3 Q And then it goes over to the dryer felt weaving
4 machine.

5 A Yes, sir.

6 Q And they got these big things that go back and forth
7 kind of like a giant sewing machine that weaves it into a
8 dryer felt?

9 A That's what it's like, yes, sir.

10 Q Is there tension on that -- how far is it from the
11 bobbin over to the weaving machine, the loom?

12 A From the furthest part of the creel it could probably be
13 ten to 15 feet, from the closest part of the creel it is
14 probably five to seven feet out.

15 Q Is there tension on that yarn?

16 A There's tension through the entire process, yes.

17 Q If it wasn't resin coated and it was just cotton and
18 asbestos, would it stay together when it was going through
19 that process?

20 A No. The asbestos fiber was considered to be a very good
21 mineral fiber for moist heat hydrolysis, but it was a very
22 short, very weak fiber so it had to have a carrier fiber. The
23 original carrier fiber was cotton and then other carrier fibers
24 came along, acrylics and things like that.

25 Q And I think you told us that initially during the

TESTIMONY OF JIM DOHERTY

1 weaving the felts were very tightly woven?

2 A Yes.

3 Q Could you see through them?

4 A You could see through them a little bit, not too much.

5 Q Okay.

6 A It was very hard to see through them.

7 Q And later on did the paper making geniuses decide to
8 open them up?

9 A They did. And that facilitated faster drying so they
10 could speed the machine up, so there was a cost advantage of
11 that. And the fabrics, we were able to open up the fabrics
12 with different types of designs and weaves, and we would
13 actually treat the fabrics with a little CFM at that point and
14 air passages.

15 Q Can you explain that a little more simply? CFM is
16 cubic feet per minute, right?

17 A It is. It's a measure of how much air passes through a
18 fabric, and so we could actually adjust the CFM by the amount
19 of treatment that we put on the fabrics, and the treatments
20 could help in other ways by allowing the fabric to be more
21 dimensionally stable and allowing the fabric to be more acid
22 resistant and allowing it to pick up the sheet more easily and
23 speed up the start-up of the dryer fabric.

24 Q So the fabric is a little more open. Do they have
25 resin coating on the whole fabric?

TESTIMONY OF JIM DOHERTY

1 A Yes, they did, they were entirely resin coated.

2 Q You mentioned dimensional stability, okay? And explain
3 to the ladies and gentlemen of the jury, let's say Bowater
4 is buying a dryer felt for first top, first position, are
5 you with me?

6 A Yes, sir.

7 Q Okay. Are their exact dimensions for that section of
8 the dryer machine, paper machine?

9 A There are. The fabric is made to a specific length and a
10 specific width. The fabrics range in the paper industry in
11 size anywhere from -- in my day they were much smaller, 100
12 inches, and now they go up to 400 inches in width. They have a
13 specific length that they're made to, because in order to
14 optimize the drying they have to run at a certain tension,
15 because that fabric holds the paper to a steam-heated can which
16 then evaporates the water out of the paper. So it has to be
17 the right width, the right length so they're running at the
18 right tension, and each one is made to a specific size.

19 Q And when you're talking about structural or dimensional
20 stability, is that making sure that it keeps that exact size
21 so it won't run off the machine?

22 A It is. Some of these machines runs in the thousands of
23 feet per minute, and it's important for the fabric to have
24 dimensional stability, and to do that we have to build into
25 certain characteristics. It's important that we don't get bows

TESTIMONY OF JIM DOHERTY

1 in the fabric, we don't get buckles in the fabric because then
2 it won't press it properly to the dryer cans and then it can
3 actually cause the machine to go down to the wet streaks, cause
4 problems in the dryer section as a result of the lack of
5 dimensional stability.

6 Q We've seen a lot of articles from SCAPA about
7 deterioration of the dryer felt. Is that what y'all seek to
8 avoid is the loss of dimensional stability?

9 A Yes. Deterioration in a dryer felt, which is this big,
10 thick, wet rug, the deterioration means that it loses it's
11 structural integrity and it all the sudden begins to develop a
12 bow or a move in the pick line or a bag in it or something like
13 that as a result of the lack of dimensional stability. So
14 degradation in a dryer fabric doesn't mean that it's like a
15 shirt collar frame, because the fabric continually is being
16 filled with paper fines and with pitch and tar and water and is
17 continually filled with those things, so it really doesn't fray
18 out or anything like that. What we're worried about is
19 dimensional stability where it starts to cock one way or the
20 other at a speed of 1500 to 2000 feet a minute.

21 Q Mr. Doherty, did you see dryer felts or pieces of a
22 dryer felt that had been used on a paper machine, asbestos
23 containing felts, and then came back to the factory?

24 A Yes, many times.

25 Q There's been some suggestion here that they get

TESTIMONY OF JIM DOHERTY

1 thinner. Did you ever see anything like that?

2 A No. When the fabric has been run it's all filled with
3 these paper fines and tar and pitch and pulp and that kind of
4 thing, and it definitely doesn't lose its caliber, it doesn't
5 get any thinner.

6 Q How about fraying and dust spewing out everywhere from
7 a return felt, ever seen anything like that?

8 A Paper making is a very wet process, all paper is made with
9 water --

10 MR. JEKEL: I'm sorry, Your Honor, I must move to strike
11 as not being responsive to the question this witness was asked.
12 He asked if fibers or dust was blowing off a felt, I don't
13 know that this responsive, Your Honor.

14 THE COURT: Mr. Doherty, answer the question as it's asked
15 and then if you need to clarify you can do that, answer first
16 what you were asked.

17 THE WITNESS: Yes, ma'am.

18 THE COURT: Thank you, sir.

19 Q Do you remember the question?

20 THE COURT: Go on and repeat it for him, Mr. Young.

21 Q The felts that you looked at that had been run and then
22 they came back, the asbestos containing felts, do you recall
23 there being any sort of dust coming out of them, anything
24 like that?

25 A No. When the felts come back they would normally be wet

TESTIMONY OF JIM DOHERTY

1 and they might stay wet for a month if we didn't get around to
2 working on them. Because paper making is a very hot, wet
3 environment and it's very -- there's a lot of water that goes
4 into the dryer fabric as its drying a sheet of paper, and
5 customers would send them back and we might check the pick line
6 to see if it was skewed to see how the dimensional stability
7 was. We might wash the felt for them, sometimes they would
8 want us to cut it down and use it for another position or
9 something like that, and it would normally still be at the very
10 least damp.

11 Q Mr. Doherty, it has been mentioned throughout the trial
12 that there were no asbestos warnings on the dryer felts,
13 that's correct.

14 A That's correct, yes, sir.

15 Q And is that information that comes from Uniroyal and
16 Turner and Newall about the resin coating on the yarns and
17 no need for a warning, is that one of the reasons there was
18 no warning on the felt?

19 A It is. And it made sense because the yarn was coated and
20 then we would very often coat it a second time so that would be
21 even less reason for a warning. And then when it goes on the
22 paper machine and it turns into an even bigger wet rug with all
23 the paper fines and tar and pitch and everything incapsulating
24 all of it there was no reason to believe it needed a warning.

25 Q Did SCAPA ever receive any information from any of its

TESTIMONY OF JIM DOHERTY

1 customers that asbestos containing dryer felts might be
2 dangerous from an asbestos standpoint?

3 A Never.

4 Q No paper mill ever called and said, "Hey, you know,
5 somebody is getting sick from these, what's going on,"
6 anything like that?

7 A That never happened.

8 Q Mr. Doherty, have you seen asbestos containing felts
9 used in a working paper mill like Bowater?

10 A Yes, I have.

11 Q I don't want to go through the whole thing again
12 because the ladies and gentlemen of the jury have heard it
13 quite a bit, but can you just sort of walk them through
14 quickly from the head box to the paper?

15 A Paper making is fascinating to me. But in vernacular
16 terms the water comes out on the fourdrinier section which is
17 called the wet section of the machine, and it's about 99 and a
18 half percent water and a little bit of pulp in there, just a
19 little bit, and it runs down a table which drains the water
20 raising the consistency of the pulp, and then is run from there
21 to a press section. So it goes from a gravity drainage section
22 to a press section, which is kind of like a ringer washer, and
23 it runs through the ringer washer and it presses the water out
24 and uses suction rolls to remove water. And by now going into
25 the dryer section it's about 50 --

TESTIMONY OF JIM DOHERTY

- 1 Q Excuse me, Mr. Doherty, is this a picture of the
2 Bowater dryer section?
- 3 A Yes.
- 4 Q And these are the hoods?
- 5 A That's a high temperature hood, yes, sir.
- 6 Q And the dryer cans are in there where you cant really
7 see.
- 8 A Yes, sir.
- 9 Q And that's where the dryer felts are.
- 10 A Yes, sir, that's where the dryer felts are. So it hits
11 the dryer section at about 50 percent water and 50 percent
12 paper, and when it comes out the other end it's somewhere
13 around six percent, four percent water and 96 percent to 94
14 percent paper, and then they treat it after that if they need
15 to, then they cut it up and it goes on the shelf.
- 16 Q And Mr. Doherty, have you seen dryer felts involved in
17 the paper making process?
- 18 A Yes, sir, many.
- 19 Q Is it humid?
- 20 A Very humid.
- 21 Q And is there a lot of water?
- 22 A A lot of water.
- 23 Q And a lot of ventilation?
- 24 A A lot of ventilation, yes.
- 25 Q I want you to look at a couple of documents if you

TESTIMONY OF JIM DOHERTY

1 would. You've looked at the Mastercards, correct?

2 A Yes, I have.

3 MR. YOUNG: Your Honor, Defendants Exhibit 7 is a
4 Mastercard that's been stipulated into evidence.

5 MR. JEKEL: That's true.

6 MR. YOUNG: We would like to tender it at this time.

7 MR. JEKEL: No objection, Your Honor.

8 THE COURT: I mean, you're tendering it meaning -- it's
9 already in evidence, what do you want to do to it?

10 MR. YOUNG: I want to show it to the witness.

11 THE COURT: Yeah, bring it up here.

12 MR. YOUNG: Sorry, my vernacular is in the wrong state, I
13 apologize.

14 THE COURT: That's all right.

15 (The Mastercard was received as Defendant's 7.)

16 MR. YOUNG: May I approach, Your Honor?

17 THE COURT: Yes, you may.

18 Q Mr. Doherty, I want you to look at these two
19 Mastercards, one has previously been marked as P38 and one
20 has been marked as Defendant's Exhibit 7, okay?

21 A Yes, sir.

22 Q Are you with me?

23 A Yes, I am.

24 Q All right. There was mention yesterday of a felt
25 running off the number one paper machine in December of

TESTIMONY OF JIM DOHERTY

1 1972, and it was suggested that it was the -- one of those
2 Mastercards is an asbestos containing felt and one isn't; is
3 that right?

4 A That is correct.

5 Q Defendant's Exhibit 7 is not an asbestos containing
6 felt?

7 A That's correct.

8 Q Would you tell the ladies and gentlemen of the jury as
9 briefly as you can what a Mastercard is?

10 A A Mastercard is a recipe and it has got everything that's
11 important in making a fabric, and with a Mastercard you can see
12 how a fabric was made and what it was made of and what kind of
13 fabric it was. It's kind of like the family recipe, maybe it's
14 my mom's brownies, I could follow this the next time and get
15 this same done again, so it's essentially everything that goes
16 into the making of that felt.

17 Q And on the back side, what is that information? They
18 were put on there when it was put on and how it did and that
19 kind of stuff?

20 A Yes, they do. On the back side they put on there the ship
21 date of the fabric, the order date of the fabric, the on/off
22 dates, and then they put in there the run dates. And on this
23 one it looks like they actually have done it. That information
24 is normally taken from the run book in the superintendent's
25 office and that's how you have a record of what kind of run it

TESTIMONY OF JIM DOHERTY

1 was, was it good or was it bad or should I do the same thing
2 again should I make the same fabric again or should I alter
3 things.

4 Q There was testimony yesterday that, what is that, 46
5 years ago, that it was the asbestos felt that ran off, I
6 think it was the second top, is that where it was?

7 A Yes. It was a second top tier that was an asbestos felt,
8 yes.

9 Q And where was the non-asbestos felt?

10 A The non-asbestos felt was the first top.

11 Q Okay. So they were right next to each other?

12 A Yes.

13 Q How far apart?

14 A Oh, very, very close.

15 Q And looking at the comments on those Mastercards, do
16 you see any indication that there was a problem with the
17 asbestos felt?

18 A Looks like it went on well. It looks like there could
19 have been some difficulties to seam. It looks like they had a
20 good run, 350 days.

21 Q Anything on there to indicate that it ran off the
22 machine?

23 A No, nothing says it ran off the machine.

24 Q How about the non-asbestos felt, how did it do the
25 first time?

TESTIMONY OF JIM DOHERTY

1 A The non-asbestos felts went on with baggy front center,
2 four foot wide all around the felts, only apparent -- apparent
3 on the return run, so it was baggy on the return run. It did
4 guide well and it was narrowing by two inches, there were
5 guiding problems, there was some baggy areas. And as the time
6 went on 10/72, a few months later, or three months later there
7 were continuing problems with instability. Now, it was
8 narrowing and very severe bowing. It says it failed at the
9 clipper seam, looks like it was due to severe forward bow.

10 Q Is that the type of stuff that would in your experience
11 in the paper making industry cause a felt to run off the
12 machine?

13 A Yes.

14 Q Which one of those two do you think was more likely ran
15 off the machine in '72?

16 A The non-asbestos felt as a result of the comments, it
17 looks like it was the one that probably ran off.

18 Q So, Mr. Doherty, let's assume that something came out
19 of the felt during the paper making process, is the first
20 place it would go be into the paper, or where would it go?

21 A It's very difficult for something to come out of the felt.
22 The felt, it's coated by the paper making process itself so I
23 don't know that I have ever seen anything come out of the felt.
24 Things can come off of the felt and attach themselves to the
25 paper or the paper fines -- but even that's rare.

TESTIMONY OF JIM DOHERTY

- 1 Q The hoods would be down?
- 2 A Yes, sir.
- 3 Q The hoods were down while the paper is being made?
- 4 A Yes, it would.
- 5 Q And once you get into the dryer section, how fast is
- 6 the paper machine moving?
- 7 A It varies on the paper machine, but in this particular
- 8 paper machine I'm sure even back then it was pulling 1,000
- 9 feet.
- 10 Q We've hear 2400 feet.
- 11 A Yes, that would make sense. That was a long time ago and
- 12 they have sped up a lot since then, but it would be moving
- 13 very, very fast.
- 14 Q And have you seen a paper break on a paper machine with
- 15 an asbestos containing felt?
- 16 A I have.
- 17 Q Have you seen a lot of them?
- 18 A Yes, I have. It's absolute chaos, paper goes everywhere
- 19 in a hurry.
- 20 Q Have you seen what the workers do when there's a paper
- 21 break?
- 22 A Yes, I have.
- 23 Q And their interest is getting the paper machine back
- 24 working as soon as possible, right?
- 25 A Yes, it is, down time is very expensive.

TESTIMONY OF JIM DOHERTY

1 Q And we talked to the ladies and gentlemen of the jury
2 about this before, but we've got this sheet which is
3 actually what becomes the paper, right?

4 A Yes, sir.

5 Q We've got the dryer felt.

6 A Yes, sir.

7 Q And because the sheet is weak, weaker than the dryer
8 felt, sometimes it breaks.

9 A Yes.

10 Q And then it will crumple up and they have to take a
11 pole and pull the big pieces out.

12 A Yes. They call it a spear pole and they hang those around
13 so they can reach across the machine and pull out a lot of
14 paper.

15 Q And then what do they do after that? Do they blow
16 across the machine?

17 A They try to blow it down in preparation for threading the
18 paper all of the way through.

19 Q Will there be any way you could blow directly on the
20 dryer felt or any reason to do that in the paper break when
21 you're trying to clean out that area?

22 A No, not on a paper break. I can't see why you would want
23 to blow across the machine.

24 Q Because you're trying to get all of this stuff out,
25 right, not back down here.

TESTIMONY OF JIM DOHERTY

1 A That's right.

2 Q And typically the machine would still be moving?

3 A During a paper break the machine would be moving at times.

4 Q Do you know when Dr. Millette did his test he blew
5 straight onto a small piece of dryer felt for five minutes?

6 A Yes, I do.

7 Q Have you ever seen anything like that done in a paper
8 mill?

9 A I have never seen anything like that done in a paper mill.

10 MR. YOUNG: May I approach, Your Honor?

11 THE COURT: Of course.

12 Q Would you take a look at Plaintiff's Exhibit Number 67
13 for me, please? You can tell the ladies and gentlemen of
14 the jury the title of that document.

15 A Cleaning of dryer fabrics.

16 Q All right. And would you turn to the last page? Have
17 you ever seen anybody blow an asbestos containing felt like
18 that, on a 90-degree angle right up on the felt?

19 A This is high pressure water cleaning. I have seen people
20 use water to clean dryer fabrics at times, although it's
21 normally with an oscillating shower rather than straight
22 shower.

23 Q Is that -- does that document reference a type of felt
24 that's being discussed, the cleaning and the type of felt?

25 A Yes. It says one fine paper mill cleans --

TESTIMONY OF JIM DOHERTY

1 Q Was that an asbestos containing felt?

2 A No, it was --

3 Q Do you recall any recommendation ever by SCAPA to blow
4 at a 90-degree angle on an asbestos containing felt with
5 compressed air to clean it?

6 A No. Blowing on a fabric with compressed air would not
7 clean the fabric.

8 Q Does the dryer felt pick up pitch and tar and stuff
9 like that during the paper making process?

10 A Yes. It picks up a great deal of it, yes.

11 Q If you blew right on the felt, would that get rid of
12 that?

13 A I don't think it would have any affect whatsoever.

14 Q Does that build-up actually make the felt more
15 incapsulated?

16 A Much more incapsulated, yes.

17 Q The experience that you had seeing asbestos containing
18 dryer felts used in an actual paper mill, seeing how they
19 came back after they had been used, is that another reason
20 why SCAPA didn't feel like there was a need for an asbestos
21 warning on felt due to any fibers release?

22 A It is. After the fabric left the SCAPA facility and was
23 installed by the paper machine, it was continuously being
24 coated by the paper making process itself.

25 Q And there was a lot of water and humidity and

TESTIMONY OF JIM DOHERTY

1 ventilation.

2 A Yes.

3 Q Did SCAPA Waycross believe that its asbestos containing
4 felts were safe?

5 A Yes, it did.

6 Q Did it believe all of its felts were safe?

7 A Yes, it did.

8 Q Now, we've seen a document, but did there come a time
9 in the 1970's when Mr. Ginsberg sent something to SCAPA
10 Waycross about a type of asbestos that they did believe was
11 harmful?

12 A Yes.

13 MR. YOUNG: May I approach, Your Honor?

14 THE COURT: Yes.

15 Q This is Plaintiff's Exhibit Number 9, Mr. Doherty. And
16 would you just read this paragraph to the ladies and
17 gentlemen of the jury?

18 A "The generally named disease of asbestosis is associated
19 with the blue asbestos technically known as crocidolite. At
20 SCAPA we have always used the white form of asbestos
21 technically chrysotile. All of the recent publicity concerning
22 paper mill has referred to personnel working with blue asbestos
23 for use in the lagging industry.

24 Q So did SCAPA Waycross receive any information from
25 anyone that the chrysotile asbestos it was using was

TESTIMONY OF JIM DOHERTY

- 1 harmful?
- 2 A No, sir.
- 3 Q Was crocidolite, which they, did not use --
- 4 A We did not use crocidolite.
- 5 Q -- was it your understanding that it was used in
- 6 lagging or insulation?
- 7 A Lagging and insulation, yes, sir.
- 8 Q Did SCAPA ever make any thermal insulation?
- 9 A Never.
- 10 Q Mr. Doherty, did there come a time when SCAPA stopped
- 11 maintaining asbestos containing felts?
- 12 A Yes, I believe it was around the late 1978, the late 70's
- 13 anyway.
- 14 Q And did they stop because they felt like the asbestos
- 15 containing dryer felts were hazardous?
- 16 A No, not at all. The reason the entire industry stopped at
- 17 that point in time, the major suppliers for asbestos yarn could
- 18 no longer supply the yarn, so people like -- people that we've
- 19 already mentioned, Turner Brothers and Uniroyal and Amtext,
- 20 they were unable to fill orders. But it was a good time for it
- 21 to happen because at that time there had been such gains in
- 22 excreting monofilaments that we were able to replace them in a
- 23 relatively short period of time with excreted monofilaments
- 24 from a new generation of fiber.
- 25 Q Were the paper mills happy that there were no more

TESTIMONY OF JIM DOHERTY

1 asbestos felts?

2 A No. They --

3 Q Because of that hydrolysis?

4 A It was. And, of course, there's an old saying if it's not
5 broke don't fix it. They were very happy with the asbestos
6 fabrics and the asbestos fabrics ran long and well and they
7 were happy with them. It was a major step change for most
8 paper mills.

9 Q Mr. Doherty, I'm going to try to wrap up here, but will
10 you look at Exhibit 69 for me? Will you turn over to the
11 second page? Do you see that? Are you with me?

12 A I think so, yes.

13 Q The paragraph that says the above table compares --

14 A Yes, I've got you.

15 Q Okay. Would you read the third and fourth sentence of
16 this document to the ladies and gentlemen of the jury,
17 please.

18 A The details of the changeover are not doing --

19 Q No, no. Start before that, the sentence before that.

20 A "Waycross --

21 Q Yes.

22 A -- are planning to have asbestos out of all designs in
23 1977 and some are already being made that are non-asbestos
24 equivalents. The details of the changeover are not being
25 discussed with sales and customers to avoid the danger of

TESTIMONY OF JIM DOHERTY

1 customers not wanting to take felts already made and in stock
2 at Waycross. This is a major project for Waycross as in 1975,
3 72 percent of all felts contained asbestos."

4 Q Mr. Doherty, I am confident it is going to be suggested
5 to the jury that this wasn't told because there was some
6 concern about asbestos felts at that time. Can you tell the
7 ladies and gentlemen of the jury really what is going on
8 here?

9 A Well, what's being --

10 MR. JEKEL: Object, Your Honor. I don't believe this
11 witness was even at SCAPA at this time so I don't know how he
12 can tell this jury what SCAPA is thinking.

13 Q Have you investigated this and talked to people at
14 SCAPA about it?

15 A I have. And the principle from changing from one style --

16 THE COURT: One minute. If he knows the situation and so
17 he is now laying a foundation with communication with SCAPA
18 officials, I think it is okay. There is, I must say, a lot of
19 kind of throat-clearing speeches being injected and leading
20 being injected, if plaintiff is peaceful with that I kind of
21 let y'all try your case. But just let us know what the
22 background is with the SCAPA officials to --

23 Q So Mr. Doherty --

24 THE COURT: Just a second, I am speaking to Mr. Doherty.
25 Mr. Doherty, just let us know what background is with your

TESTIMONY OF JIM DOHERTY

1 conversations with these officials and on what basis you
2 interpret the document.

3 THE WITNESS: Yes, ma'am.

4 THE COURT: Very good. I think you were just starting to
5 do that.

6 Q Mr. Doherty, have you been in similar situations when
7 there's a changeover from one style felt to the another?

8 A Many times.

9 Q This exact same situation?

10 A Many times, yes.

11 Q And have you gone back and read and seen what was going
12 on at this time when this memo was written at SCAPA?

13 A Yes, I have.

14 Q Can you explain to the ladies and gentlemen of the jury
15 what is really going on here?

16 A When there's a change in style the same principle is used
17 today as it was way back when, and the big issue is, first of
18 all, no one is really sure when you come out with a new style
19 how successful it's going to be. And what you want to do is
20 you don't want to come out with something and take back all of
21 the inventory and have them order all new stuff so you do it
22 systematically, you do it piece by piece, you work it in over
23 time. Now, if you're a paper maker and all of the sudden they
24 come out with a brand new 2018 Corvette and you're driving a
25 2000 Corvette, you want the new one, but we're not so sure the

TESTIMONY OF JIM DOHERTY

1 2018 is going to work so well because it has to have a lot of
2 trials and we haven't seen them so we would replace them on a
3 very systematic basis. And that's the way it's done not just
4 with asbestos fabrics that were being replaced but with any
5 type of fabric that's being replaced, so that it ends up being
6 a very smooth transition so we don't end up taking back a lot
7 of fabrics and them having to put their machine down as a
8 result of not having a fully developed product that we truly
9 understood. It's a very systematic process rather than a
10 random process. So that's why in this memo they were
11 explaining that we will do this very systematically, we won't
12 go out and announce to the world that we're going to replace
13 this.

14 Q Any mention of health hazards with asbestos being
15 involved in this decision?

16 A No, sir.

17 Q Did you personally work with asbestos containing dryer
18 felts?

19 A Many of them, yes, sir.

20 Q Would you and SCAPA feel like they were safe?

21 A Yes.

22 Q Still feel like that?

23 A Yes, sir, still do.

24 MR. YOUNG: May I have just one second, Your Honor,
25 please?

TESTIMONY OF JIM DOHERTY

1 THE COURT: Certainly.

2 (Break in proceedings.)

3 Q Mr. Doherty, Mr. Collier was -- I think he made the
4 same notation as Mr. Jekel did. When I was asking you about
5 the total number of dryer felts that might have been used at
6 Bowater I was actually asking about from 1963 to around
7 1981, not to 2000, is that number closer to 275 or 300?

8 A Probably in that range.

9 Q Not over 600.

10 A Probably not.

11 Q So were you thinking about the whole time that Mr.
12 Stewart was there?

13 A Yes, sir, I was.

14 Q Not just the time when there might have been some
15 asbestos felts.

16 A Correct.

17 MR. YOUNG: Okay. Thank you very much, Mr. Doherty.
18 Thank you, Your Honor.

19 CROSS EXAMINATION

20 BY MR. JEKEL:

21 Q Mr. Doherty, this is in evidence already. SCAPA did
22 not get the asbestos out of those dryers or stopped selling
23 asbestos containing dryer felts until well after January of
24 1980; isn't that true?

25 A Could I just take a second to look at this?

TESTIMONY OF JIM DOHERTY

1 Q Please. Do you have a monitor there, sir?

2 A Yes, sir.

3 Q And this says SRA, you know that's asbestos, right,
4 synthetic reinforced asbestos? You understand that, right?

5 A That's correct.

6 Q All right. And this says budget report, domestic sales
7 SRA for January of 1980, \$53,438, right? Is that not what
8 it says?

9 A I'm just reading through, please excuse me.

10 Q Maybe we should just move on.

11 THE COURT: Wait a minute, now, you've asked him about it.
12 He gets to answer if he can answer, if he doesn't know he
13 doesn't know.

14 A SRA -- yes. SRA is definitely asbestos fabric and it says
15 asbestos yarn and this says January of 1980.

16 Q Right. And it indicates to date for 79/80 you've sold
17 \$576,000 worth of SRA; isn't that correct?

18 A I'm not sure that that's correct but let me just clarify
19 why.

20 Q Sure.

21 A It says current month is January of 1980 and the sales
22 were 54,438 and then it says to date is 576,450.

23 Q Do you know what the accounting year was that SCAPA
24 Dryers in Waycross used?

25 A Not in 1980, no, sir.

TESTIMONY OF JIM DOHERTY

1 Q Because you weren't there, right?

2 A That's correct.

3 THE COURT: Mr. Jekel, the document is headed SCAPA
4 Dryers, Inc. report 1979/1980, then it has its current month
5 and then it has to date. Obviously it's a fiscal year type of
6 report rather than a calendar year type report.

7 A Excuse me, but it does -- and in the right-hand side it
8 does say 83.3 percent written in, and I would think that that
9 could be the percent of the completion of the year.

10 Q So there's probably a little more of that year left,
11 right?

12 A Yes, sir.

13 Q SCAPA might actually get to 100 percent synthetic
14 reinforced asbestos dryer felt sales, right? They might
15 actually get there, right? You would agree, right?

16 A There's a possibly.

17 Q All right. Let's back up. Would you like a glass of
18 water?

19 A I would, thank you.

20 Q Well, I see you don't have any. I'm going to let her
21 get you glass of water. My mouth is dry. Mr. Doherty you
22 understand -- I apologize. It is Doherty, right?

23 A Yes, sir.

24 Q You understand, though, for purposes of today's
25 testimony in this case you are SCAPA.

TESTIMONY OF JIM DOHERTY

1 A Yes, sir, I understand that.

2 Q You are the face and the voice of SCAPA, correct?

3 A Yes, sir, I understand that.

4 Q And you understand that these gentlemen over here, Mr.

5 Young and crowd, those are SCAPA's lawyers, right?

6 A I understand that.

7 Q And you understand that we are here today in part

8 because SCAPA told the lawyers to fight this case, right?

9 Deny responsibility in this case.

10 MR. YOUNG: Your Honor, I object, it's argumentative.

11 MR. JEKEL: It's cross examination I would represent.

12 THE COURT: It's cross examination, it's a little bit a
13 touch of argumentative. If you know answer the question, but
14 Mr. Jekel, treat him with respect.

15 MR. JEKEL: I will, Your Honor.

16 A I really don't know anything about the strategy of SCAPA
17 and their cases.

18 Q So you don't even know that SCAPA has told -- one of
19 the things why we're here is because SCAPA has said that Mr.
20 Stewart acted recklessly and wantonly and caused his own
21 mesothelioma, did you know that?

22 MR. YOUNG: Your Honor, I object to that, that's
23 argumentative, it assumes facts not in evidence and we never
24 claimed that.

25 THE COURT: All right. Well, Mr. Jekel, I take it that

TESTIMONY OF JIM DOHERTY

1 you're asking questions based on the answer submitted by SCAPA?

2 MR. JEKEL: Paragraph 21, Your Honor, yes, ma'am.

3 THE COURT: All right, let's look for a minute. You are
4 relying on paragraph 21 of the answer and affirmative defense
5 of SCAPA in asking him the question you just asked?

6 MR. JEKEL: As well as paragraph 23, Your Honor.

7 THE COURT: I think it's a fair question, I'll allow it.

8 MR. YOUNG: He had nothing to do with that answer and he
9 is not a lawyer.

10 MR. JEKEL: He is SCAPA, though.

11 THE COURT: He is the SCAPA representative -- now, wait a
12 minute, Mr. Jekel, we can be polite and be civil and we are
13 going to be polite and civil, but certainly we can ask
14 questions. He is the corporate representative and the
15 corporation has made these affirmatives in its answer and I
16 believe it's fair, Mr. Young, for him to question him about the
17 answer so I'm going to allow the question. But let's ask him
18 the question and then allow him to answer.

19 Q Were you aware, Mr. Doherty, that SCAPA had stated the
20 following in its answer, "That the plaintiff' sustained any
21 injuries or illness as set forth in the second amended
22 complaint, the same were due to his own willful, wanton,
23 reckless and negligence acts." Were you aware of that?

24 MR. YOUNG: Your Honor, could I have a continuing
25 objection to this line?

TESTIMONY OF JIM DOHERTY

1 THE COURT: Certainly, you may.

2 MR. YOUNG: Thank you.

3 Q Were you aware of that?

4 A I have never been informed and I was not aware of anything
5 negative about Mr. Stewart in any way.

6 Q Just want to make clear that you don't have any
7 information that would suggest that Mr. Stewart acted
8 recklessly or willful or wanton, right?

9 A I have no information that was in any way negative
10 pertaining to Mr. Stewart's actions.

11 Q And it's true, is it not, Mr. Doherty that you met with
12 SCAPA's lawyers before you arrived here today?

13 A Yes. I have met with SCAPA's lawyers many times.

14 Q And never once in those meetings did they show you
15 SCAPA's answer, is that it?

16 A I have never heard them in any way say anything bad about
17 Mr. Stewart.

18 Q Well, have you seen the answer that SCAPA, the company
19 you're here on behalf of today, filed in this case setting
20 forth their defenses?

21 A What you just read I have not read. If they sent it to me
22 I've haven't seen it.

23 Q So again, do you have any information on this topic,
24 that the plaintiff -- this is paragraph 23 of the answer of
25 SCAPA Dryers Waycross, do you have any information that the

TESTIMONY OF JIM DOHERTY

1 plaintiff, Steven Stewart, failed to properly use SCAPA's --
2 failed to properly use the product or products in question,
3 abuse the product or products, subjected it to abnormal use
4 at the time and times and places alleged thereby rendering
5 conduct and misconduct the sole proximate cause of his
6 injuries, mesothelioma. Do you have any information on that
7 topic?

8 A I do not.

9 Q You're aware that SCAPA has denied any responsibility
10 for Mr. Stewart's mesothelioma, correct?

11 A I assumed that SCAPA had denied any responsibility for his
12 mesothelioma.

13 Q Does SCAPA have anything to say to the Stewart family
14 today about the lack of having an autopsy performed on Mr.
15 Stewart after his death for mesothelioma?

16 MR. YOUNG: Your Honor, that's not a proper question, I
17 object.

18 THE COURT: It's improper on what basis?

19 MR. YOUNG: Well Judge, first of all we never said
20 anything about an autopsy, it just is sort of made up.

21 MR. JEKEL: I will ask another question.

22 THE COURT: Withdraw that question and ask him --

23 MR. JEKEL: I withdraw that question.

24 Q You weren't here for SCAPA's lawyers opening, were you?

25 A I was not here for SCAPA's lawyer's opening.

TESTIMONY OF JIM DOHERTY

1 Q Did they order a transcript and did they send it to
2 you, the lawyers for SCAPA?

3 A If they had I haven't seen it.

4 Q Well, SCAPA's lawyer said something in opening that I
5 made a note of, they said that there was a test that the
6 family should have done. First off, do you know what that
7 test is that would have told them what fibers caused the
8 mesothelioma? Do you have any information on that?

9 A I'm not aware of that and I'm not aware of what the test
10 is.

11 Q But as it stands with you as you sit here today you
12 have no qualm, SCAPA has no qualm with the family not having
13 an autopsy done; is that fair?

14 A I'm not even sure I understand what we're talking about as
15 far as the family having an autopsy done.

16 THE COURT: Mr. Doherty, what Mr. Jekel has done is to
17 indicate to you an argument was made to the jury in the
18 beginning of the case in which it was contended that the family
19 could have had a test made that would have definitively shown
20 whether Mr. Stewart had mesothelioma and whether that
21 mesothelioma caused his death. Now, he's asking you whether
22 you in light of the answers you have given whether you as
23 SCAPA's representative now have any qualms or concerns or
24 anything of that nature that the plaintiffs in this case, the
25 representatives of the estate of Mr. Stewart, did anything

TESTIMONY OF JIM DOHERTY

1 wrong when they did not have an autopsy done of Mr. Stewart to
2 discover what it was argued they should have discovered about
3 the cause of his death? Is that what you are asking, Mr.
4 Jekel.

5 MR. JEKEL: Yes. I just want to make sure I have SCAPA's
6 position on it.

7 THE COURT: You don't need to preach to him or argue to
8 him, that's what the question is. So can you answer that
9 question?

10 A I don't believe I can give an informed answer about an
11 autopsy.

12 THE COURT: Do you understand why that question is being
13 asked? An autopsy would discover the details of the cause of
14 his death. The arguments have been made that the family should
15 have used a test to find out the details of his cause of death,
16 that can be done by an autopsy. Are you taking any position on
17 behalf of SCAPA that an autopsy should have been performed?

18 A I think it would be very logical to perform an autopsy to
19 see what the cause of death was.

20 Q Well, I mean, the cause of death from the coroner was
21 mesothelioma. You believe that they still should have gone
22 ahead and had an autopsy done given that his cause of death
23 was mesothelioma?

24 A If the family would have felt that it would be further and
25 an advantage to learning more about why he died as an autopsy.

TESTIMONY OF JIM DOHERTY

1 Q But you don't have an issue with them not further
2 desecrating their dad's body, is that fair?

3 A I could see it either way, I could see both sides.

4 Q Mr. Doherty, you were not present when the SCAPA
5 records were burned in a fire back in 1974, were you?

6 A No, sir.

7 Q Is it true you're a 64 year old man?

8 A I'm 65 now.

9 Q You're four years younger than Mr. Stewart when he was
10 diagnosed with mesothelioma, do you understand that?

11 A Yes, sir.

12 Q And you can't tell the jury anything about what was in
13 those records that were burned back in Waycross, can you?

14 A No. If records were burned in 1974 that was before I
15 worked there and I therefore couldn't tell you anything about
16 it.

17 Q So if there were paper mill complaints about the
18 asbestos fibers, those could have been destroyed, correct?

19 A If there were they could have been destroyed. I have no
20 idea if there ever was, but if there were they could have been
21 destroyed.

22 Q It's true that at no time did SCAPA have a medical
23 director on staff, correct?

24 A Not that I know of.

25 Q And is it also true that you are unaware of any

TESTIMONY OF JIM DOHERTY

1 documents that would suggest that there were discussions
2 between SCAPA and the medical directors at their yarn
3 suppliers?

4 A That is true.

5 Q SCAPA at no time had an industrial hygienist on site
6 when they were manufacturing asbestos containing dryer
7 felts, true?

8 A I believe that SCAPA did not have an industrial hygienist
9 on site when they were manufacturing their products.

10 Q And SCAPA -- you saw no documentation that would
11 indicate SCAPA spoke with industrial hygienists at their
12 yarn suppliers, is that also true?

13 A I never saw documentation that would indicate that SCAPA
14 yarn suppliers pertaining to yarn, don't think they ever spoke
15 to an industrial hygienist either, never saw anything on that
16 either.

17 Q When you were at Philadelphia Textile Institute, did
18 the Asbestos Textile Institute still have its office and
19 laboratory on campus there?

20 A No, they did not, not as far as I know.

21 Q You were aware of the fact at one time they housed
22 their offices in the Philadelphia Textile College?

23 A No. And it was never really a part of our curriculum.

24 Q Asbestos?

25 A When we would go through mineral fibers it might be

TESTIMONY OF JIM DOHERTY

1 mentioned, but it was something that I never picked up on when
2 I was there.

3 Q Are you stating that the Asbestos Textile Institute
4 never did have an office and laboratory at the Philadelphia
5 Textile Institute or that you were unaware of it, sir?
6 Which one?

7 A I'm stating I'm completely unaware of the Asbestos Textile
8 Institute being anywhere.

9 Q You did not conduct an independent review of SCAPA's
10 knowledge of the hazards -- its knowledge as it relates to
11 the hazards of asbestos, have you, going back pre-1974?

12 A Would you repeat the question, please?

13 Q You have not conducted an independent investigation
14 outside of whatever your lawyers may have given you to
15 determine, to talk to people who were there; Mr. Merk, Mr.
16 Furnett, (phonetically) to determine when they knew and when
17 they knew it about the hazards of asbestos; is that true?

18 A That is true. I have not conducted an independent
19 research study outside of what we've done with Hawkins,
20 Parnelle, Thaxton and Young. People at times, of course, in
21 the mill would discuss things like that but there was no
22 independent research study that I did of my own.

23 Q Did you you ever talk to Mr. Merk specifically about
24 what he knew about the hazards of asbestos exposure and when
25 he knew it?

TESTIMONY OF JIM DOHERTY

1 A I did not discuss that with Mr. Merk. The only
2 discussions I had with Mr. Merk were social.

3 Q There was a point in time where SCAPA had categorized
4 asbestos and a non-asbestos replacement as a problem, you're
5 aware of that, are you not?

6 A There was a big problem in replacing asbestos fabric
7 because it was a big part of the market, so I'm sure it was
8 discussed because we needed to find substitutes for the
9 asbestos fabric.

10 Q So the asbestos was a problem, was it not?

11 A Replacing the asbestos was a problem.

12 Q Now, you indicated to the jury that it was the mills
13 that wanted the asbestos in their felts, did I hear that
14 right?

15 A The paper mills would actually purchase the fabrics from
16 SCAPA, so they were the determining factor in what fabric that
17 they would purchase. Sometimes they wanted polyester,
18 sometimes they wanted all cotton, it was a hot position that
19 wore out quickly with hydrolysis and they would request
20 asbestos content.

21 Q Did SCAPA market their felts as asbestos containing?

22 A SCAPA marketed all of their products for dryer fabric,
23 whether it was asbestos containing or not.

24 Q Well, I'm just saying you have a picture of a SCAPA
25 advertisement in your mind that said buy a SCAPA asbestos

TESTIMONY OF JIM DOHERTY

1 containing dryer felt or words to that affect?

2 A SCAPA marketed all of their products. They had a very
3 successful marketing --

4 THE COURT: Mr. Doherty, what you're being asked is
5 whether SCAPA -- you're being asked whether SCAPA advertised
6 the fact that their dryer felts contained asbestos, that's what
7 you're being asked. We know that they market their product, of
8 course, naturally, but what you're being asked is did they
9 market the fact that they contained asbestos.

10 A I think so. I'm not certain of that, I think they would
11 have. They normally would market the most important
12 characteristics of the product.

13 Q I'm sorry. Did you just say you're not sure? I don't
14 want you guessing today so if you're not sure that's a fine
15 answer.

16 A Okay, thank you.

17 Q Are you not sure?

18 A I'm not sure that they marketed asbestos. I would think
19 they did but I don't know.

20 Q Again, if you would limit your answers to just what you
21 know and not what you guess or think, please, thank you.

22 This is Plaintiff's Exhibit 70. And now, you mentioned to
23 the jury that Bowaters wasn't a big client of SCAPA's. Now,
24 this is a document from SCAPA. Now, this again 1962, well
25 before your time there, I'm going to represent to you that

TESTIMONY OF JIM DOHERTY

1 that's a dryer felt on a crane. Do you know where that
2 dryer felt is?

3 A I can't identify it by the picture, but it's a big paper
4 mill and I'll bet you it's Bowaters.

5 Q You anticipate very well, Mr. Doherty, let's just make
6 sure the jury understands it too. On the front cover of
7 this issue is a photograph of a big SCAPA dryer felt, engine
8 position that will occupy on number six news print machine
9 at Bowaters Mill in Cheshire, that's over there in England,
10 isn't it?

11 A Yes, sir.

12 Q So Bowaters was a client of SCAPA Limited as well as
13 SCAPA Waycross, right?

14 A Yes. Bowater was a very prestigious client.

15 Q One that they wanted to put on the front cover of their
16 little magazine, right?

17 A Yes, sir.

18 Q I want to talk about when a mill ordered a plan they
19 would give you -- the jury has seen some information on felt
20 types, and isn't that how the orders went? They would give
21 you a felt type be it a 5175 or 5157, do you know what those
22 numbers mean?

23 A Yes.

24 Q Do either one of those felts contain asbestos?

25 A Could I see the manufacturing record card?

TESTIMONY OF JIM DOHERTY

1 Q Sure. But let's go back to my first question, how did
2 the Mills order the felt by felt type, Scaflo, Scapburn,
3 5175, 9126, whatever the numbers may be, is that how they
4 were ordered?

5 A They could do that if they wished. They normally would do
6 it by the actual name rather than the nomenclature, but they
7 could order it in any way they wished, anything that was best
8 for their machine.

9 Q This is Plaintiff's Exhibit 37. Scaflo 50, is that how
10 they would order it?

11 A Yes.

12 Q Scaflo 50, does that have asbestos in it?

13 A Yes.

14 Q How much?

15 A I don't have the complete -- could you move it up? Let me
16 see some more. I don't have a complete recipe here so I can't
17 give you a percentage of asbestos.

18 Q And you're looking, are you not, at what the weft or
19 the warp yarns were, and that's not on this document, is it?

20 A No. The nomenclature is not on here but the Scaflo was an
21 asbestos product.

22 Q And do you know what the weight per square foot of this
23 yarn is?

24 A No, that's not included there.

25 Q Okay. So you can't tell us whether this felt -- now,

TESTIMONY OF JIM DOHERTY

1 we do know it's 165 feet by just about 20 feet, right? Any
2 idea -- is it fair to say that this felt given that size
3 probably weighs over 1,000 pounds?

4 A It would probably be around six to six and a half ounces a
5 square foot so you could multiply it out.

6 Q Could it be as much as 50 percent asbestos?

7 A Yes. It could be as much as 50 percent asbestos.

8 Q But again Scaflo 50, how would you plant manager who
9 ordered Scaflo 50 know this product contained asbestos?

10 A He would ask for a product that would have good moist heat
11 hydrolysis, and then he would say "I want something that's
12 going to work so I want something with asbestos in it." And
13 the salesman would say, "How about a Scaflo 50, about 50 CFM
14 and that will give you a good drying."

15 Q Let's be clear, you never took an order for a felt sale
16 from Bowaters in Catawba, South Carolina, right?

17 A That's correct.

18 Q So you really can't tell this jury whether a plant man
19 there ever asked for, "I want a felt with asbestos in it,"
20 right?

21 A Not at that particular site but that happened all of the
22 time.

23 Q Again, we're here to talk about Bowater. By the way,
24 have you ever been out there?

25 A I have, yes.

TESTIMONY OF JIM DOHERTY

1 Q Was it operational what you went out there?

2 A Yes, it was many years ago.

3 Q Which machines were operational?

4 A I know it was a huge mill, to tell you the truth when
5 you've been in enough mills in Canada and the U.S. in Europe,
6 they kind of started to run together. But I have been to
7 Bowaters and there was more than one machine running at the
8 time.

9 Q And it's true, is it not, that at no time did SCAPA
10 mark or label either the box that the felt came in or the
11 felt itself as containing asbestos, correct?

12 A That's true, we really didn't feel the need to.

13 Q And it's true that SCAPA never did test its asbestos
14 felts for fiber release for any activity the felt would
15 go -- the felt would undergo while it was actually in the
16 paper mill, the installation, the blow outs, the removal,
17 the disposal; isn't that true?

18 A There was a series of tests -- can I answer the question
19 the best way I know how?

20 Q Can you answer my question?

21 A Would you repeat it?

22 Q Sure. SCAPA never did test its asbestos containing
23 dryer felts for fiber release for all of the activities
24 those felts would undergo at a paper mill including
25 installation, removal, disposal and blow outs.

TESTIMONY OF JIM DOHERTY

1 A No. The tests that we did were primarily of the modulists
2 to make sure it would go on the paper machine and that it
3 wouldn't stretch off. We would do tests for dimensional
4 stability, and we would test the strength, and all of that
5 would apply to running on the paper machine, but we didn't do
6 the specific tests that you just asked for, no.

7 Q So the answer to my question is no, we never did test
8 for that, right?

9 A We didn't test for the things you just asked for.

10 Q In fact, SCAPA never really did test what happens to a
11 felt on installation, did they? Did they conduct in the
12 installation testing of the felts when the guys were
13 actually putting it on the machine?

14 A We did a lot of installations, I don't think it would be
15 called testing though.

16 Q And you have installed a dryer felt before?

17 A I have, yes.

18 Q And sometimes it takes a lot of men, doesn't it?

19 A It does.

20 Q And sometimes you're up all over that felt, that felt
21 is against your body and up against your face, right?

22 A Shouldn't be up against your face but you definitely touch
23 the felts.

24 Q Same on removal?

25 A Same on removal, probably not as difficult to remove as to

TESTIMONY OF JIM DOHERTY

1 install.

2 Q You've never worked as a paper maker at a paper mill,
3 have you?

4 A Never.

5 Q Because the jury has heard from a few paper makers, I
6 just wanted to make sure. Again, SCAPA never provided any
7 work practices for paper makers like Mr. Stewart and Mr.
8 Ward and Mr. Steele to follow when they were working on
9 asbestos containing dryer felts; is that correct?

10 A The work practices that SCAPA would provide would be upon
11 installation, how to install fabrics. If people had questions
12 about how to take the fabric off the machine the sales and
13 service people help with that, so they would train on the
14 machine and how to seam the fabrics also.

15 Q What about just work practices for guys? Do you know
16 if SCAPA provided -- let me rephrase this question. Did
17 SCAPA ever provide recommended work practices for the use
18 and handling of asbestos containing dryer felts?

19 A SCAPA would provide instructions and would have a person
20 there for the installation of the products and that would
21 include the seaming of the products, putting it on the machine,
22 threading it through.

23 Q Is that the extent?

24 A Yes.

25 Q Were you aware that the Asbestos Information

TESTIMONY OF JIM DOHERTY

1 Association around 1975 published a publication on the
2 recommended work practices for the use and handling of
3 asbestos textile products? Were you aware of that?

4 A I've never heard of that, no, sir.

5 Q What recommendations did you give to mills on the
6 removal of asbestos containing dryer felts?

7 A They would normally have to be on a by mill basis
8 pertaining to how the machine was set up. Very often they
9 would take the fabric and they would wrap the fabric in --

10 Q I'm going to let you finish, I just want to make sure
11 as I've asked a specific question, is what recommendations
12 did you provide to mills about the removal of the dryer --
13 of the asbestos containing dryer felts. And if you're
14 answering that question please continue on.

15 A If the fabric was on the machine and we were making a
16 recommendation to remove it from the machine, we very often
17 would make the recommendation that they would put the box
18 behind the machine, and then they would unroll the fabric into
19 the box behind the machine, and then they could dispose of it
20 in a way that they wished at that point in time. Very often
21 people would want to do it in a way that they felt was more
22 convenient and better for them and they would prefer to cut it
23 and let it fall into the basement, and then we would take a
24 look at how we could help them to do it that way. But that was
25 actually their property so we wanted -- and they were the

TESTIMONY OF JIM DOHERTY

1 customer so we wanted to do it the way that would help them the
2 most.

3 Q But if you believed that certain practices should be
4 followed as it relates to your felt to keep people from
5 injuring themselves you would tell them that, right?

6 A We would.

7 Q And this information that you just referenced, the jury
8 has seen a lot of documents and so have I, I didn't see any
9 one of those. Are you aware of a written document that sets
10 forth that procedure that you just gave us?

11 A I'm not sure. I thought there was a written document,
12 maybe there is not, I wouldn't say there is then.

13 Q I bet if there is Mr. Young will have it for us.

14 A Okay.

15 Q I want to talk to you about your yarn supplier at SCAPA
16 yarn suppliers. You would agree with me, would you not,
17 asbestos yarns were a monthly expenditure made by SCAPA from
18 at least 1961 through 1977, maybe even longer, right?

19 A I would agree with that.

20 Q Asbestos yarns were important to SCAPA, correct?

21 A They were.

22 Q I mean, asbestos yarns became so important to SCAPA yet
23 increasingly scarce that SCAPA thought -- they examined
24 making their own production plant, did they not? Were you
25 aware of that?

TESTIMONY OF JIM DOHERTY

1 A I'm unaware that they were considering making their own
2 production plant for asbestos manufacturing.

3 Q You don't deny that fact, though. I mean, we've got
4 some document here, I'm happy to show you.

5 A I'm unaware of that, I don't deny it.

6 Q Now, we've got Johns Manville as a supplier of asbestos
7 yarns to SCAPA, correct?

8 A Yes, I believe so.

9 Q Do you know if that was Johns Manville Canada?

10 A I don't know if it was Canada because I don't remember
11 ever seeing in those days Canadian asbestos yarn coming in, but
12 SCAPA could have bought it from there.

13 Q You really don't know what yarns were coming in to
14 SCAPA Waycross through '77, do you?

15 A I believe the suppliers would have been Uniroyal, that's
16 one of them, and there could have been others too.

17 Q Turner Brothers?

18 A Turner brothers definitely supplied in the U.K. they
19 probably supplied in the U.S. also.

20 MR. JEKEL: This is already in evidence, Your Honor, just
21 making sure we're clear. This is a SCAPA document talking
22 about felts with asbestos and they've got suppliers, let's just
23 make sure we're clear.

24 THE COURT: Which exhibit are you talking about?

25 MR. JEKEL: Your Honor, this was from day one, it's got to

TESTIMONY OF JIM DOHERTY

1 be eight or nine. Your Honor this is Exhibit 6, I apologize.

2 THE COURT: And what is it?

3 MR. JEKEL: Exhibit 6, these are a list of asbestos
4 containing felts and fabrics.

5 Q Plaintiff's Exhibit 6. And I just wanted to make sure
6 we're all -- Turners did supply felts to SCAPA and indeed
7 they stopped using them because Turners was expensive,
8 right.

9 A Yes, sir.

10 Q Thank you. We have to give audible answers if I prompt
11 you for that, I apologize. So we've got Turner Brothers.
12 You know Raybestos Manhattan, yarn supplier for SCAPA?

13 A They were a yarn supplier.

14 Q Asbestos yarn supplier.

15 A I believe they only produced asbestos yarn.

16 Q Amatext?

17 A I have heard of Amatext, yes, sir.

18 Q American Asbestos, were they a supplier for SCAPA?
19 Uniroyal?

20 A Uniroyal, yes, sir.

21 Q Now, y'all talked about Uniroyal providing -- did I
22 hear you correctly, that Uniroyal -- you're aware of
23 information Uniroyal provided to SCAPA on asbestos felts?

24 A Yes, sir, on asbestos yarns, yes, sir.

25 Q Where is that document? Did you bring that with you

TESTIMONY OF JIM DOHERTY

1 today?

2 A I believe we did bring it with us today, yes.

3 Q What did they say?

4 A What happened is the yarn came in through the creel --

5 Q All right. The resin coating, right?

6 A All of the yarn was resin coated, of course, but I'm
7 answering your last question, okay? The yarn came in to be
8 placed on the creel and to be used as weft yarn, and there were
9 actually warnings on them, there was a warning on the box. And
10 so at that time SCAPA contacted them and they said, "That
11 shouldn't have been on your box, that was a mistake, you don't
12 need it because your yarn is incapsulated," and so it went from
13 there thinking it was very safe yarn.

14 Q Are you familiar with a style of asbestos yarn referred
15 to as ZYU 902? Do you know who made that yarn or if it was
16 a yarn that y'all used?

17 A It doesn't ring a bell.

18 Q Well, let me get some document here a second and I'm
19 going to help you refresh your --

20 THE COURT: I tell you what, Mr. Jekel, I'm --

21 MR. JEKEL: Do we need a break?

22 THE COURT: I'm a seeing a little restlessness.

23 MR. JEKEL: We probably have been, I've lost all manner of
24 time, Your Honor.

25 THE COURT: Let's do this, let's take a ten minute break,

TESTIMONY OF JIM DOHERTY

1 members of the jury, and give you a chance to refresh a little
2 bit, everybody can stretch. We'll see you in about ten minutes
3 also.

4 (The jury left the courtroom and a recess was taken.)

5 THE COURT: Are we ready for the jury? All are in place.

6 MR. JEKEL: We are, Your Honor.

7 (The jury returned to the courtroom.)

8 THE COURT: Mr. Jekel, continuation of the cross
9 examination of Mr. Doherty.

10 MR. JEKEL: Thank you, Your Honor.

11 BY MR. JEKEL:

12 Q Before we get into the ZYU yarn, would you agree with
13 me that at any point in time between 1961 and let's say 1977
14 that it would not surprise you that if there was over a
15 million pounds of asbestos yarn back there in Waycross at
16 any given point in time?

17 A I've never thought of it but I don't think it would
18 surprise me.

19 Q All right. Getting back to the -- it was ZYU 902 yarn,
20 this is Plaintiff's Exhibit 71, this is January of 1973.
21 And again, this is on -- would you agree with me that this
22 deals with the ZYU 938 asbestos yarn?

23 A Yes.

24 Q And it notes there that you're purchasing, you being
25 SCAPA -- and this is SCAPA -- I'm sorry, let's make sure

TESTIMONY OF JIM DOHERTY

1 we're clear this is correspondence from SCAPA Waycross to
2 SCAPA Blackburn, right?

3 A I believe so, yes.

4 Q Okay. And I just want to make sure that -- so you and
5 I now agree that ZYU 938 is an asbestos yarn that was used
6 in Waycross that was resin coated, correct?

7 A Let me read it through -- yeah. It says it was resin
8 treated, yes.

9 Q And it's from Turners, right, purchasing resin treated
10 ZYU 938 yarn.

11 A Yes, that's right.

12 Q Do you need to read anymore of that, sir?

13 A I don't believe so.

14 Q I'm just going to ask you about the ZYU resin treated
15 yarn, okay? If you want to read more I'll let you read
16 more, Mr. Doherty. Do you need to read anymore of that?

17 A I would have to know what your question was.

18 Q Well, my question is going to be that isn't it true
19 that even the resin treated Turner Brothers ZYU 938 yarn did
20 in fact during the loom process even the resin coating
21 released respirable asbestos fibers; isn't that true?

22 A I don't believe that's true.

23 Q Okay. This is -- now, this is a Blackburn document,
24 asbestos dust counts -- this is ZYU 902 asbestos in felt
25 type. Do you know if that ZYU was resin treated?

TESTIMONY OF JIM DOHERTY

1 A Could I see more of the memo?

2 Q Sure, sorry.

3 A I'm sorry, I can't see that at all.

4 Q What did you want -- what are you wanting to read, sir?

5 I was just asking you if the yarns -- the resin treated
6 yarns can release fibers, you said no. Doesn't this
7 indicate that there's fiber release in the breathing zone
8 of --

9 A Actually I can't see what you're pointing at, the print is
10 too small, I can't see it.

11 Q Oh, that's fine.

12 THE COURT: It says, "Asbestos dust counts membrane filter
13 tests using seller sampler in the amount specified in the
14 technical note number one measures of air born asbestos dust by
15 the membrane filters method published by the Asbestos Research
16 Council having been given the following results from samples
17 contained at the Sublin (phonetically) Mill. Location: Loom
18 number three, operatives breathing zone ZYU 902 asbestos in
19 felt type YTAN 8374 fibers CC, and then it goes down, keep on
20 going with that. These results are well below two fibers per
21 CC normally accepted by the factory inspectors. It must be
22 born in mind, however, that on this felt type asbestos is used
23 on the face side only, 153 being asbestos. In spite of this
24 count in the ambient atmosphere to give no cause for concern
25 with all asbestos weft felts." He's asking you whether, first

TESTIMONY OF JIM DOHERTY

1 of all, that there's an indication that there was some asbestos
2 released by these resin coated fibers.

3 THE WITNESS: Yes.

4 THE COURT: That seems to indicate so, does it not?

5 THE WITNESS: Yes, sir, it does.

6 THE COURT: All right. No need to tangle with something
7 in the thing. If he's asking something outside of that going
8 forward --

9 MR. JEKEL: No, that's was it, Your Honor.

10 THE COURT: Is that what you are asking?

11 MR. JEKEL: That was and he answered the question.

12 Q Do you have any knowledge of how many of the yarn
13 suppliers that SCAPA was getting yarn from were at the 1964
14 conference in New York City on the biological effects of
15 asbestos?

16 A I don't know who was at the 1964 conference.

17 Q Did you see any information from SCAPA that it asked
18 Turner Brothers what happened at the 1964 asbestos
19 conference?

20 A I don't know if SCAPA asked them anything about the 1964
21 conference.

22 Q Are you familiar with the Western Michigan pilot study?

23 A I believe I am.

24 Q Can you tell the jury how much SCAPA paid for that
25 study?

TESTIMONY OF JIM DOHERTY

- 1 A I don't know how much SCAPA paid.
- 2 Q Were you involved in that at all?
- 3 A I was not.
- 4 Q Do you have any knowledge of SCAPA investigating
5 whether a minimum machine ventilation could -- paper
6 ventilation in the hoods that we saw earlier, did they
7 investigate whether that ventilation could remove from the
8 air asbestos fibers released from a felt on the machine
9 making paper?
- 10 A I don't believe SCAPA ever did any investigation into the
11 evacuation of the dryer section in a paper mill.
- 12 Q And let's be clear, there are activities that paper
13 makers engage in with dryer felts when the machine is not
14 running, right?
- 15 A They could if they wished.
- 16 Q Well, I mean they have to put on the felts, you're not
17 going to put on a felt when the machine is running, are you?
- 18 A True. And there are down times when the dryers are pulled
19 and they could do something with them if they wished.
- 20 Q Okay. Now, I wanted to ask you, we talked a little
21 bit, or you talked a little bit about cleaning felts
22 earlier. Now, I heard a lot of testimony about how these
23 dryer felts, there's pulp, there's tar, there's all of this
24 build-up on these felts. Wouldn't that affect the ability
25 of the dryer felt to help dry the paper on the dryer end if

TESTIMONY OF JIM DOHERTY

1 these felts are caked with all of this other stuff?

2 A It does, and very often that's the reason for a dryer felt
3 removal.

4 Q But that's not really how they're intended. If the
5 paper man like you say wants to keep that machine running
6 and making paper and making good paper, he's going to want
7 those felts clean, right?

8 A Yes. He would like to keep them clean and keep them
9 running as long as he could to prevent down time.

10 Q And if those felts are clean they'll run longer, won't
11 they?

12 A In most instances they would like them clean so they'll
13 run longer, yes.

14 Q I want to make sure we're clear too, there are such
15 things as wet felts, right?

16 A There are press felts as we discussed in the press section
17 of the paper machine.

18 Q And those are more likely to be wet rugs as well,
19 right?

20 A They are also wet rugs.

21 Q Now, the jury has heard from at least three paper
22 makers during this trial and I find it interesting that not
23 a one of them mentioned that a dryer felt acted as a wet
24 rug. Were you aware of that?

25 A I'm not aware of the previous testimony in this trial.

TESTIMONY OF JIM DOHERTY

1 Q Have you ever seen resin coated asbestos yarn under a
2 microscope?

3 A I don't think I have.

4 Q But now your testimony was that SCAPA wanted asbestos
5 because of the hydrolysis, right?

6 A The paper maker wanted the asbestos fibers because of
7 hydrolysis.

8 Q The paper maker wanted the hydrolysis, SCAPA put the
9 asbestos in the felt, didn't they?

10 A No. The paper maker wanted to avoid hydrolysis.

11 Q Okay. And the asbestos helped, that's it. So SCAPA
12 put the asbestos in the felt to assist in avoiding
13 hydrolysis.

14 A Correct.

15 Q I apologize on that, sir. So asbestos -- or I'm sorry,
16 so SCAPA did have to know something about the properties,
17 the physical properties and the chemical properties of
18 asbestos, correct?

19 A I'm sure they knew something about the physical and
20 chemical properties of asbestos.

21 Q Well, are you aware of the fact that chrysotile by its
22 very nature is such that it continues to break down into
23 smaller and littler and littler fibers, were you aware of
24 that?

25 A I'm not aware of that.

TESTIMONY OF JIM DOHERTY

1 Q So you never tested whether the resins would be
2 affected after there was a breakdown in the chrysotile
3 asbestos; is that true?

4 A I never tested for that, no.

5 Q Now, with regard to the resins, I want to be clear
6 here, is it true that the yarns were treated by the
7 suppliers of the resin to try to assist in the reduction of
8 asbestos dust during the manufacturing or production of the
9 felt in the Waycross facility?

10 A The yarns were treated with a resin because the asbestos
11 yarns were so weak that it could -- the weave department to
12 manufacturer the fabrics to move it on to the resin process.

13 Q It was never designed, those resins, to withstand the
14 heat, the humidity, the acid of the paper making machine,
15 was it?

16 A No. We had treatments that would help with that.

17 Q So the first resin that we talk about was really a
18 resin designed to assist in the manufacture, the weaving of
19 the felt, true?

20 A To process the felt through the whole process, yes.

21 Q And that was never really tested to determine if it
22 would withstand the rigors of the paper machine and that
23 process, correct?

24 A Correct.

25 Q All right. And then there was a second resin applied

TESTIMONY OF JIM DOHERTY

1 to a completed felt that was designed to help with the
2 dimensional stability, correct?

3 A Correct, and to provide some other stabilities too.

4 Q Now, that resin was never tested specifically to
5 determine if it would stay on the felt after the rigors of
6 the paper machine, was it, or are you aware of it?

7 A Would you repeat that question?

8 Q Sure. Are you aware of any SCAPA testing of what I'm
9 going to refer to as the dimensional stability resin to
10 determine how long that -- if it would at all withstand the
11 rigors of the paper machine process; the acid, the water,
12 the heat, the humidity, the moving through the dryer cans?

13 A No. When it came back we could take a look at it but we
14 didn't test it at that point to see anything. As far as the
15 resin goes we tested the entire sample but not the resin.

16 Q Well now, when you came on to SCAPA in 1990 they
17 weren't returning asbestos felts then, were they?

18 A Not asbestos felts, no.

19 Q Does SCAPA have any asbestos felts in its warehouse
20 down there somewhere?

21 A No, I don't think so.

22 Q Did you investigate that?

23 A We looked a long time ago.

24 Q Really? You all didn't get some felts back recently
25 that you're aware of?

TESTIMONY OF JIM DOHERTY

1 A No. Not that I'm aware of, no, sir.

2 Q Fair enough. You mentioned that the drying starts
3 really in the press section, the drying of paper starts in
4 the press section.

5 A In the forming section and it begins to drain and then it
6 goes to the press section.

7 Q And even during the press section maybe 20 percent of
8 the water is removed, ten to 15 percent of water is removed.

9 A About that way, somewhere in there.

10 Q And then by the time it hits that fourth dryer section,
11 isn't it true that about 90, maybe even more than 90 percent
12 of moisture is removed from the water about the fourth
13 section?

14 A It would depend on the machine but I think that's a good
15 generalization, yes, sir.

16 Q Is it also a good generalization that the asbestos
17 containing dryer felts in the fourth section would never be
18 wet rugs to use your vernacular?

19 A It still continued to pick up the moisture.

20 Q But would they be wet rugs?

21 A They might not be as wet as the third section but they
22 would still be wet.

23 Q So when felts came back I've seen reports written up by
24 folks when they come back to the manufacturer and they write
25 up a report, I didn't see any reports in the SCAPA files

TESTIMONY OF JIM DOHERTY

1 that I've reviewed where they examined the moisture in this
2 wet rug when it was returned from a mill. Did you see any
3 of that?

4 A In dryer fabrics when they were returned there was never a
5 reason to actually check with a moisture meter or check the
6 moisture content, it's just a piece of wet fabric.

7 Q Now again, at SCAPA you never had the pleasure of
8 getting a return asbestos containing dryer felt, right?

9 A That's correct.

10 Q All right. So as it relates to what SCAPA felts were
11 when they came back from a mill prior to 1990 you couldn't
12 tell us really anything about that unless there was a
13 document, correct?

14 A Correct. But I'm sure they were no different than any
15 other felts, no, sir.

16 Q Okay. Well, tell me what study you've done to make
17 that conclusion, sir?

18 A You could just put your hand on a returned fabric and it's
19 wet.

20 Q Right. But how do you know that SCAPA's were the same?
21 What investigation have you personally done to come in here
22 and tell this jury that when felts are removed they stay wet
23 for a month?

24 A I worked in the industry for years and years and that's
25 how felts were returned.

TESTIMONY OF JIM DOHERTY

1 Q No documentation on that, do you? There's not a
2 document that I will be able to see here that talks about
3 that, is there?

4 A Just touching it.

5 Q Just you.

6 A Or anybody else.

7 Q Well, they've heard from the paper maker. All right.
8 I'll move on. You would agree that all felts are capable of
9 deterioration, correct?

10 A Yes.

11 Q And the lack of strength in the asbestos fibers made
12 them more likely to break, yes?

13 A I can't answer that, I don't know that. But I mean, they
14 were carrier fibers and acrylic and --

15 Q You've answered my question, thank you. SCAPA never
16 tested its asbestos containing dryer felts for fiber release
17 during the removal and disposal process, did they?

18 A No.

19 Q Have you ever seen any SCAPA document saying there was
20 no asbestos fiber release from an asbestos containing dryer
21 felt during operation and use including installation and
22 removal?

23 A No.

24 Q Have you seen any documentation where SCAPA
25 investigated whether chrysotile asbestos could cause or not

TESTIMONY OF JIM DOHERTY

1 cause mesothelioma.

2 A I have not seen that documentation.

3 Q And SCAPA to your knowledge has not engaged in any
4 research on the health affects of chrysotile asbestos,
5 correct?

6 A That's correct.

7 MR. JEKEL: Thank you very much.

8 THE COURT: Mr. Jekel, does that complete your cross
9 examination?

10 MR. JEKEL: Yes, it does, Your Honor.

11 THE COURT: Very good. In reply, Mr. Young?

12 REDIRECT EXAMINATION

13 BY MR. YOUNG:

14 Q Mr. Doherty, we'll get you out of here. So we heard
15 about the 1974 document whatever destruction or burning in
16 Waycross, do you remember that?

17 A Yes, sir.

18 Q In the Mastercards that you looked at for this case
19 showing asbestos containing felts that were sent to Bowater,
20 a number of them were earlier than 1974; is that fair?

21 A That's fair.

22 Q So those weren't destroyed.

23 A No, they weren't.

24 Q And this thing about the felts coming back, you saw a
25 lot of the felts that came back, asbestos containing felts

TESTIMONY OF JIM DOHERTY

1 in Albany, right?

2 A Yes. And I saw a lot of non-asbestos felts coming back
3 from Albany.

4 Q And you now based on your investigation know that they
5 were made in a very similar fashion to the SCAPA felts.

6 A Yes, sir.

7 Q And used the same way at the paper mill.

8 A Yes, they were.

9 Q And was there any indication when they came back that
10 they were all, whatever, yarns had broken up and dispersed
11 and just going everywhere?

12 A No, sir.

13 Q They looked basically like they did when they left
14 except they had stuff on them?

15 A They were dirty and dumped up, yes, sir.

16 MR. YOUNG: Thank you, sir, thank you, Your Honor.

17 THE COURT: Very good. You may come down, Mr. Doherty.
18 Thank you for your testimony, sir.

19 MR. YOUNG: Judge, may Mr. Doherty be excused?

20 THE COURT: He may.

21 MR. YOUNG: Judge, I may or may not get yelled at, that
22 was the only witness we have for today so we don't have
23 anything else to do.

24 THE COURT: Okay. All right. Ladies and gentlemen of the
25 jury, I'm going to let you go at this time, let's talk a little

1 bit about scheduling. As you know we will not be trying the
2 case Monday and Tuesday, we will commence again Wednesday, I
3 would like to get started early, so what was 8:30 like for
4 y'all, was that difficult? Is everybody peaceful with 8:30?
5 That would be good for us then, we will start at 8:30 on
6 Wednesday, and 8:45 could work. Very good then, we'll start at
7 8:45. We're going to try our dead level best to finish this
8 case next week. I know I've had one inquiry about an
9 obligation that presents itself for the following week for one
10 of the jurors, we will certainly try to do our dead level best
11 to complete the trial of the case next week, I think we can but
12 don't shoot the messenger, I'm just telling you I think we can.
13 Let me discuss something I discussed earlier, you're going to
14 be on a long break. We really need for to you adhere very
15 strictly to the instructions I've given you about individual
16 research using devices to look up things and it is so tempting
17 to do that but it really will interfere with the integrity of
18 this process we're involved in if you branch out and do any
19 individual research. We are constrained by rules that I don't
20 make anymore, I'm just a trial judge now but I have to go by
21 what the rules of the road are that we can do is consider
22 things that come from the witness box or from the law that is
23 given to you, and so please resist the temptation to try to
24 look up matters and educate yourself. This is as bright and as
25 diverse a jury as I've had the pleasure of being engaged with

1 in a long time and I've at this almost 50 years now. I am
2 extremely impressed with your diversity, with your attention
3 with this trial and with your obvious brightness, but please
4 cooperate with me on that because it's just how we have to run
5 this trial in order to run it in the way that comports with the
6 fairness that the rules dictates. Thank you so much for your
7 cooperation and I will see you next Wednesday.

8 (The jury left the courtroom.)

9 THE COURT: Now, comes the motions that we need to deal
10 with right now and I think we ought to deal with them right now
11 and get them out of the way, then comes the question of when we
12 can expect to get proposed charges to the jury from y'all. I
13 can start working on those Monday and Tuesday so y'all can be
14 ready to go Wednesday.

15 MR. EARLY: How about midday Monday, Your Honor?

16 THE COURT: Yes, that would be perfect. That would give
17 Jamie and I time, we'll probably be emailing back and forth.

18 (Break in proceedings.)

19 MR. YOUNG: Judge, can I ask the Court's indulgence? We
20 were trying to go to the airport, the directed verdict motion,
21 if it is all right with Your Honor we would certainly be
22 willing to just wait until all the evidence is in as long as we
23 don't waive anything and just do --

24 THE COURT: Here's what let's do, let's just --

25 MR. YOUNG: I'm sorry, I know Mr. Jekel is tired.

1 MR. EARLY: I think we need his consent on the record, is
2 it okay, Frits?

3 MR. JEKEL: I consent.

4 THE COURT: I think we need to at least say on the record
5 that the normal motions for a directed verdict, both sides are
6 made and both counsel have consented to regard them as made,
7 denied, on the record and further argument reserved on the
8 issues raised until post-verdict, and that way there's no
9 contention that you haven't raised everything now necessary in
10 order to be able to raise on judgment notwithstanding the
11 verdict and all of those other things. You are totally
12 protected on that because both sides have consented to have
13 this thing now be in the posture where they each made the sorts
14 of motions they needed to make to ask me to direct a verdict
15 for them and I have refused to direct a verdict for the
16 plaintiff or defendant, which puts both parties having
17 consented to do it that way in the position that they have made
18 their motions, they've been denied and they therefore have the
19 predicate, all grounds having been recited to make those
20 motions for JNOV at the appropriate time if they need to.

21 MR. EARLY: Your Honor, for our motion it would be you
22 just denied for the record, I would make a directed motion for
23 all three causes of action; for negligence, strict liability
24 and breach of implied warranty. I understand the Court's
25 ruling and we'll wait to the end -- and it is preserved and if

1 Your Honor says it's preserved I believe it..

2 THE COURT: Exactly. And the same goes true with Mr.
3 Jekel, he would have made similar motions on his side for me to
4 direct a verdict at this time for him on all of those counts,
5 very good. I think we understand each other. Do we feel the
6 record is good and complete as it now stands?

7 MR. JEKEL: I do.

8 MR. YOUNG: Yes, Your Honor.

9 THE COURT: Very good.

10 (Court recessed for the day and resumed on Wednesday,
11 February 7, 2018.)

12 THE COURT: Let me do a couple of housekeeping things.
13 First off, I have gotten the plaintiff's notebook back with
14 respect to the testimony of Dr. Crapo, so my first inquiry is
15 when is he going to testify?

16 MR. EARLY: Tomorrow, Your Honor.

17 THE COURT: Very good. Well, that will give us a chance
18 to discuss further what we're going to discuss further, the
19 qualifications of Dr. Crapo. Have you given defense a
20 notebook?

21 MR. JEKEL: Yes, ma'am.

22 THE COURT: I've a had a chance to scan the contents
23 quickly --

24 MR. EARLY: We just got it, Your Honor.

25 THE COURT: I understand that but we'll talk in more

1 detail about how that is to proceed. Number two, what else
2 have we got by way of any other things that need to be
3 discussed?

4 MR. YOUNG: As far as witnesses go, Your Honor, we've got
5 Dr. Oury who is in the courtroom right here.

6 THE COURT: Yes, I recognize Dr. Oury.

7 MR. EARLY: He will be testifying first, I don't think
8 there's any objection to his -- if there are I don't know it,
9 well there weren't any motions in limine, he is going to
10 testify this morning. Our industrial hygienist, Paul Carlson
11 is here, he's in one of the annex rooms, Your Honor, and he
12 will be testifying after Dr. Oury. And our other plan today
13 was to read in the portions that we designated from Mr.
14 Stewart's workers comp. deposition which should not take very
15 long.

16 THE COURT: Well now, let me just say this, remember that
17 Thursday is the day that I've got to leave court early so I
18 want to use this day as completely as we can, I don't want
19 there to be any gaps today and I want to go a full day.

20 MR. EARLY: That's all we've got and then we've got some
21 legal issues -- it might make sense to talk about the jury
22 charges and all of that this afternoon.

23 MR. JEKEL: If there's time we can do that, Your Honor.

24 THE COURT: Well, let me ask you this, besides Dr. Crapo,
25 what else have you got tomorrow?

1 MR. EARLY: That's it, Your Honor.

2 (Break in proceedings.)

3 MR. JEKEL: And Your Honor, I just want to make sure, we
4 aren't necessarily objecting to Dr. Crapo's qualifications,
5 it's some of the slides in his powerpoint presentation that we
6 believe --

7 THE COURT: I understand, and we'll get to all of that at
8 the appropriate time after they've had the chance to review the
9 notebook. Let's bring them in.

10 (The jury returned to the courtroom.)

11 THE COURT: Ladies and gentlemen of the jury, please be
12 seated and let me have a few words with you. You two jurors in
13 the chairs that are not swiveling correctly, we've had them
14 working on them, and they are still not fixed. But what I have
15 asked the attorneys to do and when they use the podium from
16 here on your side to move it forward a little bit so you all
17 won't be awkward about being able to turn and view what you
18 need to view. Let me know if there are any problems that
19 present themselves about you being able to see what you need to
20 see. Couple of other things scheduling wise, I know there's
21 concern on the part of a couple of jurors about will we finish
22 on Friday, I think I can speak with complete impunity and tell
23 you we will finish by Friday. Here is our schedule as I see
24 it, we have witnesses today for the defense, two experts, then
25 we have a video presentation from another deposition that Mr.

1 Stewart gave, and then we'll be finished for the day and the
2 attorneys and I will then be interacting about charges to the
3 jury and other things that we have to prepare so that we'll be
4 completely ready to go for you. Then tomorrow our schedule --
5 Thursday our schedule is this, there is only one witness
6 remaining for defense, we will then probably have a charge to
7 the jury. I have to leave early for another obligation that
8 I've got at about 3:30. If we are not at a point where we have
9 concluded things at 3:30, I don't think I will be, I think I
10 will probably submit the case to you on Friday, then we'll all
11 be going at that time. And I think what you can probably
12 anticipate is that the case will be submitted to you on Friday
13 for your deliberations, and I believe that you will be able to
14 have adequate time to completely and faithfully discharge your
15 duties and have all the conversation that you need to have and
16 interchange of ideas and come forward with a verdict, so that
17 is the current plan. But if I see any change in that so that
18 there's any possibility that there's any problem with that I
19 will advise with you, of course. So don't be frightened that
20 something is going to be sprung on you at the last minute, we
21 will interchange with each other in detail to be sure that your
22 personal needs are accommodated in this situation. I know this
23 is a tremendous sacrifice to have a two week trial even if we
24 had some breaks in it and I very much understand that and we'll
25 be talking to each other, not to worry. All right, Mr. Young?

1 MR. YOUNG: Yes, Your Honor. At this time defendant SCAPA
2 would call Dr. Tim Oury.

3 The witness, TIM OURY, M.D., was first duly sworn and
4 testified as follows:

5 DIRECT EXAMINATION

6 BY MR. YOUNG:

7 Q Dr. Oury, good morning.

8 A Good morning.

9 Q As you know I'm Lane Young, I'm one of the defense
10 lawyers, correct?

11 A Yes.

12 Q And you know that you are here to tell the ladies and
13 gentlemen of the jury a little bit about, or maybe more than
14 a little bit about Mr. Stewart's illness and what in your
15 opinion caused this.

16 A Yes.

17 Q Would you introduce yourself to the Court and the
18 ladies and gentlemen of the jury, please?

19 A I'm Tim Oury, I have a medical degree and a Ph.D.

20 Q Would you tell the ladies and gentlemen of the jury
21 what kind of doctor you are?

22 A I like to always considered myself a good doctor, but the
23 type of practice that I do is that I'm a pathologist.

24 Q And are there two types of pathologists?

25 A Yes, there's two general types of pathologists. There's

TESTIMONY OF TIM OURY, M.D.

1 an anatomic pathologist and a clinical pathologist, and I'm an
2 anatomic pathologist.

3 Q Tell the ladies and gentlemen of the jury what that is.

4 A So an anatomic pathologist is the pathologist that gets
5 tissue samples to do diagnosis. So if you had a lesion on your
6 skin maybe it would get biopsied by a dermatologist and they
7 would send that to an anatomic pathologist like myself and we
8 would look at that tissue and make a diagnosis; is this an
9 inflammatory condition, is this a skin cancer or what the
10 condition might be. We does it for any kind of issue, lung
11 tissues are my specialty.

12 Q So you would actually look at tissue from the patient
13 to assist you in determining what disease a patient has and
14 what may have caused it?

15 A Yes.

16 Q How long have you been a pathologist?

17 A I've been practicing pathology since 1998, I began my
18 training in residency pathology in 1994.

19 Q How much of that time have you been involved in the
20 diagnosis and determining the causation of asbestos related
21 diseases?

22 A For my whole time as a pathologist.

23 Q And is that sort of a subspecialty of yours?

24 A So during my residency I also did a pulmonary pathology
25 fellowship with Dr. Victor Roggli, one of the premier

TESTIMONY OF TIM OURY, M.D.

1 pathologists associated with asbestos associated diseases. So
2 during my residency is actually when I started focusing on
3 asbestos associated --

4 Q We're going to talk about that. Was that at Duke?

5 A Yes, that was at Duke University.

6 Q All right.

7 MR. YOUNG: May I approach, Your Honor?

8 THE COURT: You may.

9 Q Dr. Oury, I have marked your CV -- or the court
10 reporter has marked your CV as Defendant's Exhibit 8. Do
11 you recognize that as a true and correct copy of your
12 curriculum vitae?

13 A Yes.

14 Q Does it accurately reflect your educational background,
15 your experiences, your publications and your -- the work
16 you've done at least generally but with respect to asbestos
17 related diseases?

18 A Yes.

19 MR. YOUNG: Your Honor, we would tender Defendant's
20 Exhibit 8.

21 THE COURT: Without objection?

22 MR. JEKEL: No objection.

23 THE COURT: Admitted.

24 (The CV was received as Defendant's 8.)

25 Q Are you a licensed medical doctor?

TESTIMONY OF TIM OURY, M.D.

1 A Yes, I am.

2 Q Where?

3 A I am licensed to practice medicine in the State of
4 Pennsylvania as well as the State of North Carolina.

5 Q And have your licenses ever lapsed?

6 A No.

7 Q And how long have you been a licensed medical doctor?

8 A I got my original license to practice in North Carolina in
9 1997, and then when I moved to the University of Pittsburg at
10 that time I got my license to practice in Pennsylvania in 1998.

11 Q Are you married?

12 A Yes.

13 Q Do you have any children?

14 A Two children.

15 Q Can you give the ladies and gentlemen of the jury a
16 little bit of your educational background?

17 A So I grew up in the State of Indiana and I went to Purdue
18 University and got my Bachelor's Degree in Biochemistry at
19 Purdue. Once I graduated from Purdue University -- well, my
20 last year at Purdue University I applied for medical school,
21 got accepted to Duke University's medical scientist training
22 program which is a combined M.D. Ph.D program, so you get your
23 medical degree as well as doing your graduate work to get a
24 Ph.D. And that's sponsored by the National Institute of
25 Health, so that's a big honor to get that type of appointment.

TESTIMONY OF TIM OURY, M.D.

1 So I then went to Duke University and started medical school.
2 And the way the M.D. Ph.D program works is that you go the
3 first two years of medical school, and then you leave medical
4 school and go to graduate school. So then after my first year
5 of medical school I started my graduate training with Dr. James
6 Crapo at Duke University in the graduate program of pathology
7 and biochemistry and did my graduate work with him studying
8 oxidated stress and lung disease. And once I defended my
9 thesis, got my Ph.D, it was around 1993, I then returned to
10 finish medical school and got my medical degree in 1994. And
11 once I finished my medical degree I stayed on at Duke and
12 entered the residency training programming at Duke University
13 in anatomical pathology, that's where I got my board in that
14 tissue diagnostic aspect of pathology. And during that
15 residency I did many things as well. I continued to do
16 research on lung disease as well as a fellowship in pulmonary
17 pathology with Dr. Roggli, and by the time I got all of my
18 fellowship training and residency training done, that was 1998
19 when I then moved to take on my first position as a pathologist
20 at the University of Pittsburg as an assistant professor and
21 have been there since 1998 and am now a full professor of
22 pathology at the University of Pittsburg.

23 Q Is Dr. Roggli in your opinion someone that's
24 knowledgeable in the area of asbestos related diseases and
25 their cause?

TESTIMONY OF TIM OURY, M.D.

1 A Yes. Dr. Roggli is who I did that pulmonary fellowship
2 with, and he's very knowledgeable about asbestos related
3 diseases.

4 Q Did he write a book about that?

5 A Yes. He wrote a textbook on the pathology of asbestos
6 associated diseases, and I got the honor of then being editor
7 on the second and third editions as well. So he wrote the
8 original textbook on pathology of asbestos related diseases.

9 Q Do medical students use that book?

10 A Yes, they can.

11 Q And tell the ladies and gentlemen of the jury, do you
12 have any positions at the University of Pittsburgh?

13 A Well, I'm a full professor and I'm on faculty in the
14 division of molecular and geno-pathology, it's really cool but
15 I don't think we need to discuss that here. But I'm also the
16 director of a training program called pathologists investigator
17 residency training where we integrate research into the
18 residents' clinical training as well so we could continue to
19 produce good physician scientists in the department of
20 pathology. I'm on admissions committees for medical scientist
21 training program, that M.D. Ph.d program I got into at Duke, we
22 have the same program at the University of Pittsburgh and I'm on
23 the committee for that. I do other things. I'm on the
24 graduate faculty.

25 Q Do you teach?

TESTIMONY OF TIM OURY, M.D.

1 A I teach, yeah. I teach multiple levels of individuals. I
2 teach medical students, I teach graduate students, I have
3 actually taught some undergraduates. I've even had a high
4 school student in my laboratory that I have taught as well, but
5 I teach all levels of student training.

6 Q And does part of that involve asbestos related diseases
7 through diagnosis and causation?

8 A Yes.

9 Q Would you tell the ladies and gentlemen of the jury,
10 have you received any government or private grants with the
11 study of disease?

12 A Yeah. I've received grants from the National Institute of
13 Health, I've received grants from the American Heart
14 Association, I've received grants from the American Lung
15 Association.

16 Q Do those have anything to do with litigation?

17 A No.

18 Q Are you working on any projects right now at the
19 University of Pittsburg?

20 A Yes.

21 Q Tell the ladies and gentlemen of the jury a little bit
22 about that.

23 A So my main focus has been on interstitial lung disease
24 which is a disease that causes scarring of the lungs. But more
25 recently we discovered a very interesting protein in the lung,

TESTIMONY OF TIM OURY, M.D.

1 it has got a neat name too, it's called Receptor for Advanced
2 Glycation Endproducts, abbreviated RAGE, so it's sort of a fun
3 protein to talk about. And we've found that this protein has
4 very important functions in promotion as well as preventing
5 scarring in the lung, but more interestingly we found that this
6 protein is absolutely required for people to get allergic
7 asthma, so we now have a really exciting target that we think
8 we can exploit to prevent allergic asthma or to treat allergic
9 asthma in the future. So that's -- I get excited, I can talk
10 to you for five hours about that but I'll stop.

11 Q Is interstitial lung disease, is asbestosis a type of
12 interstitial lung disease?

13 A Yeah. So asbestosis, I think you've already learned about
14 the cancer, mesothelioma, but another disease that asbestos
15 causes is a scarring disease of the lung called asbestosis.
16 And so that's an interstitial lung disease and that's been a
17 big focus of research in my laboratory is how asbestos causes
18 that scarring.

19 Q Are you actually involved in the care and treatment of
20 patients at the University of Pittsburgh?

21 A So my role is a pathologist so I don't directly treat
22 patients, but I diagnose tissues from patients, and those
23 diagnosis are then utilized to help in the treatment and
24 management of patients.

25 Q Doctor -- and you are not an epidemiologist; is that

TESTIMONY OF TIM OURY, M.D.

1 right?

2 A That's correct.

3 Q Do you rely on epidemiology with respect to your
4 investigation of asbestos, diagnosis of asbestos and the
5 causation of asbestos disease?

6 A Yes, I do rely on epidemiology.

7 Q Can you tell the ladies and gentlemen of the jury
8 briefly what epidemiology is?

9 A So epidemiology is sort of the study -- it's studies to
10 try to make associations as to whether or not certain things
11 are actually associated with disease pathogens. People are
12 still smoking cigarettes and nobody knew it did anything, but
13 an epidemiologist started studying smoking and realized that
14 there was a connection with lung cancer. So they did very
15 rigorous studies to prove actually that smoking was the primary
16 cause of lung cancer, so that's sort of a classic example of
17 epidemiology. But there's been many epidemiologic studies
18 involved in asbestos working as well. Dr. Selikoff discovered
19 that exposure to high levels of asbestos with insulating
20 asbestos was actually causing mesothelioma so that's how we
21 started learning that asbestos was actually associated and
22 causing the disease mesothelioma. So these epidemiologists
23 will look -- somebody will see that there's an association,
24 "Hey, this person worked with this and they've got this
25 disease, I wonder if there's a link." So that's sort of the

TESTIMONY OF TIM OURY, M.D.

1 first step. And an epidemiologist will then design a study to
2 directly test the hypothesis, is that just a chance association
3 or is there a real direct association with exposure and
4 disease.

5 Q Did Dr. Selikoff actually do an epidemiological study
6 of a large number of insulators that worked with thermal
7 insulation?

8 A Yes.

9 Q And did he conclude that there was a connection between
10 thermal insulation and asbestos diseases like mesothelioma?

11 A Yes. He showed very conclusively that working with
12 thermal insulation is a direct cause of mesothelioma and this
13 occupation.

14 Q To your knowledge has there ever been any sort of study
15 that indicated that working with dryer felts increased the
16 incidents of mesothelioma?

17 A No.

18 Q Now, Doctor, you're charging for your time today?

19 A Yes.

20 Q And how much is that?

21 A So I charge \$600 an hour or a maximum of \$6,000 for a full
22 day.

23 Q And are you going to donate that money to the
24 University of Pittsburgh?

25 A So I'm going to ask that -- when I write my invoice to pay

TESTIMONY OF TIM OURY, M.D.

1 for the time I will ask that it be paid not to me but directly
2 to the donation to the University of Pittsburg.

3 Q And will that go to help study disease and things like
4 that?

5 A Yes.

6 MR. YOUNG: Your Honor, we would tender Dr. Oury as an
7 expert in the area of the diagnosis and causation of asbestos
8 related diseases?

9 THE COURT: Counsel.

10 MR. GRAHAM: Diagnosis but we object for the record as to
11 the other part.

12 THE COURT: Mr. Graham, I couldn't hear you, is your
13 microphone on?

14 MR. GRAHAM: It is not. Your Honor, we have no objection
15 with regard to the diagnosis, we object as to the causation for
16 the record.

17 THE COURT: Causation as to Mr. Stewart?

18 MR. GRAHAM: Yes, Your Honor.

19 THE COURT: Counsel, you may wish to lay some further
20 foundation with respect to Mr. Stewart, I haven't heard that.
21 I certainly have had enough to be able to find that Dr. Oury by
22 means of his education, training and experience is an expert in
23 anatomic pathology and in the pathology of asbestos disease, no
24 problems with that, I just have not heard anything yet with
25 respect to his knowledge of medical records of Mr. Stewart or

TESTIMONY OF TIM OURY, M.D.

1 any of the pathology or anything in that regard. Are you going
2 to qualify --

3 MR. YOUNG: Yes, I planned to do that. But the tender was
4 really as to the causation of asbestos related diseases
5 generally at this point.

6 THE COURT: All right. Mr. Graham?

7 MR. GRAHAM: As to general causation we would renew or
8 objection for the record, but otherwise --

9 THE COURT: Very good.

10 MR. YOUNG: Judge, if I might, he said he's been studying
11 causation of asbestos related diseases --

12 THE COURT: Yes. I got his qualification in asbestosis, I
13 have no problem there, I did not hear anything direct about
14 mesothelioma. So right now he's certainly an expert in the
15 area of asbestos diseases and in general issues of causation as
16 it relates to asbestosis, I will reserve on mesothelioma and on
17 Mr. Stewart in particular until further examination.

18 Q Dr. Oury, have you been studying the causes of
19 mesothelioma essentially your entire medical career?

20 A Since I began my training with Dr. Roggli, yes.

21 Q That's something that you've done as a part of your
22 clinical work; is that right?

23 A Yes.

24 Q And how many times have you given an opinion as to the
25 cause of mesothelioma in a particular individual during your

TESTIMONY OF TIM OURY, M.D.

1 career?

2 A Just in general probably thousands of times, in litigation
3 actual testimony well over 100.

4 MR. YOUNG: Judge, we would renew our motion to have
5 him --

6 THE COURT: Let me ask Dr. Oury a couple of questions.
7 Dr. Oury, have you diagnosed specific patients with specific
8 pathology related to specific patients with mesothelioma and
9 expressed opinions about the cause of specific patient
10 mesothelioma?

11 THE WITNESS: Yes, I have.

12 THE COURT: All right. Have you done any examination of
13 the pathology or records with respect to Mr. Stewart
14 specifically?

15 THE WITNESS: I have looked at Mr. Stewart's pathology.

16 THE COURT: All right. Have you gotten slides of his
17 pathology or just read notes, or tell me something about what
18 you've done in that regard.

19 THE WITNESS: Yes. I've actually gotten diagnostic slides
20 of pathology from Mr. Stewart and I looked at those.

21 THE COURT: Very good. I will overrule the objection and
22 find that Dr. Oury is an expert qualified to discuss opinions
23 with respect to mesothelioma and that he may testify about Mr.
24 Stewart subject to what verbally transpires in terms of the
25 depth at which he has examined Mr. Stewart's medical

TESTIMONY OF TIM OURY, M.D.

1 information.

2 MR. YOUNG: Yes, Your Honor, we're going to go into that
3 in detail.

4 THE COURT: Very good.

5 Q I want to ask you some general questions before we get
6 to Mr. Stewart, is that okay?

7 A Sure.

8 Q Can you tell the ladies and gentlemen of the jury the
9 nine things that have to happen before -- or the number of
10 things that have to happen before asbestos can cause disease
11 in an individual?

12 A I don't know about numbering them, but first you have to
13 be generally occupationally exposed. There can be other types
14 of exposures to asbestos but you have to be working with a
15 product that generally contains asbestos, and if there's no
16 asbestos you're not going to get exposed. While working with
17 the asbestos product or near it or around it, however you want
18 to put it, the asbestos has to be released from the product and
19 get into the breathing zone of an individual that -- any
20 individual that may then get the disease. So once it gets into
21 the breathing zone the individual actually has to breath those
22 asbestos fibers in, and they actually have to have enough
23 asbestos fibers breathed in to get past all of our defenses.
24 We've got the breathing through our nose, we've got the air
25 zone, we've mucociliary clearance, we have our trachea and

TESTIMONY OF TIM OURY, M.D.

1 bronchi that can trap particulates and fibers. So they have to
2 get past all of those defenses, not to mention that every time
3 that the bronchi branches the fiber is plugged up against the
4 side of the bronchi and it then becomes clear and they have to
5 have enough fibers that they're actually breathing as it gets
6 past all of those defenses and then down into the breathing
7 area of the lung, and then that's not --

8 Q Dr. Oury, let me interrupt you for a second. I want
9 you to focus right now on chrysotile. What percentage of
10 the chrysotile is breathed in by anyone that actually makes
11 it down here to the bottom of the lungs?

12 A So we haven't talked about the different types of asbestos
13 but I can specifically talk about chrysotile. I want to talk
14 about amphibole asbestos, which is the main one used in our
15 country is amosite, there's a big difference. So in order to
16 actually get a fiber or the particulate down into the breathing
17 area of your lung past those big tubes, those airways and in
18 the breathing areas in the lung fibers and particulates have to
19 have a narrow diameter of three microns or less, so it's very,
20 very small. And so these fibers can be ten, 20, 30 microns
21 long, but when you look at them head on they're less than a
22 micron. But the difference in amphibole and chrysotile is
23 amphibole is straight. So that diameter is whatever the
24 diameter fiber is in the amphibole, whether it's .1 micron, one
25 micron, that all can go right down into the alveolar peritoneal

TESTIMONY OF TIM OURY, M.D.

1 because it has the aerodynamic diameter of the fiber.

2 Chrysotile -- so amphibole is straight like this, chrysotile is
3 bent. So now you have a long chrysotile fiber that bends so
4 its aerodynamic diameter is now thicker. So it's a lot harder
5 for chrysotile to actually get down into a alveolar peritoneal
6 because of that curvature in the fiber so it's no longer just
7 the end of the thing, it's whatever the curvature is.

8 Q Is chrysotile more likely to get caught at the turn
9 here and get in the mucociliary escalator?

10 A It's more likely to get caught all along the pathways.
11 The first tube is the trachea, it branches into the smaller
12 tube bronchi, then smaller and smaller and smaller, so as you
13 keep going down those branches in that big airway it's much
14 more likely to get filtered out compared to a straight
15 amphibole fiber.

16 Q Tell the ladies and gentlemen of the jury just a little
17 bit about the mucociliary escalator and how it prevents dust
18 like chrysotile from getting to the bottom of the lungs.

19 A So the mucociliary clearance is that trachea and bronchi,
20 those are the major airways before you get to the alveolar
21 where the gas exchange have epithelial cells that release fluid
22 and mucous and they have the cilia, little hair like things
23 coming out of the surface of that cell. So if this is the
24 cell, my hand is a cell it has on the surface these little
25 cilia, lots of them, thousands. And so it particulates more

TESTIMONY OF TIM OURY, M.D.

1 fibers when they hit that mucous lining, they stick there and
2 then the cilia brush them back up and out of the lungs so they
3 get back to the throat and you swallow them, you swallow them
4 or I guess you could spit them out. Most people are not
5 spitting all the time so generally most are swallowing them, so
6 that gets rid of most of things we breath in. So we're
7 breathing in articulates all the time, so thank goodness we
8 have very good defenses to keep those particulates from getting
9 anywhere where they'll cause a problem.

10 Q So tell the ladies and gentlemen of the jury the
11 percentage of chrysotile in your opinion as a medical doctor
12 and pathologist that actually gets past all of that?

13 A So with very low levels of exposure probably none would
14 get there. If someone is breathing very high levels it's still
15 going to be a very small percent of those fibers that would
16 actually get there, a low percentage, I don't know if it would
17 be a whole percent, might be a fraction of a percent.

18 Q And we'll get to this in more detail in a minute. But
19 Dr. Oury, in order for chrysotile to cause mesothelioma, do
20 you have to have large significant exposures?

21 A For chrysotile to cause mesothelioma, yes, you need to
22 have very, very heavy exposures for it to contribute to
23 mesothelioma.

24 Q Can you give the ladies and gentlemen of the jury your
25 opinion as to how much?

TESTIMONY OF TIM OURY, M.D.

1 A So exposures are -- I don't know if you've gotten this
2 kind of stuff before, but exposures are generally considered in
3 fibers per CC, so how many fibers are in the air. So if
4 there's -- a CC is a millimeter, very small, if that volume is
5 maybe a milliliter, so a milliliter of air would have how many
6 fibers in it? And when you calculate exposures you say, well,
7 how many fibers are in a milliliter of air and then how many
8 fibers would that be over an eight hour workday, they call it
9 an eight hour average. And then you say, okay. Well, how many
10 years did you get exposed to that number of fibers and you
11 calculate these fiber years. So if you had one fiber -- so if
12 an air sample had one fiber per CC eight hour time period
13 average that means that they're going to be breathing in --
14 every milliliter of air they breath in they'll get a fiber that
15 will be one fiber per CC. Say they've worked at that condition
16 for ten years, so one CC, eight hour time average for ten
17 years, they got ten fibers years of exposure. So for
18 chrysotile Churg has published -- Dr. Churg is an expert in
19 surgeries -- asbestos causing diseases and he has estimated
20 that for chrysotile you need around 100 fiber years of exposure
21 to chrysotile before you're going to be at elevated risk of
22 mesothelioma. So you would have to breath one fiber per CC
23 eight hour time window for is 100 years, or ten fibers per CC
24 eight hour average for ten years, or 100 fibers per CC for one
25 year, so to give you an example, or multiple examples, sorry.

TESTIMONY OF TIM OURY, M.D.

1 Q So Dr. Oury, tell the ladies and gentlemen of the jury
2 just briefly, what is asbestos?

3 A So asbestos is sort of a commercial term for these
4 mineralized fibers that are naturally occurring fibers that are
5 in rocks, that have certain properties. So they're fibers --
6 they are not just blobs of material, they actually make these
7 long fibers, and their basic backbone constituent is silicate
8 fibers, and commercially -- it's a commercial term for how
9 strong they are, how heat resistant they are. So there's many
10 different types of things that have been called asbestos, but
11 not every type of asbestos is different in terms of how it
12 might react biologically compared to what it was used for
13 commercially. So even though you have asbestos it's sort of a
14 general term, biologically each type of fiber is actually quite
15 different.

16 Q Is asbestos a mineral?

17 A Yes, it's a mineral.

18 Q And is it fire proof?

19 A Yes.

20 Q Heat resistant?

21 A Yes.

22 Q And is that the reason that people started using heat
23 resistant and fire retardant properties?

24 A That was a major use of it, yes.

25 Q So Dr. Oury, given that it's a mineral, is it correct

TESTIMONY OF TIM OURY, M.D.

1 or incorrect that there is asbestos in the ambient air that
2 folks breath?

3 A Yes. There is natural occurring asbestos in the air.

4 Q And have studies shown that virtually everyone has some
5 level of asbestos in their lungs?

6 A Yes.

7 Q And is that called the background or ambient level?

8 A That's what it's called is the background or ambient level
9 of asbestos that we're all exposed to.

10 Q Does that level of exposure or breathing asbestos cause
11 asbestos related diseases in the general population?

12 A No. There's no evidence to suggest that that background
13 of ambient exposure has any risk containing.

14 Q And is one of the reasons for that the defense
15 mechanisms you've told the ladies and gentlemen of the jury
16 about?

17 A Yes. We are breathing these very low amounts of fibers
18 that are in the ambient air, our defense mechanisms are very
19 capable of handling those low levels.

20 Q Have studies shown there's also asbestos in the water?

21 A Yes, there's asbestos in the water as well.

22 Q How much?

23 A More than the air actually. When it settles down it can
24 accumulate more, it can be tens of thousands of fibers per
25 milliliter of water.

TESTIMONY OF TIM OURY, M.D.

1 Q And is that -- has that been shown to be harmful to
2 anyone?

3 A No.

4 Q Has it been shown to cause disease in humans?

5 A No.

6 Q You talked just a little bit about the different fiber
7 types and you were talking about amphiboles and you were
8 talking about chrysotile. Do you think you have adequately
9 explained the difference to the ladies and gentlemen of the
10 jury?

11 A Well, in terms of the way it looks I have, in term of its
12 biology I don't think I have.

13 Q Okay. Could you do that for us?

14 A So one of the key things when you think about asbestos
15 associate -- people that are interested in asbestos associate
16 disease, which I guess you've had this thrown upon you, are
17 interested in asbestos, one of the things that is very
18 important to understand about asbestos associate disease is
19 that I don't breath in a bunch of asbestos and get disease like
20 that, it takes decades and decades to get the disease. So from
21 the time of exposure to when they -- when a person will get
22 asbestos associated disease, it takes, 20, 30, 40, 50 years.
23 It's a long, long process, and --

24 Q Is that the latency period?

25 A That's what we call latency period, the time from when

TESTIMONY OF TIM OURY, M.D.

1 you're first exposed to the time you actually get the disease,
2 so we're talking decades, it's not short amounts of time, and
3 so bio persistence of fibers become important. You say, "Okay.
4 If I breath in asbestos if it's not going to cause disease for
5 20, 30, 40 or 50 years it's likely going to have to sit around
6 for a long time to be able to do that, if it disappears right
7 away what's the chances of it doing anything?"

8 Q Why is that important in a case involving chrysotile
9 and amphiboles?

10 A So that's why the understanding of what -- they may have
11 certain things that the industry wants for the fiber, fire
12 resistance and whatnot, but what happens when it breaths, now
13 the fibers have different behaviors. So the amphibole, amosite
14 in this country, when you breath amosite into your lung and it
15 accumulates in your lung it will stay there for decades before,
16 so we talked about half life. So what are the half lives of
17 the fiber? For amphibole we're talking ten plus years off half
18 life. So if I breathed in a few 100 amosites, if it got into
19 my lung in ten years, I would have 50, that's a half life. If
20 the half life is ten years you would have 50. So when you
21 breath in amosite and amphiboles they're going to be there for
22 your life. And so if a disease that takes 20, 30, 40 or 50
23 years to happen, a fiber that would stay there for 20, 30, 40
24 or 50 years makes sense that would be a fiber that causes the
25 disease.

TESTIMONY OF TIM OURY, M.D.

1 Q Dr. Oury, just interrupt you here for a second. Dr.
2 Brody told the ladies and gentlemen of the jury that it's
3 the interaction of the fiber with the cells that at least he
4 believes starts the cancer process. I don't know if you
5 agree with that or don't agree with that, but is the fact
6 that amphiboles stay in the body so much longer, is that one
7 of the reasons that you believe that they're more likely to
8 cause mesothelioma?

9 A Right. Because they're there and being able to interact
10 with cells for a very, very long period of time, it takes that
11 long -- many, many -- to get something for an interaction for
12 cancer -- you hear about people getting cancer all the time, it
13 sounds like it is fairly common but it's very uncommon for this
14 to happen. It is almost a miracle that you ever get a cancer
15 because the changes that cause cancer more likely kill the cell
16 so it never has a chance to get cancer. So you have to get
17 interaction, interaction in many different cells before you can
18 actually do it. So staying around for a long time is going to
19 be a very important factor in causing cancer. So if amphibole,
20 it can stay around once I breath in a bunch of amosite I'm
21 likely to never get rid of it, I will get rid of some of it I
22 am sure but it will stay around for a long period of time. On
23 the other hand chrysotile, this curly one --

24 Q Doctor, before you go to that, is amosite the type of
25 asbestos that would have been on thermal insulation in the

TESTIMONY OF TIM OURY, M.D.

1 60's and the 70's?

2 A Yes. So the thermal insulation that an individual can be
3 exposed to frequently have amosites, that amphibole doesn't
4 stay around. So that's the one that Selikoff in his early
5 epidemiologic studies proved that these insulators that had
6 this amosite asbestos in it was a definite cause of
7 mesothelioma.

8 Q To your knowledge has any amphibole type asbestos ever
9 been found in a dryer felt, a SCAPA dryer felt?

10 A No, not to my knowledge.

11 Q Are you aware that Dr. Millette analyzed our dryer
12 felts and found only chrysotile?

13 A Yes. He found only chrysotile, he did not find any
14 amphiboles.

15 Q No tremolite contamination or anything like that?

16 A Tremolite is a type of amphibole, he did not find any
17 tremolite or any other type of amphibole contamination to my
18 understanding.

19 Q And I interrupted you, you were starting to talk about
20 the half life of chrysotile. Would you --

21 A So to go back to the bio persistence part of what I was
22 talking about, the amphibole stayed around for a long time, the
23 disease takes a long time. It makes perfect sense why
24 amphibole will cause disease, it stays around long enough to
25 actually cause a disease that will occur 20, 30, 40 or 50 years

TESTIMONY OF TIM OURY, M.D.

1 later. In contrast to amphibole, chrysotile has a very, very
2 short half life. It's been measured that half lives of
3 chrysotile in the lung tissue can be anywhere from several days
4 to maybe several months, not decades, years, less than a year.
5 So it gets cleared quite rapidly depending on the studies,
6 within a week. If you started off at 100 within a week you're
7 down to 50, some studies would say maybe three months but it
8 doesn't take ten years. So our body can actually handle
9 chrysotile much better than the amphiboles and you get rid of
10 it. So it is much more likely to cause disease for two
11 reasons. One is it has that curve nature so it's less likely
12 to get down into the -- then it diffuses out and eventually
13 gets into the pleura which is where it has to get eventually to
14 cause the mesothelioma, and it gets cleared so fast that it has
15 a hard time to accumulate to be around long enough to actually
16 do anything.

17 (At this time a break was taken.)

18 (A different court reporter is assigned the remainder
19 of the trial.)

20

21

22

23

24

25

1 I, the undersigned, Michael C. Watkins,
2 Official Court Reporter for the Sixth Judicial
3 Circuit of the State of South Carolina, do hereby
4 certify that the foregoing is a true, accurate and
5 complete transcript of the proceedings had and
6 evidence introduced in the trial of the captioned
7 case relative to appeal in the Court of Common Pleas
8 for York County, South Carolina, on the week of
9 January 29th to February 2nd, and the 7th day of
10 February, 2018.

11 I do further certify that I am neither of kin, counsel,
12 nor interest to any party hereto.

13

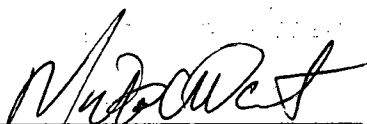
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March 7, 2018

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Michael C. Watkins

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Court Reporter

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STATE OF SOUTH CAROLINA	)	
	)	COURT OF COMMON PLEAS
COUNTY OF YORK	)	2013-CP-46-00368
	)	
	)	
	)	
STEVEN REDFEARN STEWART,	)	
ET AL,	)	
PLAINTIFFS,	)	
	)	PARTIAL
vs.	)	TRANSCRIPT OF RECORD
	)	
SCAPA WAYCROSS, INC.,	)	
DEFENDANT.	)	
	)	

February 7-9, 2018
York, South Carolina

B E F O R E:

THE HONORABLE JEAN TOAL, JUDGE.

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Circuit Court Reporter

I N D E X

(PW) - Denotes Plaintiff's Witness

(DW) - Denotes Defense Witness

Page No.

(DW) DR. TIM OURY:

Continued Direct Examination by Mr. Young....	4
Cross-Examination by Mr. Jekell.....	18
Redirect Examination by Mr. Young.....	52

(DW) PAUL CARLSON:

Direct Examination by Mr. Collier.....	63
Voir Dire by Mr. Jekell.....	77
Continued Direct Examination by Mr. Collier..	79
Cross-Examination by Mr. Jekell.....	132
Redirect Examination by Mr. Collier.....	173

(DW) JAMES CRAPO, M.D.:

Direct Examination by Mr. Young.....	186
Voir Dire by Mr. Jekell.....	204
Voir Dire by Mr. Young.....	208
Continued Direct Examination by Mr. Young....	210
Cross-Examination by Mr. Jekell.....	250
Redirect Examination by Mr. Young.....	303

E X H I B I T S

<u>NO.</u>	<u>DESCRIPTION</u>	<u>ID.</u>	<u>EVD.</u>
(Plaintiff's Exhibits)			
75	Recommended Work Practices	133	
76	Not Marked		
77	Portion of Survey	138	
78	Invoice	143	
79	Advertisement	144	
80	Catalog	147	
81	Johns-Manville Document	151	
82	Crown Zellerbach Internal Memo	164	
(Defendant's Exhibits)			
9	Carlson CV	65	65
10	Crapo CV		206
11	Bowater Mastercards		383
12	Report of Scarcella - Proffered	486	

<u>NO.</u>	<u>DESCRIPTION</u>	<u>ID.</u>	<u>EVD.</u>
(Court's Exhibits)			
4	Slides	180	
5	Slides	180	
6	Note	493	
7	Note	493	
8	Note	493	
9	Note	493	
10	Note	493	
11	Note	493	

All Exhibits were retained by the Clerk of Court of York County.

P R O C E E D I N G S

THE COURT: Bring us a jury.

(WHEREUPON, the jury enters the courtroom.)

THE COURT: Thank you, ladies and gentlemen of the jury. You may be seated.

Ladies and gentlemen of the jury, I'm sorry for the delay, but it really was timed just about perfectly. We're joined by the generous contribution of Shirley Broom, who is a court reporter trained in both circuit and family court. And she came here on a double out of York to assist us and we are very appreciative of that.

Please don't worry that this has somehow interfered with our schedule. I still think we're very much on the schedule I discussed earlier this morning.

We will now resume the direct examination of Dr. Tim Oury, who's still under his oath.

Mr. Young, you may proceed.

MR. YOUNG: Thank you, Your Honor.

CONTINUED DIRECT EXAMINATION

BY MR. YOUNG:

Q Dr. Oury, would you give your name to the new court reporter?

A Tim Oury, O-U-R-Y.

Q When we left off, Dr. Oury, I was going to ask you some questions about the macrophages or Pacman, as they've been

1 described by various doctors. And I'm really focusing on
2 chrysotile now, but I'll ask you about amphibole in a
3 minute. But you mentioned nose hairs, they keep dust out?

4 A Yes.

5 Q And then you've got the -- where you -- sort of your
6 mouth, there's an angle where it goes down into your
7 breathing tubes?

8 A Yes, that would direct things as well.

9 Q Chrysotile gets stuck there?

10 A It can, yes.

11 Q And then talking about the mucociliary with the little
12 cilia and the mucus constantly coming out?

13 A Correct.

14 Q If some chrysotile gets down into the lungs, tell the
15 ladies and gentlemen of the jury, are the macrophages or
16 Pacman, are they able to either gobble up the chrysotile?

17 A So macrophages is a type of white blood cell that
18 offers many defense against infection and all other kinds of
19 things. And in the lung, it acts as sort of a general
20 sweeper. And any type of articulates that get into the
21 lung, down into the alveolar where they actual air, oxygen
22 gets into the blood and so forth. Their job is to eat
23 little particulates and fibers. And if they can eat them
24 and get rid of them, that's great. If they have trouble,
25 they can send out signals and say something is wrong and

1 more inflammation will come in and have problems. But this
2 chrysotile, it can do a very good job of eating it and
3 dissolving that chrysotile and getting rid of it.

4 Q Is one reason for that because of the chemical makeup
5 of the chrysotile?

6 A Right, the chemical makeup that makes it have that
7 really low half life. So it really quickly gets -- that
8 half life gets rid of fibers quick. Because the macrophage
9 can eat and dissolve those chrysotile, that contributes to
10 why the chrysotile doesn't stick around very long.

11 Q And why unlikely to cause mesothelioma, get to the
12 pleura and cause mesothelioma?

13 A Right, so that would make it much less potent. And
14 chrysotile is way less potent than the amphiboles causing
15 mesothelioma because of that short half life. This
16 macrophage aspect is just another reason the chrysotile
17 doesn't stick around very long.

18 Q What about the amphiboles, like the amosite that's in
19 thermal insulation, can they be eaten?

20 A So macrophages do attempt to eat amphiboles, like
21 amosite, they're unsuccessful. If they can engulf it, it
22 can be encapsulated in the macrophage, but it will stay in
23 the macrophage and the macrophage will eventually die and it
24 will be out again. But it's unable to get rid of the
25 amphibole fibers.

1 Q And what about the chemical makeup of an amphibole
2 makes that happen? Is there iron?

3 A So, the difference in -- one of the key differences
4 between an amphibole and a chrysotile is a chrysotile has
5 magnesium on its surface that's easily removed. Once it's
6 removed, it starts breaking the fiber up. But the
7 amphiboles contain the iron in its matrix and it doesn't get
8 aged out and so it retains it's rigidity and it's normal
9 structure, so it doesn't dissolve.

10 Q Dr. Oury, during your career, have you studied
11 extensively the issue of what level of chrysotile asbestos
12 or, alternatively, what level of amphibole asbestos is
13 necessary to cause various lung diseases, including
14 mesothelioma?

15 A Yes.

16 Q And you've also told us, but as a part of your work as
17 a pathologist and a physician, you've also become very
18 familiar with the defense mechanisms you've just told the
19 ladies and gentlemen of the jury about?

20 A Yes.

21 Q Tell the ladies and gentlemen of the jury where and
22 what the pleura is.

23 A The pleura is the lining of the lungs. So if you have
24 your lungs as well as the gas exchanges, outside of that
25 lung is coated by a single cell called mesothelia cells.

1 That's the cell that when it turns into cancer, it turns
2 into mesothelioma. So the whole outside surface of the lung
3 is lined by mesothelia cell and that's called the visceral
4 pleura. So that's the pleura on the lung surface itself.

5 The chest wall -- if this is the lung and this is the
6 chest wall, the chest wall also -- I'm getting my hands
7 confused, but we'll call this the chest wall and this the
8 lung. This chest wall also has a mesothelial lining. So a
9 single cell layer totally covering the surface area of your
10 chest wall is also mesothelial cells. And that's called the
11 parietal pleura. So visceral pleura on the surface of the
12 lung, the parietal pleura on the chest wall itself.

13 Q And is that where mesothelioma develops?

14 A Yes. The parietal pleura is the primary spot where
15 mesothelioma develops.

16 Q In order for asbestos to cause mesothelioma, does it
17 have to get through all this stuff you talk about, get to
18 the bottom of the lungs and then move out into the pleura?

19 A Yes.

20 Q In order to do so, does it have to stay in the lungs
21 for a significant period of time?

22 A The longer it stays in the lungs, over time, the more
23 can get out into the pleura. And it's this continual -- so
24 if it stays in the lung a long time, it can continually have
25 some of it get down to the pleura to cause reaction with the

1 mesothelial cells where it could cause -- potentially cause
2 an eventual tumor. Luckily, most people who even have high
3 levels of amphiboles still won't get the disease.

4 Q Tell the ladies and gentlemen of the jury what a
5 pleural plaque is.

6 A So a pleural plaque -- remember I was talking to you
7 about the fibers, the scarring in the lung earlier? Well,
8 the pleural plaque is basically scar -- parietal pleura
9 plaques of that chest wall pleura is, basically, you get
10 scarring, fibrosis scarring of that pleural lining on the
11 chest wall.

12 Q And we're going to talk about Mr. Stewart in just a
13 second, but when you first looked at Mr. Stewart's medical
14 records, did you have the pathology report from his
15 pneumonectomy?

16 A No.

17 Q Did you look at that last night?

18 A Yes.

19 Q And did you see that he had plaques?

20 A Yes, in the path report that I didn't see until
21 yesterday, I found out that he actually had plaques. And
22 one thing I didn't tell you about plaques is when you see
23 plaques, that's a very good indication that a person has had
24 prior asbestos exposure. So that's one of the ways they
25 form. Like asbestosis can cause scarring of the lungs,

1 that's asbestosis, when it causes scarring of that parietal
2 pleura, that's called a parietal pleura plaque. When we see
3 that, that's a very good indication that a person has had
4 prior asbestos exposure.

5 Q And did you look at the surgical report with respect to
6 the surgery Dr. Harpole told us about?

7 A Yes. Again, I didn't see that when I did my original
8 review, but I saw that yesterday. And he saw and documented
9 that there were plaques in his pleura.

10 Q Tell the ladies and gentlemen of the jury what a fiber
11 burden analysis is.

12 A So fiber burden analysis is a very powerful tool that I
13 utilize whenever I can because it gets rid of all the
14 questions. So what we can do is we can take lung tissue and
15 we can digest it so we can -- actually, we just put it in
16 bleach and that digest all the tissue that was there in the
17 lung. All of it gets totally dissolved. And asbestos, as
18 we know, is very durable, so it stays there just fine with
19 the bleach. So once we get rid of all that tissue, we can
20 put it through a filter and we can collect all the
21 particulates, including any asbestos fibers.

22 So when we do these digestive analysis, so if someone
23 as mesothelioma, one of the questions is -- well, sometimes
24 they're not caused by asbestos. Most of the time, they are
25 caused by asbestos. But in this individual case, was it

1 caused by asbestos. So one of the best ways to definitively
2 determine if asbestos caused an individual's mesothelioma or
3 contributed to it is to do a digestion.

4 So once we get those particulates, including any
5 asbestos fibers that may have been in a person's lung on
6 that filter, we can then take it to a microscope. And what
7 we utilize for fiber burden analysis is an electron
8 microscope. And when we put it under an electron
9 microscope, we can see is there any fibers, yes or no. And
10 if there are --

11 Q Does it also tell you the type of fibers?

12 A That was where I was going.

13 Q Okay.

14 A So once we see -- the beauty of the digestion -- you're
15 probably hearing maybe he was exposed to this, maybe
16 somebody was exposed to this and maybe somebody was exposed
17 -- well, what was the cause of the disease? Well, with the
18 digestion, once we see the fiber, we can actually tell you
19 was it amosite, was it crocidolite, was it tremolite, was it
20 chrysotile. Because we do what's called microprobe
21 analysis.

22 So we shoot x-rays on it and we can say what is the
23 chemical composition of that fiber. And based on that
24 chemical composition, we can say oh, it's got iron,
25 magnesium in the cilia, that's amosite. It's got magnesium

1 cilia, that's chrysotile.

2 Game over in terms of guessing, we don't have to guess
3 anymore. This is a definitive way of saying what -- did
4 this person have validated asbestos, yes or no? If the
5 answer is yes, what type of asbestos was it? And by doing
6 that type of analysis, I've been able to determine exactly
7 what type of asbestos -- when it's elevated, what type of
8 asbestos it was and make a conclusion as to what type of
9 asbestos caused the disease.

10 Q Like, for example, here, if the fiber burden had been
11 done and they found amosite, that would point towards the
12 thermal insulation as the cause?

13 A Correct.

14 Q Did you see anything you looked at that Dr. Harpole or
15 Dr. Sporn did a fiber burden analysis?

16 A No.

17 Q Is that something they could have done as part of the
18 surgical procedure?

19 A Yes.

20 Q And that would have given us a great deal of
21 information about the fibers that he breathed that got way
22 down into his lungs and in the pleura?

23 A Yes. In fact, Duke University is where I learned how
24 to do fiber burden analysis.

25 Q Did you -- were you ever provided any tissue to be able

1 to do one yourself?

2 A Unfortunately, I was not.

3 Q Dr. Oury, is mesothelioma a dose response disease?

4 A Yes.

5 Q And can you -- are all asbestos-related diseases dose
6 response?

7 A Yes.

8 Q And can you just -- I think it's probably
9 self-explanatory, but the greater the dose, the greater risk
10 of disease?

11 A Right. Low doses -- no disease is down here and
12 whatever you're looking for, is disease up here? So if you
13 have on this axis percent people with disease and over here,
14 what is the dose and you keep going up in dose, the
15 likelihood of actually getting disease goes up in terms of
16 the percentage. And, eventually, it will plateau because
17 you've maximized --

18 Q Insofar as amphibole exposure is concerned, does it
19 take a much smaller dose for there to be a risk of
20 mesothelioma?

21 A Yes, amphiboles are much, much stronger, more potent
22 than chrysotile in terms of a dose response.

23 Q At our request, did you review various materials with
24 respect to Mr. Stewart?

25 A Yes.

1 Q Do you recall the things that you looked at?

2 A I do.

3 Q Can you tell the ladies and gentlemen of the jury what
4 that was?

5 A So Mr. Stewart had an original pleural biopsy done at
6 Duke before that plaque specimen that we were just talking
7 about where they actually put in a scope and cut out a
8 little bit of the tumor that they saw during the surgery and
9 then they gave it to the pathologist to make slides and look
10 at it. And they sent me the slides from that procedure.
11 And I looked at those slides to determine whether or not Mr.
12 Stewart did or did not have a mesothelioma.

13 Q Did he have mesothelioma?

14 A He did.

15 Q Do you remember anything else that you looked at? Did
16 you look at anything from Paul Carlson?

17 A Yes, I saw industrial hygiene reports from Paul
18 Carlson, who I met last night, who you'll get the honor of
19 meeting as soon as I get off the stand.

20 Q And did you look at some additional records with
21 respect to Mr. Stewart's surgery?

22 A Yes, I saw the reports from that original biopsy. Last
23 night, I saw the report from the bigger procedure.

24 Q When you gave your deposition in this case, you had not
25 seen some of that information; is that fair?

1 A Right. When I gave my deposition in this case, I had
2 not seen the pleurectomy specimen. And I asked about it
3 because there was an indication from the medical records
4 after Dr. Harpole did his original procedure, the biopsy of
5 the tumor in Mr. Stewart, that he wanted to a radical
6 extrapleural pneumonectomy and I saw that in there. So I
7 was inquiring had that been done, had that been done. And
8 there was no information that it had been done, but,
9 apparently, it did eventually get done and I got to see that
10 finally last night.

11 Q In your deposition, you told Plaintiff's counsel that
12 you couldn't say for sure this was an asbestos-related
13 mesothelioma, do you remember that?

14 A I do.

15 Q Now that you've seen the medical records showing the
16 plaques, what is your opinion with respect to just generally
17 the cause of his mesothelioma?

18 A Yeah, once you see plaques, that's very good objective
19 evidence that someone has had prior asbestos exposure. So
20 when I saw that, it was no longer a question well, was this
21 asbestos-related tumor or not, which is what I had before
22 because I didn't have that information. But now that I know
23 he had plaques, I would say that this -- that Mr. Stewart's
24 mesothelioma was a result of prior asbestos exposure.

25 Q Dr. Oury, you told the ladies and gentlemen of the

1 jury, you looked at Mr. Carlson's reports and you talked to
2 Mr. Carlson?

3 A Yes.

4 Q You don't know anything about dryer felts other than
5 what you read in Mr. Carlson's report and talked to him
6 about, right?

7 A That's correct.

8 Q You're not a material scientist?

9 A No.

10 Q Or an industrial hygienist?

11 A No.

12 Q But you did see his opinions with respect, to, for
13 example, Mr. Stewart's likely exposure to thermal
14 insulation?

15 A I did.

16 Q And have you seen in the past a number of patients with
17 mesothelioma that had thermal insulation exposure?

18 A Yes.

19 Q Tell the ladies and gentlemen of the jury about how
20 many.

21 A Hundreds, several hundreds that have had thermal
22 insulation exposure. This is a very big cause of
23 mesothelioma.

24 Q And you've not been to a paper mill?

25 A I have not.

1 Q And you've not seen a paper break or blow down or
2 anything like that?

3 A I have not.

4 Q Are you relying on Mr. Carlson's report and opinions
5 with respect to whether or not Mr. Stewart had any exposure
6 to chrysotile asbestos from dryer felts as you give your
7 opinions today?

8 A I am.

9 Q What did you read and talk to him about in that regard,
10 with respect to whether there was any sort of level of
11 exposure to chrysotile asbestos from dryer felts by Mr.
12 Stewart?

13 A From his report and also from my direct conversation
14 with him last night, there would have been no exposure to
15 chrysotile from working in a real-life situation with this
16 product.

17 Q How about thermal insulation, did Mr. Stewart have
18 exposure to asbestos from it?

19 A Yes, he would have had potential exposure to
20 significant asbestos exposure from thermal insulation.

21 Q So could you tell the ladies and gentlemen of the jury,
22 do you have an opinion as to whether or not the 23
23 asbestos-containing Scapa dryer felts at Bowater in any way
24 caused or contributed to Mr. Stewart's mesothelioma?

25 A In my opinion, being around those dryer felts would not

1 have contributed to his disease.

2 Q What about thermal insulation?

3 A That, in my opinion, would be the most likely cause of
4 his mesothelioma and being able to do the digestion would
5 allow for definitive evidence that the right type of
6 asbestos was in his lung that would have come from that.

7 Q So I assume it would be your opinion that the dryer
8 felts, Scapa dryer felts were not a substantial contributing
9 factor to his disease?

10 A That would be my opinion, correct.

11 Q Dr. Oury, have all the opinions that you've given the
12 Court and the ladies and gentlemen of the jury been given to
13 a reasonable degree of medical and scientific certainty?

14 A Yes.

15 MR. YOUNG: May I have one second, Your Honor?

16 THE COURT: Yes.

17 BY MR. YOUNG:

18 Q When a South Carolina lawyer says I need to ask you one
19 more question. Are your opinions most probably to a
20 reasonable degree of medical and scientific certainty?

21 A Yes.

22 MR. YOUNG: Thank you, sir. Thank you, Your Honor.

23 THE COURT: Mr. Graham, cross-examination?

24 CROSS-EXAMINATION

25 BY MR. GRAHAM:

1 Q Good morning, Dr. Oury, how are you?

2 A Good.

3 Q We've never met before, have we?

4 A Not to my recollection.

5 Q Good to meet you. If I ask you a question you don't
6 understand, just ask me to repeat it and I'll do my best,
7 okay?

8 A Sounds good.

9 Q Okay. So I know you've answered Mr. Young's questions
10 and I want -- for the benefit of both myself and for the
11 jury, I want to see if we can agree on a couple of things,
12 okay?

13 A Okay.

14 Q Now, when you were answering Mr. Young's questions, you
15 agreed with the diagnosis of mesothelioma for Steven
16 Redfearn Stewart?

17 A Yes.

18 Q And you agree the cause of Steven Redfearn Stewart's
19 mesothelioma was asbestos?

20 A Yes.

21 Q And you agree that the exposure -- or do you agree that
22 the exposure of the asbestos occurred at Bowater paper mill?

23 A Based on Mr. Carlson's report that I saw, the
24 industrial hygiene report, that sounds like the most likely
25 exposure.

1 Q Okay. So we have the diagnosis, we have the cause, we
2 have the exposure, we have the place. Would you also agree
3 with me, Doctor, that Mr. Stewart died from mesothelioma?

4 A That is my understanding.

5 Q And would it be logical to conclude then that he died
6 of asbestos exposure as well?

7 A He died of mesothelioma and asbestos caused that, so
8 however you go from there.

9 Q I'll accept that. That's fine. Now, do you see
10 patients?

11 A I see specimens from patients. I don't actually see
12 patients.

13 Q When's the last time you saw a patient? Residency?

14 A I did see patients in residency during FMA service.
15 We'd actually go in and do the biopsies on patients on that
16 service, so I definitely saw patients at that time. I
17 routinely have patients actually call me, but I don't
18 actually see them. I talk to them on the phone.

19 Q So you don't see patients?

20 A I don't physically see them. I talk to them. In the
21 past, I have.

22 Q When you were a resident?

23 A Yes.

24 Q But not as a practicing physician in Pittsburgh?

25 A Correct.

1 Q Now, you reviewed the medical records in this case?

2 A Yes.

3 Q And based on your review of the medical records,
4 Doctor, did you find any other medical problem that Mr.
5 Stewart had that would have caused a mesothelioma?

6 A No.

7 Q Was there any other condition that Mr. Stewart had that
8 would have contributed to his development of mesothelioma?

9 A No.

10 Q And, Doctor, would you agree with me that when doing a
11 history on an asbestos-exposed patient, you would want to
12 try to get a general impression about his or her asbestos
13 exposure when you're doing the history and physical? That a
14 specific exposure is not required in order to determine an
15 asbestos exposure in the past?

16 A I'm not sure what you're asking.. I'm sorry.

17 Q Okay. Sometimes lawyers will ask a patient -- I'm
18 sorry, someone in deposition if they remember a specific
19 exposure to asbestos. That's not required, is it, in order
20 to determine if a person is exposed to asbestos?

21 A The way I determine if a person is exposed to asbestos
22 is either a digestion or parietal pleura plaques. I'm not
23 sure if that's what you're getting at. You can determine if
24 there's been asbestos exposure without ever talking to a
25 patient --

1 THE COURT: He's asking about taking a medical history
2 from an actual patient and his questions are directed to you
3 towards the patient's answers to questions about his medical
4 history.

5 THE WITNESS: Right. So as I've indicated, you don't
6 even need to take a history. If you see bilateral parietal
7 pleura plaques, I know that the person had asbestos
8 exposure. If we did digestions, I know that the person had
9 asbestos exposure if they have elevated asbestos and I know
10 exactly what type it is. So the patient would never have to
11 have been asked a question. You can ask a question and find
12 out, but I guess -- I think I'm answering -- I think that's
13 the best I can do.

14 THE COURT: That's not what he's asking you. He's
15 asking you whether in the taking of a patient's history from
16 the patient, do you have to know about a specific exposure
17 at a specific time and place to determine whether or not the
18 patient has an asbestos-related disease. You've answered
19 that by saying I don't have to have any patient history to
20 determine that. Am I right?

21 THE WITNESS: Right. That's the answer. So you don't
22 have to ask the patient because you can find out objectively
23 if they did or not. Could you use a patient's answers for
24 information, absolutely, but do you need them to absolutely
25 know, no, because there's other ways to find out.

1 MR. GRAHAM: Thank you, Your Honor.

2 BY MR. GRAHAM:

3 Q And in this case, you didn't need to see Mr. Stewart
4 because you knew after you reviewed the pathology that he
5 was exposed to asbestos?

6 A No, when I originally reviewed the pathology, at that
7 time, I didn't know that he had plaques. It was not until
8 last night that I found out he had plaques. Once I knew
9 that, then I knew that he had asbestos exposure.

10 Q How much asbestos exposure do you think a person would
11 have to have to have an asbestos plaque?

12 A Well, it's not that clear. Again, it's a dose
13 response. The higher the level the asbestos exposure, the
14 more likely someone will get plaques, but -- especially with
15 amphiboles, you can have pretty low exposure to amphiboles
16 to get plaques. Chrysotile is less clear, but the
17 chrysotile can cause plaques, but again, you would need a
18 lot more of it to do that type of effect.

19 Q Do you remember the size of the plaque of Mr. Stewart?

20 A I'm sorry.

21 Q Do you recall the size of the plaque in Mr. Stewart's
22 chest?

23 A I don't recall.

24 Q If I represented to you it was 17 by 22, would you
25 agree if that's what the record reflects?

1 A Seventy, is that what you said?

2 Q Well, let's not do the guesswork.

3 MR. GRAHAM: Your Honor, may I approach?

4 THE COURT: You may.

5 THE WITNESS: This says the pleural surface has
6 multiple yellow plaque-like legions 22 by 17 centimeters in
7 greatest dimension. So the question really now is, is that
8 all parietal pleural plaque or is that tumor, because the
9 tumor could look plaque-like as well. So he's got
10 spike-like lesions with a maximum dimension, as he said, was
11 that parietal pleural plaque or plaque-like tumor? I don't
12 know how well that was sampled, but pathologically, some of
13 that was parietal pleural plaque. Whether or not all of it
14 is, I don't know.

15 Q Well, Doctor, you know Thomas Sporn?

16 A Yes.

17 Q He's pretty good, right?

18 A He's a good pathologist, yes.

19 Q And he's also at Duke?

20 A Yes.

21 Q Where you trained?

22 A Correct.

23 Q Same microscope, same lab where you trained?

24 A I'm sorry?

25 Q Same microscope, same lab where you trained?

1 A So I trained in the department of pathology at the same
2 time. I actually had my own microscope and he had his own,
3 but, yeah.

4 Q This is Dr. Sporn's report, right?

5 A So that's part of his report. The gross would have
6 probably been done by a resident. I don't think he grossed
7 the specimen, but he may have.

8 Q Well, you don't quarrel with the report, do you?

9 A I'm just telling you what it says in his report and how
10 I interpret it. That's the best I can do.

11 Q So the pleural surface has a plaque-like lesion, 22 by
12 17. Do you agree on that?

13 A Yes.

14 Q And it didn't say it was tumor tissue?

15 A It didn't say it was parietal pleural plaque, it just
16 said plaque-like. And a tumor is frequently described as
17 plaque-like all over your body, so -- I'm not -- he has a
18 parietal pleural plaque, there's no question about it.
19 Whether the whole thing was parietal pleural plaque at 22 by
20 17 centimeters, I don't know. From that report, I can't
21 tell.

22 Q Tell the jury how big 17 by 22 plaque is.

23 A I'd have to get a ruler. I don't know if it's --

24 Q Well, use your hand.

25 A It's bigger than my hand.

1 Q It's bigger than your hand?

2 A Yes.

3 Q Two hands?

4 A Maybe, I don't know. I'm not that great at estimating
5 the size. If you want to do it, that's fine.

6 Q Is that fair?

7 A If you had a ruler, I could tell you. It's probably
8 something similar to that.

9 Q Okay. Now, in order to have a plaque that large, a
10 person would have to have a lot of exposure to asbestos?

11 A That would fit with the thermal insulation exposure,
12 for sure, yes.

13 Q It would fit with any exposure to asbestos?

14 A Generally, to get that type of exposure, you'd need a
15 pretty high dose, so it would be a high dose exposure.

16 Q Right. Now, chrysotile causes mesothelioma, true?

17 A It can. It's very unusual. There's been some recent
18 cases that would suggest it may not even contribute to
19 mesothelioma, but in my opinion, with very high doses, it
20 can.

21 Q And that plaque suggested a very high dose of the very
22 thing you just said.

23 A A very high dose of asbestos, right. So what asbestos
24 was it, chrysotile or amosite? More likely amosite with the
25 thermal insulation type product exposure that he had. But a

1 digestion study would have conclusively told us what type.

2 Q So let's see if we agree, we agree that Mr. Stewart
3 worked at Bowater, that he had mesothelioma, that it was
4 properly diagnosed and that he had a very heavy exposure
5 because of the plaque recognized in pathology that Dr.
6 Harpole talked about.

7 A I mean, we can get plaques at lower doses of amphibole
8 exposure, too. But he had a significant exposure, I think
9 we can agree to that.

10 Q That size of a plaque, this big, wouldn't have come
11 from just a little bit of an amphibole, would it?

12 A It could come from a little bit of amphibole because
13 they're much more potent than chrysotile, but it would have
14 to come from a lot of chrysotile.

15 Q A lot of chrysotile, right?

16 A Yes, if it was caused by a chrysotile, I would say that
17 more likely it would be a lot of it. The amounts of
18 chrysotile and the definition of a lot are very unclear in
19 terms of this type of dose response --

20 Q Well, I'm trying to keep this so we can carry it around
21 in our head. We have a lot of exposure to chrysotile, you
22 would agree?

23 A No.

24 Q No?

25 A No, I think I've pretty much said that, at least, from

1 my understanding of Dr. Carlson's report, that his main
2 exposure was to thermal insulation, which would have been
3 those amphiboles exposures. The exposure to the chrysotile
4 product would have been from the dryer felt. And from his
5 testimony -- not his testimony, his report and his expertise
6 in this area, which you'll get to hear about after I get
7 done here, there was really no exposure to chrysotile. So
8 very little to no exposure to chrysotile in contrast to
9 heavy exposure to amphibole.

10 Q Okay. We'll come back to that. Now, I think Mr. Young
11 asked you whether or not you were an industrial hygienist?

12 A He did.

13 Q You're not?

14 A I answered that. I am not.

15 Q And you're not a geologist?

16 A No.

17 Q You're not a material scientist?

18 A Correct.

19 Q And I understand you're board certified in anatomic
20 pathology?

21 A Yes.

22 Q Okay. And there are other board certifications in
23 pathology, such as clinical pathology and forensic and so
24 on?

25 A Yes.

1 Q And you're none of those?

2 A Correct.

3 Q And you're not a certified occupational medicine
4 physician, correct?

5 A I am not.

6 Q And you don't consider yourself, as we said before, an
7 industrial hygienist or material scientist, correct?

8 A Still correct.

9 Q And you've never tested any asbestos products yourself
10 to see if they generate dust?

11 A Correct.

12 Q You've never tested anything from Scapa?

13 A Correct.

14 Q You've never tested any thermal insulation?

15 A Correct.

16 Q You don't know how thermal insulation gives off dust,
17 if it does?

18 A Well, I know that it does and it's very friable, but
19 specifics, I would say no.

20 Q Is all thermal insulation amosite?

21 A No, we can have -- some of it is in another amphibole,
22 crocidolite. Some thermal insulation can be a mixture of
23 chrysotile and amosite. And I think they even had some pure
24 chrysotile thermal insulation.

25 Q Yeah, so thermal insulation if it had chrysotile would

1 cause mesothelioma, correct?

2 A If you get very high levels. As I've mentioned
3 already, the current data would suggest you need 100 fiber
4 years of exposure of chrysotile to do that. And that's
5 probably due to a tremolite contamination because these
6 papers that have been more recent really suggest chrysotile
7 may have no potency to cause mesothelioma due to that really
8 short half life. It doesn't stay around long enough. So --
9 but in high enough exposures, chrysotile could cause
10 mesothelioma.

11 Q Okay. You're not an epidemiologist?

12 A Still not.

13 Q The main focus of your work has been on interstitial
14 lung disease, correct?

15 A Yes.

16 Q And the disease that occurs on the inside of the lung,
17 not mesothelioma, correct?

18 A From my basic research, that's correct.

19 Q Mesothelioma is a cancer that arises from the lining of
20 the lung, I think we've established that, correct?

21 A Yes, and it can also -- your peroneal surfaces also
22 have mesothelial cells, but, yes. We're talking about
23 pleura in this case, so yes, that's right.

24 Q I want to get back to thermal insulation. You don't
25 know what the thermal insulation was at Bowater, do you, Dr.

1 Oury?

2 A No.

3 Q You don't know if it was amosite or crocidolite or
4 calcium silicate or anything else?

5 A No.

6 Q It could have been cardboard, for all you know?

7 A Not likely.

8 Q Why not?

9 A Well, cardboard would -- if they want to insulate their
10 steam pipes so that they're actually effective, I don't
11 think cardboard would work very well.

12 MR. GRAHAM: Your Honor, may I approach?

13 THE COURT: You may.

14 BY MR. GRAHAM:

15 Q Doctor, the jury has seen this picture a lot. You've
16 never seen this picture, have you?

17 A No.

18 Q Can I represent to you that this is my client, Steven
19 Stewart?

20 A Okay.

21 Q He's a very young man in this photograph. And I also
22 represent to you this is number one paper machine?

23 A Okay.

24 Q And I also represent to you this is a pipe?

25 A Okay.

1 Q You agree with me so far?

2 A It looks like a pipe.

3 Q Okay. Is it insulated?

4 A It does not appear to be.

5 Q How about that, that's a valve and a pump. Does that
6 look like that's insulated to you?

7 A No.

8 Q How about this piece below the valve, insulated or not?

9 A I don't know. I can't really see.

10 Q Can't tell, okay. Now, you don't have any evidence,
11 Doctor, that any of the piping that was in the number one
12 paper machine area had any amosite in it, do you?

13 A I don't know. The information I have is from Dr. -- or
14 Mr. Carlson, he's going to come out next. And he indicated
15 that the depositions and the coworkers said that there was
16 thermal insulation on the pipes, steam pipes.

17 Q But you don't know what that was?

18 A Correct.

19 Q You're just relying on what Mr. Carlson says?

20 A Yes.

21 Q In fact, your whole testimony, your knowledge base
22 about what thermal insulation is or does is -- and how it
23 reaches the body, you're self-taught on that, correct?

24 A I'm sorry, what?

25 Q Well, what you know about a Scapa dryer felt, you've

1 learned from these lawyers and Mr. Carlson?

2 A Yes.

3 Q Okay. You never -- you don't have any training in this
4 stuff, do you?

5 A In working with dryer felts, no.

6 Q You don't have any training with regard to pipe
7 covering?

8 A No.

9 Q You don't what the makeup of pipe covering is. You've
10 been told what it is by someone else?

11 A I have read and been told what generally was in
12 insulating pipe covering. In general, most of those pipe
13 coverings had amphibole asbestos. And in this country, it
14 was amosite.

15 Q Well, earlier, the jury heard testimony that 95 percent
16 of the asbestos used in the country was chrysotile?

17 A That's correct.

18 Q Okay. So how can you say that most of the pipe
19 covering now is amphibole?

20 A So most of it contained amphibole. Maybe more of it in
21 that pipe covering was chrysotile, but it still contained
22 amphibole.

23 Q Did you say maybe?

24 A I'm sorry?

25 Q Did you say maybe?

1 A I can repeat my answer and see if I say it again.

2 Q Ask the court reporter.

3 A So when thermal insulation was used, most of it would
4 be -- I think I said mainly, mainly chrysotile. If I said
5 maybe, I apologize. Mainly, chrysotile because that's the
6 main thing used, but most thermal insulation, even if it was
7 -- most of it, even it was mainly chrysotile still contained
8 amosite or other commercial amphibole. Mainly amosite in
9 this country. So if I said maybe, I meant to say mainly.

10 Q So is your testimony that most of the
11 asbestos-containing pipe covering is amosite, is that your
12 testimony?

13 A My testimony is that most asbestos used in this country
14 was chrysotile, but most of the time, from my understanding
15 of insulating asbestos, it also contained amosite. Most of
16 it was probably chrysotile still, but it still contained
17 amosite. That's my testimony. That's my understanding.

18 Q That's because of what you have read?

19 A That's what I have read and what I have understood from
20 other conversations that I've had with people.

21 Q So am I wrong that you're self-taught in this area
22 about what is or is not pipe covering and what does and
23 doesn't release from a piece of pipe covering?

24 A I think I've been -- you know, most of it would be
25 reading, so I guess that would be self-taught, but I've also

1 had conversations with people that have expertise that have
2 told me as well. And Mr. Carlson would be one of those
3 people and you get to talk to next that will give you even
4 better clarification.

5 Q All right. Now, I want to go back to something you
6 said a little bit earlier. Remember this? Remember that?
7 Were you talking about chrysotile --

8 A Oh, chrysotile is a curved fiber, it's not rigid and
9 straight like the amphiboles.

10 Q Yeah. Doesn't reach the floor, is that what you were
11 saying?

12 A I said to be respirable, you need to have a one micron
13 to a three-micron aerodynamic diameter, so very thin. And
14 when you curve something, that aerodynamic diameter gets
15 bigger. So a longer fiber -- and when you talk about
16 asbestos, it's the long fibers that cause disease, so you
17 have to have long fibers that get in there to cause the
18 disease. So if you have a long chrysotile, it's more likely
19 to be curved. And when it curves, it's going to increase
20 that diameter so it may not become respirable -- it may
21 become unrespirable. It still could have some that are
22 respirable, but less of them are respirable.

23 Q There is no literature to back that up, is there?

24 A It's very well understood that chrysotile is curved and
25 there's very good literature about aerodynamic diameters

1 that need to be met to be respirable, so I don't think I
2 agree with you.

3 Q Okay. We'll set that aside just for a second. Okay.
4 I just want to make sure, we've got curve, right?

5 A Chrysotile is the serpentine. They call it serpentine
6 because it's curved. It's snake-like.

7 Q Snake-like?

8 A Serpentine, yes.

9 Q Doctor, I want to show you a picture you probably
10 recognize --

11 THE COURT: Mr. Graham, you're going to need to speak
12 into a microphone so that the court reporter can hear you.

13 MR. GRAHAM: Yes, Your Honor.

14 BY MR. GRAHAM:

15 Q Doctor, I'm going to show you a book published by the
16 New York Academy of Sciences, Annals of New York Academy of
17 Sciences, volume 132, Biological Asbestos. Have you ever
18 seen this book before?

19 A I think so. I can't read the text, I'm sorry. I'm not
20 sure. I think I may have. I'm not positive.

21 Q Doctor, can you see that on the monitor from where you
22 are?

23 MR. YOUNG: Excuse me, Your Honor.

24 THE COURT: Yes, sir.

25 MR. YOUNG: Mr. Early tells me the law here is the same

1 as in Georgia, that before he cross-examines him about it,
2 he has to establish that it's authoritative and I don't
3 think that's been done, so I would object.

4 THE COURT: All right. This particular document has
5 been introduced in other people's testimony. And this
6 particular slide, if I'm not mistaken, has been examined in
7 other testimony.

8 Am I right or wrong about that, Mr. Graham?

9 MR. GRAHAM: I think you're right, Your Honor.

10 THE COURT: All right. I believe the Proceedings of a
11 New York Academy of Science, that blue book, has been
12 exhibited before. I'm not quite sure which expert witness,
13 but I do remember Mr. Jekell examining on it with another
14 expert witness. So I believe the foundation has been laid
15 for the use of that photograph. In fact, I think it was
16 examined on the floor without objection. How about consult
17 with Mr. Jekell for a minute and let me see if I --
18 otherwise, I'll rule on it, but no sense in doing that if
19 it's already...

20 Mr. Graham?

21 MR. GRAHAM: Your Honor, on this particular, there were
22 articles in here referencing state of the art and ancient
23 documents was used previously, from my understanding, by Mr.
24 Jekell. I can go through --

25 THE COURT: Do you still insist on the objection, Mr.

1 Young?

2 MR. YOUNG: Well, Judge, I don't think that anybody has
3 said it's authoritative and I --

4 THE COURT: Well, we'll put a hold on the ruling for
5 that.

6 Mr. Graham, ask him some questions about that.

7 MR. GRAHAM: Okay.

8 BY MR. GRAHAM:

9 Q Doctor --

10 MR. GRAHAM: May I approach, Your Honor?

11 THE COURT: Yes, of course.

12 BY MR. GRAHAM:

13 Q Doctor, you're familiar with the New York Academy of
14 Sciences?

15 A Yes.

16 Q Okay. Can you tell us about it?

17 A The New York Academy of Sciences is just what it
18 sounds. It's an academy in New York representing sciences.
19 I've actually spoken at the New York Academy of Sciences.
20 It represents many fields of science.

21 Q Very prestigious, would you say?

22 A The New York Academy of Sciences, in general, is a
23 fairly prestigious society, yes.

24 Q I want to show you, this is the cover, this is volume
25 132, do you see that?

1 A Yes.

2 Q The editor is Carroll B. Whipple. You don't know Mr.
3 Whipple, do you?

4 A No.

5 Q And I'm going to turn -- the inside is volume 132 and
6 it's got the date of 1965. Do you see that?

7 A Yes.

8 Q And is this something that would be in every medical
9 school library or reference library for occupational
10 medicine?

11 A I don't know.

12 Q You don't know? You see here where there's a reference
13 -- the opening remarks is from Dr. Selikoff, you see that?

14 A No. If you can point to where you're looking at. I'm
15 not sure where you're looking.

16 Q You see right there?

17 A Yes.

18 Q Now, you talked about Dr. Selikoff earlier?

19 A Yes.

20 Q And you find him to be very reputable in this field of
21 mesothelioma?

22 A Yes.

23 Q Did some of the first work?

24 A Yes.

25 Q And you would also agree with me that there's Dr.

1 Cherub here mentioned?

2 A Yes.

3 Q And he's very reputable. And you mentioned him as
4 well?

5 A I did.

6 Q And he's in this book?

7 A Okay.

8 Q Would you agree with me that this is probably pretty
9 important stuff?

10 A At the time of 1965, yes, probably so at that time.

11 Q And would you also agree with me that it's something
12 that would be a reference for physicians in the field to the
13 study of asbestos?

14 A Back in the 60s and 70s, probably. There's probably
15 more recent things that we use now.

16 Q Of course. Of course. But if I wanted to learn about
17 the history of the exposure of asbestos and the state of the
18 art of what was done when, I could look at this book and it
19 would tell me?

20 A I'm not sure exactly all the contents about state of
21 the art is, but it sounds like that's what you're using it
22 for, so probably.

23 THE COURT: Well, let me just stop you there. There's
24 no sense in going on and on about this. Is this an
25 authoritative text in the medical field involving the study

1 of asbestos and mesothelioma?

2 THE WITNESS: I'm not sure it would be considered
3 authoritative today, but probably --

4 THE COURT: I'm not asking about today. It was
5 published in 1965, was it an authoritative text as of that
6 time?

7 THE WITNESS: I would say from what he showed me, it
8 probably at that time was.

9 THE COURT: I'm going to admit over objection the use
10 of the text in examining Dr. Oury.

11 MR. GRAHAM: Thank you, Your Honor.

12 BY MR. GRAHAM:

13 Q Can you see on your monitor, Dr. Oury, the picture that
14 we just talked about?

15 A I'm trying to locate where it was.

16 THE COURT: How about the identify the page and the
17 place that you're referring to.

18 MR. GRAHAM: Yes, ma'am. For the record, this is Page
19 27. This is physical and molecular structure of asbestos.

20 BY MR. GRAHAM:

21 Q Do you see that, Doctor?

22 A I can't read the writing on it. Electron micrographs
23 and chrysotile and crocidolite --

24 THE COURT: Read the identifying thing on there,
25 please, Mr. Graham.

1 BY MR. GRAHAM:

2 Q In Figure 1 --

3 THE COURT: Just read that writing down at the bottom.

4 BY MR. GRAHAM:

5 Q Figure 1, the electron micrographs of chrysotile fibers
6 and crocidolite fibers at the same magnification. Do you
7 agree that's what that says, Doctor?

8 A That's looks like what it says.

9 Q Can you describe for the jury the shape of the
10 chrysotile fiber versus the crocidolite fiber in that
11 picture at the same magnification?

12 A They look in this figure to be relatively straight. I
13 don't see the bundles on the end of the chrysotile that
14 would help you really be confident that we're looking at
15 chrysotile on the left and they don't show the ends of the
16 crocidolite. The crocidolite looks like it's going to be a
17 huge fiber compared to what's being shown on the left. It's
18 sort of hard to get the scale. But 0.1 microns, this is
19 going to be an incredibly short -- looks like an incredibly
20 short chrysotile, so it would be hard to see curvature in a
21 short fiber.

22 Q Is it fair to say that this is one micron -- 0.1
23 microns?

24 A It looks like 0.1 microns, so you need to get 10 of
25 those to get to a micron. And to where you're going to

1 start seeing curvature in a chrysotile, you're going to
2 probably need to be in the 10 to 20 microns. And I don't
3 think you're going to get that in this picture.

4 Q So this is a chrysotile fiber?

5 A Right. And maybe that's what, three to four microns,
6 maybe. I'd have to try to measure it. It may not even be a
7 micron on the slide there.

8 Q But you would agree with me, in the picture, they're
9 all straight?

10 A And you would have to agree that in order to see
11 curvature, you need longer than one micron to appreciate
12 curvature and that's what you're not going to get on this
13 picture. You'd need probably five to 10 microns minimal to
14 see curvature. And that's a very, very short chrysotile.

15 Q So a chrysotile breaks up in the lung and that's how it
16 reaches the pleura?

17 A So chrysotile can break up and then it gets dissolved
18 and maybe -- if it even gets into the lungs or ones that do
19 get in the lung will break up and have a very short half
20 life, so the chance to get to the pleura is much reduced.
21 But it can get to the pleura.

22 Q We know it came to the pleura of Mr. Stewart because of
23 that huge plaque we talked about a few minutes ago.

24 A So again, you'd like to make this assumption that
25 because he has a plaque, it was chrysotile. As I told the

1 jury, the way you could have done this is to do a digestion
2 and see what type of asbestos was there. Amphiboles is much
3 more likely. When I've done digestion studies -- and in the
4 literature, when you do digestion studies, what you find in
5 people's lungs that have these is amphibole, occasionally, a
6 chrysotile.

7 So in my experience, until proven otherwise, by doing a
8 digestion study, it's more likely amosite that's causing
9 problems than chrysotile. And you could have figured this
10 out if you had done a digestion study and we wouldn't be
11 having a guessing game discussion with the jury about that.

12 Q Oh, I'm not guessing. I know from testimony and it
13 appears from the evidence that Mr. Stewart had a large
14 plaque that he had mesothelioma. You and I have already
15 agreed to that. What I'm trying to get at is where is all
16 this amosite that you're talking about? Where is it coming
17 from?

18 A Well, he had thermal insulation exposure. It's very
19 well-documented exposure for amosite exposure. And if you
20 did the digestion, you could have determined was it amosite
21 or chrysotile and we wouldn't be having this discussion.

22 Q But, Doctor, you said you didn't know what the pipe
23 covering had on it.

24 A It's frequently, as I mentioned, contains amosite and
25 amphibole fibers. In this instance, I don't know, but if we

1 did a digestion and found only chrysotile, I'm sure somebody
2 would have said well, let's go see what type of thermal
3 insulation was supplied to this factory. Maybe Mr. Carlson
4 and he'll get to tell you next, but I don't know.

5 Q You said maybe on that, right?

6 A I did, not mainly.

7 Q I have just a little bit more for you, Doctor. Now, a
8 lot of your testimony about Mr. Stewart's exposure is based
9 on what someone else has said, true?

10 A Yes.

11 Q And you never met Mr. Stewart, you never met any member
12 of his family, true?

13 A Not to my knowledge, I don't think so.

14 Q You never went to the Bowater facility, true?

15 A True.

16 Q You don't know anything about pipe covering at the
17 Bowater facility?

18 A Other than what Mr. Carlson told me, no.

19 Q Now, you mentioned something earlier in your testimony
20 about a hundred fiber years, do you remember that?

21 A Yes.

22 Q And, again, where does that come from?

23 A That comes from the guy that you agreed with me is a
24 very big expert in the asbestos field. You showed it to me
25 in that book and said you would agree with me he's an expert

1 and I do agree with you that he's an expert and he's the one
2 that said that, yes.

3 Q But nobody else agrees with that, do they, Doctor?

4 A I do.

5 Q But no one else?

6 A I think there are other people that do.

7 Q The federal government doesn't agree with that, do
8 they?

9 A The federal government -- I don't know what the federal
10 government believes anymore.

11 Q That we might agree upon. Let's just go through, in
12 order to contract mesothelioma, you believe -- I'm trying to
13 get the Oury theory of exposure and disease and cause. You
14 believe that you have to have a 100 fiber year exposure?

15 A I believe that you have to have a high enough exposure
16 that you'll see chrysotile in the lung when they get the
17 disease. And that would require a huge exposure because the
18 half life is so short, it disappears. So you would have to
19 have a very, very high exposure for chrysotile to stick
20 around that long. And a hundred fiber years seems like a
21 reasonable -- maybe even an underestimate.

22 Q Okay. So in Mr. Stewart's case -- let's go back to our
23 plaque. We established that he had above background
24 exposure in order to develop the large plaque we talked
25 about, do you agree?

1 A Yes.

2 Q And he had to have an occupational exposure to
3 asbestos, would you agree?

4 A You can get the plaques without occupational exposure.
5 So household contacts, you can get plaques. I've written
6 papers on environmental exposures that you can get plaques
7 without occupational exposure.

8 Q Okay. Now, with World Health Organization, they say
9 all asbestos is harmful, you agree?

10 A I think that would be what they say.

11 Q And they say chrysotile is harmful?

12 A I would believe they would say that, yes.

13 Q Amosite is harmful?

14 A Yes.

15 Q And amphibole is harmful?

16 A Yes.

17 Q So as far as the World Health Organization is
18 concerned, you would agree with me asbestos is asbestos?

19 A Yes, and that's where a problem comes out because, as
20 we discussed, asbestos is not asbestos once you get it into
21 biological systems. That's just an easy way to try to just
22 lump things into a single --

23 Q But they're trying -- their aim is to prevent disease
24 and death, correct?

25 A Right. And if they over prevent, there's no harm in

1 that.

2 Q You think they over prevent?

3 A I think that chrysotile is much less potent, but if you
4 include it in there, you're more safe than not safe. So why
5 not?

6 Q Would you agree that it's safe to handle respirable
7 chrysotile today?

8 A I wouldn't recommend anybody handling asbestos if they
9 don't have to, but if you had to handle asbestos, that would
10 be the one I would recommend.

11 Q Okay. Now, if you grabbed it, would OSHA agree that --
12 any OSHA, South Carolina, Pennsylvania, would exposure to
13 asbestos create the risk for developing a mesothelioma and
14 disease?

15 A I don't know what regulations have been taken back or
16 not from this current administration, if those regulations
17 are out there or not, but in the past, their regulations
18 would say that you shouldn't be exposed to asbestos, they
19 didn't care what kind.

20 Q Because all forms of asbestos cause cancer?

21 A Because that's what they said, when, in reality, the
22 more recent literature would suggest that chrysotile
23 probably does not contribute, but as I've already mentioned,
24 I believe at high doses, it probably still does.

25 Q Well, if your position was true, then chrysotile should

1 be safe?

2 A It is. And one of the problems with chrysotile is that
3 it's not always pure, but can have a contaminant of an
4 amphibole called tremolite. And so you get into this little
5 game of well, is it pure chrysotile, is it tremolite
6 contaminated. If it's tremolite contaminated, I would
7 choose the nontremolite contaminated one to grab.

8 Q Now, Doctor, the Institute -- the National Institutes
9 of Medicine don't agree with that position, do they?

10 A I think they would rather grab the one without
11 tremolite, also.

12 Q Well, they wouldn't want to grab chrysotile either,
13 would they?

14 A I don't know.

15 Q How about the Center for Disease Control?

16 A I don't know what the Center of Disease Control's
17 opinion on these are, but they would probably be the same as
18 OSHA and so forth.

19 Q So you would agree OSHA would take a similar position,
20 EPA would take a similar position, asbestos is asbestos?

21 A In the past. I don't know what they do anymore.

22 Q And you would agree that asbestos in all forms is a
23 complete carcinogen?

24 A So, certainly, the amphiboles appears to be a complete
25 carcinogen. As I've already mentioned, the role of

1 chrysotile is less clear these days. But if it had
2 tremolite, the tremolite would certainly be -- if it was an
3 asbestos form of tremolite, it would be a complete
4 carcinogen.

5 Q Okay. So I just want to make sure, this whole
6 discussion we're having about fiber types and straight and
7 curved and all that business, generally, we're trying to
8 reduce the amount of exposure to the public, either in
9 working or otherwise, to have asbestos because that would
10 reduce the risk of mesothelioma, asbestosis or plaques
11 disease?

12 A Right. But just calling things asbestos, not caring
13 about fibers, just wanting to say it's asbestos and want to
14 reduce it, that's a very reasonable approach.

15 Q Now, one more thing, Doctor, and then I think I'll be
16 -- I think I'll be finished. You talked about the
17 digestion. Did you ask these lawyers if they had requested
18 tissue for digestion?

19 A When I did my original review, which was several years
20 ago, I said I see that there may have been a radical
21 extrapleural pneumonectomy, can you find out if that has
22 been done and if it has, I think we can do a digestion. At
23 that time, they said there was no evidence that it had ever
24 been done. That's the last discussion I had until I found
25 out last night there was one.

1 Q So you could have done one?

2 A It would have been hard to do it from last night to
3 today. It would have probably been impossible.

4 Q Well, Doctor, Mr. Stewart's been dead quite a while.
5 You could have done it between the time he died and today,
6 right?

7 A So the last information I had is that there's never
8 been anything done. I don't -- you know, I have a lot of
9 work to do. I don't have time to say hey, has one been done
10 today or every month, call and say has one been done. I
11 didn't keep following up on it, but if someone had told me
12 this type of procedure had been done, I would have been very
13 happy to proceed with getting us all an answer so we
14 wouldn't have to do this.

15 Q Did you tell your counsel here, Mr. Young or Mr. Early
16 or Mr. Collier, that you wanted it?

17 A When I originally saw it -- and I can't remember, I
18 think it was 2013 that I saw this case. I called them up
19 and said Dr. Harpole mentioned that he wanted to proceed
20 with a radicle extrapleural pneumonectomy. I said if that
21 has been done, I wanted to have it.

22 Q And you didn't get it?

23 A At that time, it hadn't been done.

24 MR. GRAHAM: Thank you, sir.

25 THE COURT: Redirect?

REDIRECT EXAMINATION

BY MR. YOUNG:

Q Dr. Oury, I don't want to beat a dead horse, but, certainly, when the surgery was done, Dr. Sporn or Dr. Harpole could have done a tissue analysis and given us the answers that you talked about?

A They certainly could have.

Q And all the organizations that you were asked about, do you have any idea what, if any, studies they've done like you to determine the potency of chrysotile versus amphiboles?

A I know the EPA, at least, commission Berman and Crump to analyze the potency of chrysotile. And the report that Berman and Crump gave back at the request of the EPS was that chrysotile looks like it has zero potency. Why they didn't adopt that opinion, I don't know. It was probably political.

Q One more thing I wanted to ask you and it just went out of my head, so it isn't that important.

MR. YOUNG: Thank you very much. I appreciate your time.

THE COURT: Thank you, Dr. Oury. We appreciate your testimony very much.

THE WITNESS: Thank you, and I hope y'all stay well.

MR. YOUNG: Your Honor, may he be excused?

1 THE COURT: He may be.

2 MR. YOUNG: Judge, Mr. Carlson is the next witness.
3 He's going to be pretty lengthy.

4 THE COURT: All right. We're at 12:30. We have one
5 more witness for the day. I think we'll take our lunch
6 break at this time. If you will be back at quarter of 2:00.

7 (WHEREUPON, the jury leaves the courtroom.)

8 THE COURT: All right. Anything that needs to be taken
9 up before Mr. Carlson takes the witness stand?

10 MR. JEKELL: There's only one thing, Your Honor, and I
11 just want to place it on the record. They're going to show
12 a three-minute paper making video that is not from Bowater,
13 but at the end, they have a towel flying with the
14 ventilation. And I just want to make clear that my beef is
15 not with that it would blow the towel up because the
16 Plaintiffs have said that. My concern is that I believe
17 that is misleading, Your Honor. Because if the suction on
18 the paper machine were high enough to blow that towel up in
19 the air, do you think that paper would ever stay out of the
20 machine. And if there was a paper break, it would suck
21 right out of the -- so it's a little misleading is my only
22 objection.

23 THE COURT: Well, Mr. Jekell, that sounds like
24 wonderful fodder for cross-examination. That sounds like
25 you are going to be able to discuss that on

1 cross-examination.

2 MR. JEKELL: Fair enough, Your Honor.

3 THE COURT: We will see y'all at quarter of 2:00. If
4 you need anything before then, I'll be around.

5 Mr. Jekell and Will, I am going to be looking at the
6 jury charges over lunch and the verdict form. And I will
7 probably do two things. Number one, I will have a photocopy
8 for y'all when you get back and I will also probably e-mail
9 Mr. Early and Mr. Jekell, if that's an easy way to get it to
10 the two sides.

11 MR. JEKELL: Yes, ma'am.

12 THE COURT: Very good.

13 MR. GRAHAM: We've got Mr. Carlson after lunch, could
14 we have maybe to digest -- because I would like to look at
15 Your Honor's proposed charges --

16 THE COURT: I do want us to take up the matter of the
17 testimony of Dr. Crapo. And I have looked at that notebook
18 and I'm ready to go on that. But the jury charges, I'll
19 just give you so you can have them now. We can look at
20 them, perhaps, to some extent before we're gone, but I'm
21 going to give you plenty of time to digest them, don't worry
22 about that.

23 MR. GRAHAM: Thank you.

24 (WHEREUPON, a lunch break was taken.)

25 THE COURT: Are we all ready?

1 MR. JEKELL: Your Honor?

2 THE COURT: We have a question?

3 MR. JEKELL: I have an issue with this --

4 THE COURT: Excuse me. What's the issue, Mr. Jekell?

5 MR. JEKELL: I mean, they're going to bring this in --

6 THE COURT: I can't hear you.

7 MR. JEKELL: Your Honor, they brought in a piece of
8 calcium silicate insulation, which is asbestos free, and
9 which -- I assume -- again, I just saw it when I came in
10 after lunch. I was not told it would be here or anything
11 like that. I do have an objection. I don't know that it's
12 substantially similar to what Mr. Stewart worked with, but,
13 more importantly, Mr. Stewart was not an insulator. There's
14 no testimony in his deposition, all three of them, or his de
15 bene esse that he actually tore out or worked with that
16 pipe. The most they have is that he might have nudged some
17 around the machine, which was jacketed, and that he would
18 have cleaned up the debris from that. The half-moon
19 insulation, there's no testimony he even laid hands on it.
20 So I think it's irrelevant, misleading and prejudicial.

21 THE COURT: Very good.

22 All right, Mr. Collier?

23 MR. COLLIER: Yes, Your Honor. All of the witnesses,
24 all of the fact witnesses who have testified live or by
25 deposition talked about Mr. Stewart working around thermal

1 insulation materials, pipe covering materials --

2 THE COURT: Okay. I have no dilemmas about that. I
3 think you're entirely correct about that, Mr. Collier. My
4 dilemma is only this, I need to know whether or not that
5 material is in any way replicative of the materials he
6 worked around?

7 MR. COLLIER: Your Honor, it's similar to -- and Mr.
8 Carlson, which is why we brought him here --

9 THE COURT: I'm not talking about similar to what's in
10 Bowater now, but I am wanting to know whether it is similar
11 to what Mr. Stewart around when he worked there. Because
12 the testimony, as I understand it, is that --

13 MR. ZEKELL: Mr. Carlson is --

14 THE COURT: Mr. Zekell. Mr. Zekell.

15 MR. ZEKELL: I'm sorry, Your Honor.

16 THE COURT: I'm speaking with Mr. Collier at this time.
17 I will not ever leave you out, but I'm speaking to him.

18 What I remember the testimony to be is that there was
19 some -- some pipes were insulated and, occasionally,
20 sometimes, once or twice a week, sometimes at more space
21 than that repair people who were pipe people, insulators, as
22 they were called, he was not, would come up in there and
23 sometimes they would have to break open a pipe to get at
24 something that they were going to repair. And sometimes
25 when that happened, they did not clean up after themselves

1 completely. And when he was in the first entry level job he
2 had, he took, a job he had for several years, he, like all
3 utility people, would sometimes sweep up that debris as they
4 swept up a whole lot of other debris. Now, that's just from
5 me, what I recall about the testimony.

6 Now, what I'm asking you is whether or not this piece
7 of demonstrative evidence is the same kind of insulation
8 that was cracked open and debris spilled out from it onto
9 the floor as they called it there in the basement for him to
10 clean up when Mr. Stewart worked at Bowater?

11 MR. COLLIER: Yes, Your Honor, but for the fact that
12 this does not contain asbestos.

13 THE COURT: Well, then -- let me see it.

14 MR. COLLIER: But it looks the same as what was around
15 the pipes and what will be shown through Mr. Carlson's
16 testimony.

17 MR. EARLY: You want to touch it, Your Honor?

18 THE COURT: Just turn it around so I can see it. Now,
19 what is that? That is some pipe insulation that doesn't
20 have asbestos in it?

21 MR. JEKELL: It's called calcium silicate insulation.

22 THE COURT: And what are you saying about the --
23 Mr. Jekell, not yet.

24 Mr. Collier what are you saying about the comparison
25 between that thing that is not the same thing as what he

1 worked around and what he worked around?

2 MR. COLLIER: Right, Your Honor. This does not contain
3 asbestos.

4 THE COURT: Yes, sir.

5 MR. COLLIER: But this is the type of insulation that
6 was used on piping systems at Bowater. There would be
7 another piece that fits as a half-round on top of this so
8 that the pipe would actually go through --

9 THE COURT: Oh, I get that. I have been around
10 mechanical things enough to understand that completely. But
11 I still don't understand what the relationship is between
12 that and a piece of asbestos-containing material. The
13 asbestos-containing material may have looked like that or it
14 may not have looked like that, I don't know.

15 MR. COLLIER: Well, Your Honor, that's the point, to be
16 able to show the jurors because it looks exactly like what's
17 on the pipes and what's on the --

18 THE COURT: Well, here's my dilemma in that regard.
19 And maybe I'm -- I've got more knowledge than I need to
20 have. I am very familiar with certain kinds of industrial
21 pipe rack wrappings. And in the days when asbestos was used
22 for pipe wrapping, there would be an exterior sometimes,
23 sometimes not even an exterior. But there would be an
24 exterior when there was something nonasbestos. And then
25 there would be asbestos material that came in a lot of

1 different forms. Some of it was pretty friable as it sat
2 there around. Some of it was in sheeting that was wrapped
3 around and then something else put around it. Sometimes it
4 was just wrapped around and nothing else.

5 I don't know what Bowater used back when, have no idea.
6 So therefore, I have no idea whether the asbestos that was
7 used around the pipes at Bowater during the time he would
8 have received exposure is this kind or whether it was some
9 of the other kinds that yours truly is just familiar with
10 out of a lifetime of managing a sand mining business and
11 doing some other things in construction that exposed me to
12 all the different wraps they used to use for pipes back in
13 the day. So that's what's got me troubled.

14 MR. COLLIER: Right. Your Honor, what Mr. Carlson is
15 going to do is he's going to tell the jury that this is what
16 the pipe covering was at Bowater.

17 THE COURT: How does he know that?

18 MR. COLLIER: Because he's been in over 60, I think it
19 is, paper mills, including Bowater when he took some of the
20 photographs on that inspection --

21 THE COURT: And when was that?

22 MR. COLLIER: The same day Mr. DePasquale went, back in
23 November of 2016, I believe.

24 THE COURT: Right. And that is not when -- Mr. Stewart
25 was dead by that time. What we need to know is what kind of

1 thermal was used back in the day when Mr. Stewart received
2 his exposure, sometime between 1963 and 2003 when he
3 retired. And that's -- are you going to have a witness, Mr.
4 Carlson or someone else, who can say what the pipe wrapping
5 on the steam pipes in Bowater back in that day was?

6 MR. COLLIER: I think Mr. Carlson can testify that this
7 is what the pipe wrap on the pipes back in the 60s and 70s
8 looked like. This is why we were offering it as a
9 demonstrative piece of evidence to show the jury.

10 THE COURT: I see.

11 Now, Mr. Jekell, it's your turn.

12 MR. JEKELL: Your Honor, first off, Mr. Carlson has
13 been in the courtroom listening to this whole thing. That's
14 what I wanted -- just wanted to ask Your Honor if he needed
15 to be excused while we argue.

16 THE COURT: I don't think so. It isn't going to change
17 what he says.

18 MR. JEKELL: But, Your Honor, Mr. Carlson has never
19 worked as an insulator.

20 THE COURT: I get that. He's an expert, like a lot of
21 experts, Mr. Jekell. What I am pursuing at this time is a
22 very narrow slice of it, is I don't like to show
23 demonstrative evidence to a jury if there's some dust up
24 about it unless it fairly approximates the thing you're
25 trying to demonstrate at the time when all the --

1 MR. JEKELL: And, Your Honor, my major concern is it
2 looks visually -- I mean, if you visualize it, it does look
3 the same, but I know calcium silicate, when you touch it,
4 Mr. Carlson is going to have dust everywhere. And calcium
5 silicate is a whole lot dustier than the TSI from the 60s
6 and the 70s that have the asbestos in it. And that's really
7 my objection, Your Honor. It's not --

8 THE COURT: Let me ask you if we can solve it this way.
9 I don't want any demonstrations that throw a bunch of dust
10 around. That would be a big no-no. So the first thing is,
11 if this thing is going to be shown, and I haven't decided
12 that yet, but if it's going to be shown, then it has to
13 simply be held up and exhibited and not -- and it won't go
14 back to the jury room and it won't have the ability to have
15 any dust come off of it or anything like that. I don't want
16 that happening at all.

17 MR. COLLIER: Your Honor, my only intention -- I wasn't
18 even going to have Mr. Carlson hold it. I was just going to
19 turn around and hold it right here.

20 THE COURT: I see.

21 MR. COLLIER: Not do anything with it.

22 THE COURT: Mr. Jekell, does that arrangement decrease
23 your anxiety?

24 MR. JEKELL: Yes, Your Honor.

25 THE COURT: Okay. Well, let's say this, that when the

1 time comes that you want to ask him about pipe wrapping --
2 and, of course, they're free to cross-examine him and so
3 forth, that's how you get at these things --

4 MR. COLLIER: Absolutely.

5 THE COURT: -- most of the time, but I want it to be a
6 fair approximation of what you're trying to demonstrate. As
7 I understand it, what will happen is Mr. Carlson will be on
8 the witness stand and when Mr. Collier examines him on pipe
9 wrapping, he or Will Early or someone else on the team is
10 just going to hold that thing up and exhibit it from back
11 there and that's going to be the end of it, then it will go
12 back in its box.

13 So on that basis, Mr. Jekell, I'm going to allow it.

14 MR. JEKELL: Okay.

15 THE COURT: Very good.

16 Are we clear now how we're going do?

17 MR. COLLIER: Yes, Your Honor.

18 THE COURT: Very good.

19 Bring the jury in, please, sir.

20 (WHEREUPON, the jury enters the courtroom.)

21 THE COURT: Ladies and gentlemen of the jury, you may
22 be seated.

23 Counsel for both sides, listen up for a moment. The
24 jury has sent this note to us.

25 And I kind of noticed this myself, members of the jury.

1 Can attorneys and witnesses be reminded to use
2 microphones, otherwise, speak loudly. We struggled to hear
3 the end of the questioning of the last witness. Thank you.

4 And, of course, what was happening at that time that
5 really exacerbated it, and I didn't say anything because I
6 wear hearing aids and everything is amplified. But the
7 rain, of course, really interferes with the fidelity. So if
8 all would speak into the microphone --

9 And that includes, Mr. Carlson, you as well. Make sure
10 you speak into that microphone there. Then we'll be in good
11 shape.

12 MR. YOUNG: Thank you, Your Honor. I apologize.

13 THE COURT: That's okay. No apology is necessary.
14 Defense, present your next witness.

15 MR. COLLIER: Yes, Your Honor, at this point, Scapa
16 would call Paul Carlson.

17 THE COURT: All right. Mr. Carlson, please come around
18 and be sworn.

19 THE CLERK: Mr. Carlson, if I could have you place your
20 left hand on the Bible and raise your right.

21 PAUL CARLSON,

22 after being duly sworn, testified as follows:

23 THE CLERK: Thank you, sir. Come around and have a
24 seat in the witness box.

25 DIRECT EXAMINATION

1 BY MR. COLLIER:

2 Q Good afternoon, Mr. Carlson, would you please introduce
3 yourself to the jury?

4 A My name is Paul Carlson.

5 Q Mr. Carlson, are you married?

6 A I am.

7 Q Do you have any children?

8 A I do, a daughter.

9 Q Any grandchildren?

10 A Yes, one.

11 Q And Mr. Carlson, where are you visiting us from today?

12 A From the Portland, Oregon area.

13 Q Mr. Carlson, could you please provide us with a brief
14 overview of your educational background?

15 A I have a Bachelor's Degree in chemical engineering and
16 a Master's Degree in industrial hygiene, both from the
17 University of Michigan.

18 Q With respect to the Master's Degree that you got in
19 industrial hygiene, what types of courses did you have to
20 take to get that degree?

21 A I had to take courses in toxicology, physiology,
22 ventilation, noise control, and industrial hygiene sampling.

23 Q Do you hold any professional licenses?

24 A I am. I'm a certified industrial hygienist.

25 Q And what process did you have to go through to become a

1 certified industrial hygiene?

2 A At the time, it was a two-part exam, with an additional
3 requirement that we have five years of work experience as an
4 industrial hygienist.

5 Q When you say at the time, when was that time that you
6 took the exam?

7 A I was certified in 1976.

8 Q And you've remained continuously certified as an
9 industrial hygienist from 1976 up through today?

10 A That's correct.

11 MR. COLLIER: Your Honor, may I approach?

12 THE COURT: You may.

13 (WHEREUPON, Defendant's Exhibit No. 9 was marked for
14 identification.)

15 BY MR. COLLIER:

16 Q Mr. Carlson, I've shown you what we've marked as
17 Exhibit No. 9. Is that a copy of your current CV?

18 A It is.

19 MR. COLLIER: Your Honor, at this time, we would tender
20 Exhibit No. 9.

21 THE COURT: Is that admitted without objection?

22 MR. JEKELL: No objection, Your Honor.

23 THE COURT: No objection. Admitted.

24 (WHEREUPON, Defendant's Exhibit No. 9 was admitted into
25 evidence.)

1 BY MR. COLLIER:

2 Q Mr. Carlson, does your CV set forth your professional
3 accomplishments and associations?

4 A Yes, it does.

5 Q And are you a member of various professional
6 associations?

7 A Yes. I'm a member of the American Industrial Hygiene
8 Association, nationally and the Pacific Northwest section
9 regionally. I'm also a member of the American Conference of
10 Governmental Industrial Hygienists.

11 Q And is that also known as the ACGIH?

12 A It is.

13 Q Have you taught any courses related to asbestos and
14 industrial hygiene issues?

15 A I have. I've taught courses at University in the
16 1970s, graduate level course on industrial hygiene sampling
17 and analysis, and that included asbestos. And I've also
18 taught that type of course within private corporations that
19 I worked for.

20 Q The University level course that you taught, was that
21 at University of Michigan?

22 A It was.

23 Q Have you written any book chapters?

24 A I have.

25 Q And what did the topics cover in the book chapter that

1 you wrote?

2 A Industrial hygiene aspects of the pulp and paper
3 industry.

4 Q Have you written any studies in the peer reviewed
5 literature about dryer felts?

6 A I have not.

7 Q And why not?

8 A It's not a common area of interest.

9 Q Can you tell the ladies and gentlemen of the jury a
10 little bit about your work experience after you got your
11 Master's Degree from the University of Michigan? What did
12 you do after that?

13 A After that, I taught for a year and worked in a small
14 business outreach in the State of Michigan to educate others
15 about industrial hygiene, particularly small businesses.
16 After that, I went to work for Oregon OSHA. I moved up to
17 Oregon and was with Oregon OSHA for five years as a
18 technical advisor and had technical operations. Then after
19 that, I went to work for Crown Zellerbach Corporation in the
20 early 1980s. Crown Zellerbach was a pulp and paper forest
21 products. And they were acquired by Financier in the
22 mid-80s and later merged with James River Corporation. So I
23 went for a seven-year period with them.

24 Q Mr. Carlson, I'd like to back up to your work with
25 Oregon OSHA. You talked about being a technical advisor.

1 Can you give us a little bit more description of what that
2 position entailed with Oregon OSHA?

3 A That title is not representative because I supervised
4 the occupational health laboratory that did the analytical
5 tests for the State of Oregon. I also was in charge of the
6 rule adoption section that was charged with adopting Oregon
7 standards to make them compliant with Federal standards.
8 And I also worked, as assigned by the administrator, by the
9 head of the division on special technical issues looking at,
10 for example, feasibility of engineering controls to control
11 health hazards.

12 Q And Mr. Carlson, you said after that you went to Crown
13 Zellerbach and then later acquired by James River. What was
14 your area of expertise or responsibility when you started
15 with Crown Zellerbach?

16 A I was regional industrial hygienist. I covered all
17 their operations west of the Mississippi River and worked
18 with the facilities to improve their safety and health
19 performance.

20 Q And when you say facilities, does that include paper
21 mills?

22 A In my area, it included a dozen paper mills as well as
23 packaging operations, wood products, such as lumber mills,
24 plywood plants, speciality products.

25 Q And did your job with Crown Zellerbach change at some

1 point when you mentioned James River coming into play?

2 A When we were being acquired, I became the corporate
3 industrial hygienist, and then thereafter, went to work for
4 James River Corporation as the west coast industrial
5 hygienist.

6 Q If I just refer to that entire period of employment as
7 Crown Zellerbach, are you okay with that?

8 A I'm good.

9 Q Did your job for Crown Zellerbach involve evaluating
10 any asbestos hazards?

11 A Yes, it did.

12 Q Did it involve evaluating the exposure levels of
13 asbestos to which employees might be exposed?

14 A Yes, it did.

15 Q Did it involve sampling in the paper mills to look for
16 the presence of asbestos?

17 A Yes, it did.

18 Q Did it involve analyzing the type of asbestos in
19 various insulation materials and equipment at the different
20 mills?

21 A By using our occupational health laboratory and our
22 industrial hygiene laboratory, yes.

23 Q And do you train other people to perform that type of
24 work as well?

25 A Yes. I work with the safety committees in the paper

1 mills to train safety people, safety committee people on how
2 to take samples, how to submit it to our laboratory. So if
3 anybody had a question as to whether a material contained
4 asbestos or not, they could get an answer to that.

5 Q When you worked for Crown Zellerbach, did you look at
6 any of the historical industrial hygiene testing which had
7 been done in the paper mills before you got there in 1981?

8 A Yes, I had access to that data and those reports.

9 Q And why did you review that data and those reports?

10 A Well, I was getting started and I wanted to know what
11 had been issues in the past since we had had a prior
12 industrial hygiene consultant work for the company and
13 wanted to see the type of things they were looking at.

14 Q Did you become familiar with the overall paper
15 manufacturing process when you worked for Crown Zellerbach?

16 A I did. I actually worked in a paper mill. My office
17 was in a paper mill, so I was probably 30 yards from the
18 closest paper machine. There were 14 paper machines in
19 there.

20 Q In the context of that employment, did you observe
21 paper breaks?

22 A Commonly, yes.

23 Q And can you tell the jury what a paper break is?

24 A A paper break is what -- it's very desirable to
25 continuously make paper sheets. Regardless of what kind of

1 product the paper turns out to be, whether it's cardboard or
2 what have you, you want to continue production. And at
3 times, the sheet as it's being made on the paper machine
4 will break. Because of forces that are imposed on it or
5 something going wrong, it will tear across and that will
6 stop production. And so when that happens, it's a
7 production interruption. It creates a lot of problems, so
8 people are on that right away to get that stopped and then
9 get paper rethreaded and the paper machine restarted.

10 Q Did you observe workers using compressed air in the
11 paper mills?

12 A Yes, all the time.

13 Q Did you observe workers cleaning paper machines and
14 other equipment?

15 A Yes, I did, many times and also made measurements
16 around that.

17 Q Over the course of your career, how many paper mills
18 have you visited?

19 A I have probably visited more than 60 paper mills
20 throughout the United States.

21 Q Did you become -- in those visits, did you become
22 familiar with the ventilation that was used at various paper
23 mills?

24 A Yes, I have.

25 Q And did you become familiar with how the paper sheet is

1 dried in the dryer sections of those paper machines?

2 A Yes.

3 Q Did you become familiar with the use of water in the
4 paper making process?

5 A It's a large consideration in the paper making process.

6 Q Did you learn what additives were put into various
7 paper trays and paper stock?

8 A Depending on what type of paper you're making, there
9 are various additives that would go in. There's also
10 additives that would go into the water or the slurry stock,
11 which is the mixture of pulp with water, to make it flow
12 better, to make it do something that improves production or
13 improves the quality of the paper.

14 Q And did you learn about the process to get that water
15 out of the paper so that you can actually have a sheet of
16 paper like we're using here today?

17 A Yes.

18 Q You understand that Mr. Stewart worked at Bowater Mill
19 in Catawba, correct?

20 A That's correct.

21 Q Have you visited that paper mill?

22 A I have.

23 Q Do you recall when that visit or inspection occurred?

24 A That was early November, I think November 1st or 2nd of
25 2016.

1 Q And that was the same inspection that Mr. DePasquale,
2 who was here last week, was telling us about? Both of y'all
3 were there at the same time and you met each other for the
4 first time?

5 A That's correct.

6 Q Well, we'll come back to the inspection in a little
7 while. Did you review Mr. Stewart's testimony and the
8 testimony of his coworkers in this case?

9 A I have.

10 Q How does what you read in Mr. Stewart's and his
11 coworkers' testimony about the work that they performed at
12 Bowater compare to the work that you've actually observed by
13 other paper mill employees?

14 A The work that they performed is very similar. There's,
15 usually, a seniority ladder, different job activities that
16 have to do with different elements of a paper machine. But
17 working on the paper production process is pretty much the
18 same for paper machines.

19 Q In your review of this case, did you see various
20 historical documents and materials from Bowater?

21 A I did.

22 Q Based on your experience in different paper mills, are
23 there any major differences between the actual production
24 processes in the mills out in the pacific northwest and here
25 in the southeast?

1 A No, not for this type of paper mill.

2 Q After you left Crown Zellerbach/James River, what did
3 you do next?

4 A Next, I started my own consulting firm and, at the same
5 time, I started a firm that conducted asbestos surveys and
6 managed asbestos abatement projects at facilities.

7 Q And what are the names of those companies?

8 A Paul Carlson Associates, now, we refer to it as PCA
9 Safety. It's the health and safety part of our firm.
10 Asbestos Resources was the name of the asbestos related part
11 of the firm.

12 Q And do both of those companies still exist today?

13 A No, Asbestos Resources was merged eventually after 13,
14 14 years into PCA Safety.

15 Q And today, you're here to speak as an expert witness in
16 litigation, correct?

17 A I am.

18 Q And so you do some work as an expert witness?

19 A Yes.

20 Q Does PCA do any health and safety consultation
21 unrelated to litigation?

22 A PCA Safety does all work not related to -- I should say
23 an awful lot of work not related to asbestos litigation or
24 litigation in general. We work on things such as making
25 chemical exposure assessments at paper mills or other

1 facilities. We work on indoor air quality issues at
2 workplaces, office areas, schools, public buildings. And we
3 make noise measurements at the same type of industrial
4 facilities, noise assessments. We have folks put in noise
5 controls. And any other kind of chemical exposure that
6 relates to the workplace, we will do an assessment of it.

7 Q With respect to the work that you've done for paper
8 mills, is knowing how paper is made and how people are doing
9 their jobs at these paper mills important to you as an
10 industrial hygienist for evaluating workplace exposures?

11 A Yes, it is. In order to really perform well as an
12 industrial hygienist, you have to have a good understanding
13 of the process and what's going into the process, what it
14 does, how materials can be changed or transformed. And then
15 you have to know what the work activities are, what the job
16 categories are for the work activities that are undertaken
17 to make a product.

18 Q Mr. Carlson, are you familiar with the term background
19 or ambient air levels of asbestos?

20 A I am.

21 Q And what does that term mean to you?

22 A To me, it means background levels such that are in a
23 paper mill. There are also background levels in urban areas
24 that are available -- information that's available on that
25 as well.

1 Q Is identification of ambient or background levels
2 important to you as an industrial hygienist?

3 A Yes, it is.

4 Q And you've worked for our firm in other cases, haven't
5 you?

6 A I have.

7 Q And you charge for your time when you work for our firm
8 or other firms as an expert witness?

9 A I do.

10 Q And what do you charge?

11 A I charge \$470 an hour.

12 Q And is that what you've charged in this case?

13 A Yes.

14 Q Mr. Carlson, can you agree that all of the opinions
15 that you'll offer here today will be expressed to a
16 reasonable degree of scientific certainty most probably?

17 A Yes.

18 MR. COLLIER: At this time, we would tender Mr. Carlson
19 as an expert in the industrial hygiene aspects of paper
20 mills and paper making operations, evaluation of
21 asbestos-containing materials and their use in industrial
22 settings in the evaluation of the potential for exposure to
23 asbestos.

24 MR. JEKELL: May I voir dire the witness, Your Honor?

25 THE COURT: Mr. Jekell, voir dire?

1 MR. JEKELL: Yes.

2 THE COURT: You may.

3 VOIR DIRE

4 BY MR. JEKELL:

5 Q Just one or two, and I'm going to do it from right here
6 if that's okay, Mr. Carlson. Have you published any article
7 in the peer reviewed literature on retrospective exposure
8 analysis to asbestos?

9 A No, I haven't.

10 Q Have you published any methodology for performing a
11 retrospective exposure to asbestos in the peer reviewed
12 literature?

13 A No.

14 MR. JEKELL: Your Honor, I have no objection to the
15 first three that he was submitted on, but on the
16 retrospective exposure assessment, I do object and do not
17 believe he's qualified.

18 THE COURT: All right. What we have here is
19 qualifications in one, industrial hygiene paper making, two,
20 asbestos in an industrial setting -- I'm just kind of
21 short-handing here. Three, potential to exposure
22 retroactive analysis. Retrospective is just another word
23 for retroactive, as I understand it. And you don't object
24 to the industrial hygiene in the paper making industry. You
25 don't object to asbestos in the industrial setting. But you

1 do object to potential for exposure retroactive analysis.

2 Mr. Collier?

3 MR. COLLIER: Yes, Your Honor, briefly, I don't think
4 we were asking for any sort of retrospective analysis.

5 BY MR. COLLIER:

6 Q But Mr. Carlson, as part of your work for PCA Safety,
7 you continue to go into paper mills today as you have since
8 the late 1980s, correct?

9 A Yes.

10 Q And in your work with PCA Safety, what types of
11 activities do you perform in those paper mills that you
12 visit?

13 A We do the same type of chemical and noise exposures and
14 we have managed asbestos on projects and we have conducted
15 asbestos surveys of sections of mills, individual areas, but
16 also, full paper mills.

17 THE COURT: What I will do is qualify him on industrial
18 hygiene paper making, asbestos in an industrial setting and
19 potential for exposure in an industrial setting from the
20 1980s forward.

21 MR. JEKELL: No objection.

22 THE COURT: Very good.

23 Mr. Collier, the witness is yours.

24 Excuse me. By reason of his training, education and
25 experience as recited in the three areas that I have

1 outlined, Mr. Carlson is denominated as an expert in both of
2 those three fields or areas.

3 CONTINUED DIRECT EXAMINATION

4 BY MR. COLLIER:

5 Q Mr. Carlson, the jury has heard a lot about paper
6 making, but can you tell the jury what this is? If you can
7 see it.

8 A I made reference to a slurry in paper making where pulp
9 is suspended in primarily water, but also with additives.
10 And that is that solution of slurry.

11 Q So this is what we start with making paper?

12 A When it comes to the head box or the start of the
13 machine, that's what it looks like.

14 Q And how much of this is water by percentage usually
15 when it comes out of the head box?

16 A When it's in the head box and it's starting to come
17 out, it's 99 percent water, one percent pulp.

18 Q And how much water is in the paper that I've got up
19 here?

20 A In normal paper, there will be a moisture content of
21 five to eight percent.

22 Q So, basically, you go from this water to this solid?

23 A Correct.

24 MR. COLLIER: Your Honor, at this point, we have a
25 video that we would like to show. If Mr. Carlson, for ease

1 of describing it on the screen, could leave the witness
2 stand and get the portable microphone?

3 THE COURT: Certainly, Mr. Carlson, you can step down
4 if you would like and Mr. Collier will supply you with the
5 portable microphone and you can use whatever pointing device
6 you would like to when you come to the screen. And, of
7 course, it goes without saying, speak into the microphone
8 and face the jury so they can pick up on your commentary.

9 MR. COLLIER: Your Honor, may I move over there?

10 THE COURT: Absolutely. Go wherever it's convenient
11 for you to position yourself so the jury can see his
12 testimony.

13 All right. You may proceed, Mr. Collier.

14 MR. COLLIER: Just a moment. I just want to make sure
15 everybody can see.

16 THE COURT: I don't hear you very clearly in your
17 microphone, so let's be sure you've got a microphone up
18 there.

19 MR. COLLIER: I do not.

20 THE COURT: Well, let's see if you can import one from
21 Mr. Jekell.

22 Take it out over the front, Mr. Jekell. It's kind of
23 tangled up there. Careful. Careful.

24 I tell you what, I've got better than that. How about
25 a portable microphone from the clerk's office. I think that

1 would work better.

2 There you go. Now, you're back where you don't block
3 the jury. That's good. Thank you, Mr. Collier.

4 You may proceed.

5 MR. COLLIER: Thank you, Your Honor.

6 BY MR. COLLIER:

7 Q We have a video here we'd like to show the ladies and
8 gentlemen of the jury just to give them some information
9 about paper making and the paper making process since
10 they've been here several days hearing about that. Mr.
11 Carlson, you've seen this video before?

12 A I have.

13 Q And you would agree that this video was not made at the
14 Bowater Paper Mill, was it?

15 A No, it wasn't.

16 THE COURT: Wait a minute, I don't think Mr. Carlson
17 has his microphone turned on.

18 Thank you.

19 BY MR. COLLIER:

20 Q Okay, I'll go back to my question. This video was not
21 made at the Bowater Paper Mill, was it?

22 A No, it wasn't.

23 Q And it was not made during Mr. Stewart's employment at
24 Bowater?

25 A No, it wasn't.

1 Q And it does not depict the actual paper machine number
2 one that was at the Bowater mill, does it?

3 A That's correct, it does not.

4 Q But it does depict portions of the paper making
5 process, correct?

6 A Yes.

7 Q And the paper machines in this video, are they similar
8 to the paper machine number one at Bowater?

9 A Yes, it is. Most paper machines are similar.

10 Q In the interest of the time for the use of this video,
11 we're going to skip to right here where the paper machine
12 itself starts, but are there processes that go on before the
13 stop or the slurry that we saw up there earlier gets to the
14 machine?

15 A Yes. When you put in a pulp and paper mill, it covers
16 a fairly large area because what they're doing is taking
17 logs or wood chips, storing them, then transporting it into
18 large what are called digesters where they are cooked with
19 steam and chemicals to soften up the wood chips, remove the
20 glue from it so the pulp cellulose can be freed up and then
21 used in paper making.

22 So that process goes on. That pulp is then washed and,
23 in the case of Catawba Mill, also, bleached. And then that
24 bleached product is put into a water suspension, that's how
25 the pulp is transported thereafter, in a water solution and

1 delivered to storage chest temporarily before it's put on
2 paper machines.

3 Q Okay. Let's go ahead and start the video. There's no
4 sound to this, but you can just point things out.

5 (WHEREUPON, video was played.)

6 THE WITNESS: So this is the start of the paper
7 machine. And there's a head box that holds this 99 to one
8 slurry and is dropping it down onto a moving screen. And
9 you may have heard reference to a forgineer (phonetic),
10 that's an expression. That's a particular type of wire that
11 picks up this slurry. And the idea is to get that stuff
12 spread over that and get it spread over very evenly as this
13 is moved down. And from here down, it's a process of
14 removing the water and then drying the sheet until it gets
15 to a product that we can use. So tremendous amounts of
16 water used on the paper machine, mist, water mist.

17 Once it goes down the screen, it starts going to these
18 forming presses where there are felts that get synchronized
19 and move to start physically pressing out the water further.
20 There's also vacuum slots to pull the water away from it.
21 And from there, it goes to the dryer sections, starts into
22 the dryers.

23 And this process is the sheet, as it's now been picked
24 up, and taking all the water it can from it. And it does
25 that by evaporating up water, turning it into water vapor

1 and that's exhausted up through the stacks, up onto --

2 MR. COLLIER: Can you pause that just a second.

3 BY MR. COLLIER:

4 Q Mr. Carlson, the jury has heard a lot about dryer pans.
5 Is there a dryer pan that's visible in this still photo?

6 A You'll probably see another picture of these, but this
7 is a dryer drum or dryer can. This is one up here. These
8 are large rotating cylinders. They may be like 20 feet
9 long, four feet in diameter. And they are going to be
10 pressurized for steam. They are going to be the way that
11 heat is transferred to a sheet of paper that's being made so
12 they can be dried.

13 Q And how does the steam get into those dryer pans that
14 we see there?

15 A The steam is distributed from a boiler, usually, in a
16 separate building, that delivers steam to a large header
17 behind the paper machines on the back side of the paper
18 machine. Then that further distributes steam down to
19 eventually each and every dryer drum, each and every dryer
20 pan. So, you know, I think paper machines -- the number can
21 vary, but I'd say 50 dryer pans, more than that in the whole
22 dryer area. That might be divided into sections.

23 MR. COLLIER: You can go ahead and start the video.

24 THE WITNESS: This also shows the dryer felts that are
25 being used. And the dryer felts are pressing that sheet

1 against the dryer surface, dryer drum surface to make sure
2 that there's close contact, make sure that there's heat
3 transferred so water is evaporated. The water evaporates
4 through that felt, the outside of that felt and is picked up
5 and exhausted in the ventilation hoods for each dryer
6 section.

7 BY MR. COLLIER:

8 Q So we paused the video, but what do we see here in this
9 still photo?

10 A In this section, you've actually -- this is a dryer
11 felt that's going into a -- here's the dryer can, here's the
12 sheet and it's going to hold that sheet on that.

13 Q And then kind of a fuzzy -- in the background, what is
14 that? What do we see in the background?

15 A They are guide ropes. You may have heard reference to
16 guide ropes. They are guide ropes that can be used to help
17 pick up if there's a break to help guide a new sheet or new
18 product -- a new sheet that's been started back through the
19 process again.

20 Q And when we start the picture again, explain a little
21 bit about what we see coming across the screen.

22 A So across the screen, what we're starting to see here
23 is the structure of the dryer sections themselves, heavy
24 cast iron with a series of rollers, not just the dryer pans,
25 but also felt rollers and structural framework down here

1 that ties them all together so there's a physical
2 obstruction to prevent people from putting their hands in
3 there, their arms in there, but also hold up all of this
4 operating equipment and allowed to rotate.

5 Q Do you see any moisture being generated in this section
6 of dryers?

7 A Yeah, on the left where you're starting to see clouds
8 go by, that water vapor that's being evaporated and pulled
9 out. This picture is a dryer drum looking directly from the
10 side of it, so now you get a much better picture of the
11 structural framework. You see the rope guides. You see the
12 dryer felts. And you have 50 or 60 of those drums
13 operating.

14 This is the person that's performing a blow down. So
15 this person has a high pressure hose and they're just
16 walking and directing that hose into those little gaps to
17 knock out any loose pieces of paper that may have
18 accumulated when there was a paper break, make sure that
19 paper doesn't stay in there and be a problem for a new sheet
20 or, perhaps, become a fire hazard.

21 Q How does that compare to what you've seen in paper
22 mills that you've been in?

23 A Very similar. So the person just goes along, points it
24 in there if he sees some paper. It blows through to the
25 other side.

1 Q So all that water that you saw on the video, is that
2 the kind of water you would want to drink?

3 A No, I don't want to drink that water. The sample of it
4 is there. It contains a lot of chemicals. It contains a
5 lot of wood fibers, very fine wood fibers. It contains
6 things such as starch or clays. Anything that's used in
7 paper making ends up in that water.

8 Q And can you tell the jury what it's like under the hood
9 of the paper machine?

10 A When you're inside the hood of a paper machine, it's
11 very hot, number one, and it's very humid. It has major
12 temperatures in there for purposes of looking at heat stress
13 for workers. And it can be 130 degrees Fahrenheit. It makes
14 you breathe through your teeth. It's very hot.

15 Q So is that why ventilation is important in the process
16 of making paper?

17 A Yes. This is discharge on the roof from each dryer
18 section, has its own fan system. And this is discharge.

19 Q So what are we seeing here?

20 A This is a person holding up the exhaust, a towel to
21 show how much velocity is coming up through there. And in
22 this case, this machine -- and again, this is not the number
23 one paper machine. This one has -- you can tell it has five
24 dryer sections, it's got five discharge ducts. And these
25 are three, four, five feet in diameter.

1 Q Thank you, Mr. Carlson. Those are all the questions I
2 have about the video.

3 THE COURT: Mr. Carlson, you may take the witness stand
4 again.

5 BY MR. COLLIER:

6 Q Mr. Carlson, one of the things you have reviewed in
7 this case is Mr. Stewart's and his coworkers' testimony
8 about the job that they had on paper machine number one in a
9 line of progression, right?

10 A That is correct.

11 Q And you've read their testimony concerning the machine
12 operation?

13 A I have.

14 Q Is that consistent with what you've seen in other paper
15 mills and in other cases that you've consulted on?

16 A Yes, similar.

17 Q And did you factor their testimony into the opinions
18 that you will give in this case?

19 A I did.

20 Q As a utility worker, did Mr. Stewart and his coworkers
21 testify about working in close proximity with thermal
22 insulation materials?

23 A They did.

24 Q Did they talk about being in the vicinity when those
25 materials were installed and removed?

1 A Yes.

2 Q And did they talk about cleaning up those materials?

3 A They did.

4 Q The jury has heard some testimony from Mr. Stewart and
5 his coworkers about the components that were added to the
6 paper stock. And you touched on that a moment ago during
7 that video. Do you recall reading that testimony?

8 A I did.

9 Q Have you been involved in the investigation of other
10 paper mills where asbestos was used as a component in the
11 paper manufacturing process?

12 A Yes, I have.

13 Q Have you seen any evidence that asbestos was added as a
14 component to the paper stock at Bowater?

15 A Yes, I have. There are sales records of calidria,
16 which was an asbestos product that was marketed to be used
17 for certain type of control in paper making. And that was
18 done in the mid-1960s.

19 Q Did those invoices that you saw from the mid-1960s
20 denote the sale of more than a million pounds of that
21 calidria material?

22 A Yes, it did.

23 Q And that would have been used during the timeframe that
24 Mr. Stewart was working as a utility fit hand?

25 A That's correct.

1 Q Once they were in higher positions on the paper machine
2 crew, did Mr. Stewart and his coworkers testify about
3 overseeing the people who were lower than them on the line
4 of progression?

5 A Yes, they did.

6 Q Did they talk about -- testify about paper breaks and
7 about blowing across the machine on paper breaks to clean
8 out the paper scraps from the machine?

9 A Yes, they did, just as the video shows.

10 Q And what was the necessity of cleaning out these paper
11 scraps?

12 A That was to prevent the accumulation of those scraps of
13 paper, that maybe they would get stuck such that they would
14 affect the ability to make paper on a good quality sheet.
15 It would have affected the production quality and production
16 rate.

17 Q And did you read testimony about blow downs that
18 occurred on longer shut down periods where the machine was
19 actually shut down for a period of time?

20 A Yes.

21 Q And what was the purpose of those blow downs on these
22 longer shut downs?

23 A On the longer shut downs, there would be accumulated
24 dust, paper dust. And one of the safety concerns around
25 paper machines -- and again, depending on the type of paper

1 you're making is accumulation of paper dust because it's
2 combustible and could become a fire hazard and you can have
3 a fast-spreading fire occur because of those dust
4 accumulations. So there are scheduled clean ups to keep
5 those accumulations down.

6 Q Have you seen records from the mill and testimony from
7 Mr. Stewart and his coworkers detailing the volume of water
8 that was used on paper machine number one?

9 A I have.

10 Q And what do you recall those records showing with
11 respect to the daily water usage on machine number one?

12 A Daily water usage on number one, the records I saw were
13 3.3 million gallons a day.

14 Q Mr. Carlson, you've been provided with Scapa's
15 mastercards in this case, right?

16 A I have.

17 Q And the jury has seen a number of those. But Mr.
18 Doherty, Scapa's representative came and testified last week
19 that Scapa sold 23 asbestos-containing dryer felts and 49
20 nonasbestos dryer felts at Bowater, okay?

21 A Okay.

22 Q So less than a third of the Scapa dryer felts sold to
23 Bowater contained asbestos according to those numbers,
24 correct?

25 A Correct.

1 Q Now, you understood from the testimony of Mr. Stewart
2 and his coworkers that there were usually eight dryer felts
3 running on a machine at any given point in time, two in each
4 of the four dryer sections?

5 A That's correct. There's a top felt and a bottom felt
6 on each of the four sections.

7 Q And did you see in the testimony of Mr. Stewart and his
8 coworkers how frequently the dryer felts were changed on
9 average?

10 A The estimates were around 180 days, so the felt would
11 last for six months, maybe more.

12 Q So that would mean approximately 16 dryer felts were
13 used on paper machine number one in any given year?

14 A That's correct.

15 Q If we take the timeframe that Mr. Stewart started at
16 the mill, so 1963, until 1981, how many dryer felts would
17 have been used on paper machine number one during that
18 timeframe using the witnesses' testimony?

19 A 288 felts.

20 Q And of those 288 dryer felts, what percentage would
21 have been Scapa asbestos-containing dryer felts?

22 A 7.9 percent, a little less than eight percent.

23 Q And if you were to look at the approximate total dryer
24 felts used on paper machine number one during Mr. Stewart's
25 career, what would the percentage of Scapa

1 asbestos-containing dryer felts be during that span of
2 years?

3 A Just a little less than 3.8 percent.

4 Q You've reviewed the testimony of Mr. Stewart and his
5 coworkers relative to the various manufacturers of dryer
6 felts used at Bowater, haven't you?

7 A I have.

8 Q And do you recall the names of the dryer felt
9 manufacturers?

10 A Yes. The names that are mentioned are Mt. Vernon,
11 Albany, Asten, Scapa and Lockport.

12 Q And was there one in particular that was identified as
13 a primary supplier at any point in time?

14 A Mt. Vernon dominated.

15 Q And we don't know how many asbestos-containing dryer
16 felts Asten, Albany, Lockport, Mt. Vernon, anybody else
17 supplied to Bowater, do we?

18 A No.

19 Q It might be roughly the one in three ratio that Scapa's
20 sales shared or it might be substantially more than the
21 numbers of --

22 MR. JEKELL: Objection, Your Honor, objection. He just
23 said he has no idea what the number is. He can't possibly
24 agree to one-third or any other number. He just said he
25 didn't know. He's asking about how many other of these

1 companies' felts may have been asbestos-containing. He said
2 he doesn't know.

3 THE COURT: I agree. Sustained.

4 BY MR. COLLIER:

5 Q Mr. Carlson, have you seen anything in the testimony
6 you've reviewed that Mr. Stewart installed, removed, cut or
7 blew down a Scapa asbestos-containing dryer?

8 A No. There's been no evidence that he worked directly
9 with the Scapa felt, asbestos felt.

10 Q The jury's heard a lot about the hoods over the paper
11 machines and the ventilation through the hoods. And that's
12 something that you've personally witnesses in numerous paper
13 mills, correct?

14 A Correct.

15 Q Have you seen records concerning the tonnage or the
16 amount of paper produced per day on paper machine number
17 one?

18 A The tonnage changed a little bit over time, changed as
19 production improved, but 240 tons was the production rate.

20 Q How does your production rate, in turn, determine the
21 ventilation rate?

22 A It goes back to the water vapor that is generated. You
23 have to remove that water vapor and the air with the water
24 vapor and bring in -- make that air so you can continue to
25 carry away water vapor. That's the drying process. So

1 there are engineering calculations worked out to tell you if
2 you want to make -- or making in your paper machine design X
3 number of pounds of paper a day, then you're going to need
4 this many cubic feet a minute of air to exhaust through the
5 dryers.

6 Q And did you estimate that ventilation rate to be 50 to
7 60,000 cubic feet per minute in the deposition that you gave
8 in this case?

9 A Yes, I did.

10 Q And that was for just one section of dryers, correct?

11 A That's correct.

12 Q So for four sections of dryers like what was going out
13 of Bowater, that would be 200,000 plus cubic feet per minute
14 of ventilation?

15 A That's correct..

16 Q So over the course of a 24-hour day, how many cubic
17 feet of air would be removed through the hoods?

18 A 288 million cubic feet.

19 Q Mr. Carlson, was one of the things that you were
20 provided in this case the engineering and design
21 specifications for paper machine number one and the
22 associated piping?

23 A Yes.

24 Q Have you seen similar specifications from other paper
25 mills?

1 A Yes, I have.

2 Q Were the Bowater specifications generally similar to
3 what you've seen from other mills?

4 A It varies by engineering firm, but, generally, their
5 specifications and call outs are the same.

6 Q Did you see that the specifications were received by
7 Daniel in February of 1961 to construct paper machine number
8 one?

9 A Yes.

10 Q Did the specifications identify the temperature and PSI
11 rating of various steam and condensate lines associated with
12 paper machine number one?

13 A Yes, it did.

14 Q Did the specifications identify and approve
15 manufacturer of insulation for the steam and condensate and
16 hot process lines on paper machine number one?

17 A Yes, they did. They identified Johns-Manville.

18 Q And was that Johns-Manville thermobestos?

19 A Thermobestos.

20 Q Based on your experience and training, was
21 Johns-Manville thermobestos an asbestos-containing product
22 in the early 1960s?

23 A Yes, it was.

24 Q Based on your experience and training, what was the
25 fiber type contained in Johns-Manville thermobestos?

1 A It contained both chrysotile and amosite.

2 Q Did the specification also identify the type of gaskets
3 to be used in the steam and other high pressure lines?

4 A Yes, they identified flexitallic gaskets.

5 Q And what type of gasket -- just so the jury understands
6 this, what type of gasket is a flexitallic gasket?

7 A That's an asbestos-containing gasket.

8 Q Did you review specifications associated with the
9 pulping and bleaching processes and the piping systems that
10 were used to transport those materials at Bowater?

11 A Yes, I did. And the gaskets were identified as
12 crocidolite gaskets.

13 Q And is that blue asbestos?

14 A Blue asbestos.

15 Q And Mr. Carlson, you've never worked at the Bowater
16 mill, but you have been there in connection with your review
17 of this case as we discussed earlier, correct?

18 A That's correct.

19 Q And that was in the fall of 2016, November of 2016?

20 A November 2016.

21 Q Did that inspection assist you at all in formulating
22 your opinions in this case?

23 A It did assist.

24 Q And would that be in a specific sense rather than a
25 general sense because you've already been to so many paper

1 mills throughout your career?

2 A I've been in paper mills and also have read the
3 depositions and descriptions that people were making and get
4 to see visually what pulp was being described.

5 Q When you were on your inspection at Bowater in 2016,
6 did you see signs that indicated there was still
7 asbestos-containing insulation materials present at the
8 mill?

9 A Yes.

10 Q So in 2016, 14 years after Mr. Stewart left, Bowater
11 still had asbestos-containing thermal insulation materials
12 in the facility?

13 A That's correct.

14 Q And you took some pictures during your inspection at
15 Bowater, correct?

16 A Correct.

17 MR. COLLIER: Your Honor, at this point, if Mr. Carlson
18 may come back up to the screen again?

19 THE COURT: Yes, Mr. Carlson, you can come and resume
20 your position. Be sure to get the portable microphone.

21 MR. COLLIER: Your Honor, may I go back to my position?

22 THE COURT: Yes, Mr. Collier, of course.

23 MR. COLLIER: Thank you.

24 THE COURT: And gentlemen, when you assume your
25 position for this part of the examination, be sure you test

1 your microphones first. Thank you.

2 MR. COLLIER: Can we bring up the photos?

3 BY MR. COLLIER:

4 Q Mr. Carlson, if you could explain to the jury where
5 this is in the paper machine room and what it is we're
6 seeing in this photograph?

7 A So this is a photograph of the operating floor of the
8 number one paper machine and as you'll see on down. In the
9 video, you saw structural framework to hold the dryer cans,
10 dryer drums, now you see the rows of dryer drums. You see
11 the guide ropes. This machine is shut down at this point.
12 It hasn't been operating for several years. You can also
13 see that the hood has sides that will come down and further
14 impose the hood. And in the foreground is a man cooler,
15 it's just a ventilation device to reduce the amount of heat
16 that's on the operating floor so employees get some relief
17 from the heat.

18 Q And we're not going to go through all of these, but
19 were there multiple man coolers located along the front of
20 the paper machine on the operating floor?

21 A Yes, there were.

22 Q And are those pipes that are coming out from under the
23 hood?

24 A There are two insulated lines here on the front side of
25 the paper machine.

1 MR. COLLIER: Go the next picture, please.

2 BY MR. COLLIER:

3 Q Mr. Carlson, what do we see here?

4 A This is really just part of the same. It just further
5 shows the door system, how they slide up and down, the
6 doors. If, for example, there's a break or somebody needs
7 to get inside, these things can be mechanically hoisted up
8 and people could do the work. Other than that, the sides
9 are kept down.

10 Q So when the paper machine is running and making paper,
11 the doors are generally in the down position like on the
12 right-hand side of the photo?

13 A Right. If the paper machine is operating, the doors
14 are down.

15 MR. COLLIER: We can go to the next photograph.

16 BY MR. COLLIER:

17 Q What do we see, Mr. Carlson?

18 A So, now, this is around on the back side of the paper
19 machine, the dryer section. And again, we can see the dark
20 ends. Now, this is on the back side. So the back side is
21 enclosed using the sliding doors, or partially closed. And
22 you can start to see some of the piping that has been
23 insulated, insulated piping that's back here. There's also
24 uninsulated piping. But here, you can see cladding. There
25 was reference to cladding. There's cladding on those

1 insulated lines there, at least, partially. This part is
2 not insulated. And this mill's been down for several years,
3 but you can see the difference in the cladding. This is
4 older cladding. That looks shiny and new.

5 Q And what does that shiny and new plating suggest?

6 A It suggest it's been replaced in the more recent past.

7 Q Sometime after the machine was shut down?

8 A Possibly, but maybe about the time or around that time
9 period.

10 MR. COLLIER: Can we go to the next photograph?

11 BY MR. COLLIER:

12 Q What do we see here?

13 A So, this is down in the basement of the paper machine.
14 You can start to see what the underside is. You've heard
15 reference to sheets of paper that accumulate. These would
16 be things that would be cleaned up. You also see structural
17 steel. And unstructural steel, you see this corrugated
18 material here, it's broken. That's common called transite.
19 And it's been broken, but it's asbestos-containing material.

20 THE COURT: Excuse me, you trailed off a little bit,
21 Mr. Carlson.

22 THE WITNESS: I would just say the transite,
23 T-R-A-N-S-I-T-E, transite is damaged, but it is corrugated
24 asbestos cement sheet.

25 BY MR. COLLIER:

1 Q And in that broken state, does it provide exposure
2 opportunity?

3 A Yes, it does.

4 Q And that's in the area around the number one paper
5 machine?

6 A Yes, it is.

7 MR. COLLIER: Let's go to the next photograph.

8 THE WITNESS: Here, you get the idea of the extensive
9 piping that exist. This is down in the basement. And you
10 can see pumps and the lines from the pumps are insulated.
11 Here's a portion of line that's insulated, but it doesn't
12 have cladding on it. Here's some exposed insulation from
13 the cladding. This is metal cladding. Over here, you can
14 insulated lines as well.

15 Q Do those areas of exposed insulation provide an
16 exposure opportunity?

17 A Yes, they do.

18 MR. COLLIER: We can go to the next photograph.

19 THE WITNESS: Just additional piping that's insulated.
20 And you can see how it presents itself. So you may have a
21 base pipe, but then with the additional inch or inch and a
22 half of insulation around the outside of it, that pipe gets
23 thicker -- the appearance gets thicker and then it has metal
24 cladding on it.

25 BY MR. COLLIER:

1 Q And then is there some new cladding there on the
2 right-hand side?

3 A Over here on the far right-hand side, you can see shiny
4 new, newer cladding as well.

5 MR. COLLIER: Let's go to the next one.

6 BY MR. COLLIER:

7 Q Mr. Carlson, what do we see here?

8 A This is back in the basement. I think in the
9 background, you can see corrugated sheets, but you also have
10 piping and tanks here that have been abated, have had
11 asbestos removed from them. And you can tell that by their
12 visual appearance.

13 MR. COLLIER: Can you go to the next photograph?

14 BY MR. COLLIER:

15 Q Mr. Carlson, can you explain what this is?

16 A Well, in the foreground are these scrap pieces of paper
17 that come down from up above or down in the basement. Paper
18 machine operating, of course, up here. So when there's a
19 break, these are the type of materials that come down --
20 they come down to the ground. They collect on surfaces.
21 And you can see the wire and the felt in the background.
22 And again, this machine is shut down.

23 Q Mr. Carlson, is this a duct fan on the mezzanine level?

24 A Yes, this is an air duct, so now we're up on the
25 mezzanine. So it's a floor up and on the back side of the

1 number one paper machine. And among the things that get
2 held was the four fans that would exhaust air with water
3 vapor out in the dryer sections.

4 Q So is that the hood exhaust fan for number three?

5 A That is for the number three section and it gives a
6 design data and shows the -- it's designed -- it was
7 designed to operate 58,500 CFM.

8 Q And you had testified in your deposition a year before
9 you went on this paper mill inspection that it was your
10 estimation that the ventilation from each hood section was
11 50 to 60,000 cubic feet per minute, correct?

12 A Yes, that's a pretty common figure for dryer sections
13 in various paper mills.

14 Q And so then did your participation in this site
15 inspection specifically confirm the general impression or
16 observation that you had before the site inspection?

17 A Yes.

18 Q Mr. Carlson, those are all the questions I have about
19 the screen. Mr. Carlson, you're familiar with how dryer
20 felts are used in the paper making process?

21 A I am.

22 Q Is that something that you observed and learned about
23 during your employment with Crown Zellerbach?

24 A Yes.

25 Q And that was about a dozen different paper mills?

1 A That is correct.

2 Q And have you continued to learn about and observe the
3 use of dryer felts in the paper making process during the
4 operation of your business, PCA Safety?

5 A Yes, we continue to work in the pulp and paper industry
6 and continue to see dryer felt use.

7 Q The jury's heard a little bit about OSHA. You
8 mentioned earlier this afternoon you actually worked for
9 Oregon OSHA. What is OSHA?

10 A OSHA is Occupational Safety and Health Administration.
11 It's the federal agency charged with protecting the employee
12 or worker health and safety. And the state agencies can be
13 designated to carry out that function through a mutual
14 operating agreement, which the State of Oregon and other
15 states, 23 other states, they operate state programs.

16 Q Did there come a time when OSHA required warnings on
17 certain asbestos-containing products?

18 A Yes. Products were required to be labeled as asbestos
19 initially in 1972.

20 Q But they didn't require warnings on all
21 asbestos-containing products, did they?

22 A They did not. There was a warning exemption in the
23 1972 OSHA asbestos standard for materials that would not
24 release asbestos in excess of the newly established legal
25 exposure limits.

1 Q Did OSHA ever require a warning on dryer felts that
2 contained asbestos?

3 A No.

4 Q Mr. Carlson, I asked you earlier if you had ever done
5 any work doing personal samples and area samples, do you
6 recall that?

7 A Yes.

8 Q And the jury saw a personal sampler during the
9 testimony of Mr. DePasquale last week. Can you just briefly
10 remind us how a personal air sampler works?

11 A So the function of a personal sampler is to attempt to
12 replicate the same type of atmosphere the person would be
13 breathing. So you place the sampler, either the sampling
14 probe or the collection filter in what's called the
15 breathing zone. And a battery operated portable pump is
16 worn usually on the hip, on a person's belt connected by a
17 vacuum flexible tied-on tubing hose. And you pull air,
18 collect what you're interested in through the filter or some
19 other collection device and that gets sent to a laboratory
20 or some place where its further analyzed.

21 Q And is there also something called an area sampler?

22 A An area sample is the same thing, only this time, you
23 try to determine the personnel exposure, personal breathing
24 zone exposure. You might be interested in what is the
25 level, their contaminant here. And so you can set up either

1 the same type of pump or you can set up electric operated,
2 electrically powered ones that can sample a much greater
3 volume of air, allow you to detect much lower levels of the
4 particular contaminate. But you can set those out to
5 determine how effective is your ventilation system, what are
6 the levels in this area around this paint spraying operation
7 that other people might pass by at times. To do those kind
8 of things, you can use area samples.

9 Q And have you used both of those pieces of equipment in
10 your work at Crown Zellerbach and throughout your years as
11 an industrial hygienist?

12 A Yes, extensively.

13 Q Did you see any air monitoring around paper machine
14 number one in conjunction with the Bowater records you
15 reviewed in this case?

16 A Yes, I did. There was air sampling conducted in 1988
17 by an independent third party looking at airborne asbestos
18 levels for workers on -- in the worker breathing zones for
19 workers on the number one paper machine.

20 Q And did those documents inform your opinions in this
21 case?

22 A Yes, they did.

23 Q What did those personal sampling results show?

24 A Those personal sampling results showed measurable
25 levels of asbestos in most cases. And that was in 1988.

1 Q When these measurements were taken in 1988, were there
2 any asbestos-containing dryer felts in use on paper machine
3 number one?

4 A No, there hadn't been any in use for eight years.

5 Q Was there asbestos-containing thermal insulation still
6 present around paper machine number one at this point?

7 A Yes, there was.

8 Q And how do you know that there was still
9 asbestos-containing thermal insulation material present?

10 A The same firm in 1991 took samples of suspect
11 insulating material or building structural material, such as
12 the transite-type material, collected samples and had them
13 analyzed for asbestos in 1991.

14 Q So what was the significance of these personal sampling
15 results on paper machine one in 1988?

16 A Well, the personal sampling results in 1988 said there
17 was measurable levels and it was years after a dryer felt
18 had been there. Something has to account for why you still
19 that background-type levels remaining, measurable levels at
20 that time. And the insulating materials would be the prime
21 suspect.

22 Q Mr. Carlson, when you've been in paper mills around the
23 country, have you had occasion to see pipe covering being
24 used?

25 A Yes.

1 Q Did you have occasion to see pipe covering which you
2 knew to contain asbestos be removed from a paper mill?

3 A Yes.

4 Q Mr. Carlson, this is not asbestos-containing, but does
5 it fairly approximate what was used on piping systems at
6 Bowater?

7 A Yes. If you turn that around, the jury can see that a
8 run of pipe would fit on the inside and then there's a
9 second matching half to that. That was called a clam shell
10 insulating style. And that's put around a straight piece of
11 pipe and then can be wired in place or wrapped with cloth
12 and then covered.

13 Q Mr. Carlson, when you worked for Crown Zellerbach, did
14 you participate in efforts to identify different kinds of
15 asbestos-containing materials in their mills?

16 A I did.

17 Q What were the principle types of asbestos-containing
18 materials that you found in paper mills?

19 A The principle types were thermal system insulation,
20 pipe insulation, insulation that would be on pressure
21 vessels, hot vessels, steam vessels. So that could be in a
22 block form insulation. It could be on boilers. And then in
23 addition to that, you would have the building structures,
24 inside of the buildings were made out of steel framework.
25 They would put up the corrugated cement material and that

1 was transite.

2 Q And by transite, you mean asbestos-containing cement
3 product?

4 A Yes.

5 Q Are you familiar with the term friable?

6 A Yes.

7 Q And what does that term mean to you?

8 A Friable asbestos means that it's subject to crumbling
9 by hand pressure.

10 Q When you worked for Crown Zellerbach, did some of your
11 work include evaluating whether some of that
12 asbestos-containing insulation material, the transite, was
13 in a friable state?

14 A Yes.

15 Q And what did you find?

16 A We found that it was.

17 Q Does friable asbestos-containing insulation present the
18 opportunity for people to be exposed to asbestos?

19 A Yes, it does.

20 Q Were you also provided in this case with asbestos
21 survey and sampling documents from Bowater?

22 A I was.

23 Q And did reviewing those documents inform your opinions
24 in this case?

25 A Yes, it did.

1 Q Were the surveys from Bowater similar to the surveys
2 you've conducted at paper mills?

3 A Fairly similar. You conduct extensive sampling, taking
4 hundreds of samples throughout the mills so that you can
5 characterize where asbestos is and where it isn't and,
6 perhaps, being asked to quantify how much is there and,
7 perhaps, being asked to comment on the condition of that
8 material with regard to its deterioration and the need for
9 corrective action.

10 Q And so those reports or surveys include both findings
11 and recommendations?

12 A Yes.

13 Q Were some of the documents that were produced by
14 Bowater from a company called Azimuth?

15 A Yes.

16 Q And who is Azimuth and what was their role?

17 A Azimuth was an independent third party who, apparently,
18 made an asbestos -- or a series of asbestos assessments at
19 the Bowater mill for asbestos-containing materials.

20 Q Did they conduct asbestos sampling and surveys around
21 paper machine number one?

22 A They did.

23 Q What were their findings with respect to paper machine
24 number one and asbestos-containing materials in that area?

25 A So in that 1991 sampling survey, they confirmed the

1 presence of insulating materials around the number one paper
2 machine in that pipe insulation, such as -- not the exact
3 same type, but what you just presented with was found to
4 contain both chrysotile and amosite asbestos. And the
5 content varied, but the commonly cited percentage for
6 amosite would be 30 to 50 percent, maybe down as low as five
7 percent. Also, found chrysotile and they also found
8 chrysotile-containing insulation cloth, canvas.

9 Q Were there many areas of significantly damaged
10 insulation around paper machine number one?

11 A The report found that on the back side of the paper
12 machine on the mezzanine and down in the basement, their
13 comments were that there was very significant damage to
14 insulating materials back there. There was debris on the
15 floor that was extensive. And they recommended it
16 immediately be cleaned up and stated that it presented a
17 high health hazard.

18 Q Were there notations that there was damage to the
19 condensate tanks and the associated insulation with the
20 condensate tanks in the basement?

21 A Again, the same material was identified and same
22 findings and recommended action.

23 Q Was there any indication that there was any aluminum
24 cladding on the asbestos-containing insulation?

25 A No.

1 Q What did Azimuth conclude or what did the investigators
2 conclude with respect to the potential for asbestos exposure
3 from those different areas that you just named off?

4 A They expressed a serious hazard was presented, exposure
5 hazard is presented given the condition of the material, the
6 deterioration and the extent of debris found in the areas.

7 Q And this survey was conducted in 1991, which was more
8 than 10 years after the last asbestos-containing dryer felt
9 was used?

10 A That's correct.

11 Q You mentioned that Azimuth conducted some testing on
12 some of the samples. Is that what would be referred to as
13 bulk testing?

14 A Yes, that's called bulk testing.

15 Q And did some of these samples that were bulk tested
16 come from the steam lines that were feeding the dryers?

17 A Yes.

18 Q And also from the condensate tanks in the basement?

19 A Yes.

20 Q And the condition of the materials that they sampled,
21 were they friable, were they damaged?

22 A They were very damaged.

23 Q And with respect to their bulk sampling analysis, I
24 believe that you testified earlier that there was amosite
25 found in some of those samples?

1 A Correct.

2 Q And it ranged as high as 30 to 50 percent amosite?

3 A Correct.

4 Q Was there any mention of aluminum cladding on pipes or
5 tanks in any of the Azimuth reports?

6 A I don't recall any.

7 Q Was any insulation cloth found in the sample?

8 A Yes.

9 Q Did you see insulation cloth referenced in the original
10 construction documents that we talked about earlier?

11 A Yes, that was called out in the design.

12 Q What does that lead you to conclude with respect to the
13 insulation cloth?

14 A A common way that this clam shell would be --

15 MR. JEKELL: Your Honor, I need to object. I don't
16 believe there's a foundation for this type of testimony. I
17 don't believe that Mr. Carlson testified that he's ever been
18 engaged in the construction of a paper plant. He's talking
19 about specifications and what all this meant when they were
20 making the mill, Your Honor. That's basically my objection.

21 THE COURT: I sustain it on the basis of the foundation
22 laid thus far.

23 BY MR. COLLIER

24 Q Mr. Carlson, you saw some of the engineering and design
25 specifications, correct?

1 A I did.

2 Q And you saw in those engineering and design
3 specifications that there was insulation cloth called out
4 for use on some of the piping systems, correct?

5 A Correct.

6 Q You saw in the Azimuth sampling and bulk samples done
7 in 1991 that there was insulation cloth that had been
8 removed from the piping systems and analyzed for asbestos
9 content, correct?

10 A Correct.

11 Q And with respect to the site inspection that you
12 participated in, would that be consistent with the site
13 inspection in that you saw areas that had been insulated,
14 but they did not have cladding over them?

15 A There were sections like that that had not -- did not
16 have metal cladding and there was metal cladding that looked
17 relatively recent.

18 Q And by relatively recent, you're talking about the
19 shiny portions that you pointed out?

20 A Yes, it looked new. Paper machine areas are highly
21 corrosive and have a lot of materials that can show up as
22 stains on the outside of piping. You may have seen that on
23 the cladding. It tends to tell you that there's an age to
24 that cladding. And although there was some of that as well,
25 there was brand new cladding.

1 Q Do you have any idea when the cladding was added over
2 the cloth?

3 A No.

4 Q Mr. Carlson, the jury has heard several times now about
5 asbestos-containing insulation that was abated at the paper
6 mill and you briefly described what an abatement is earlier.
7 Did you review abatement records from the mill?

8 A I did.

9 Q And were some of those records from Bowater and some of
10 those records from the State of South Carolina?

11 A They were.

12 Q And did those records inform your opinions in this
13 matter?

14 A They did.

15 Q What do you recall from your review of records
16 regarding the quantity that was abated?

17 A For the mill, there were maybe 20,000 lineal feet of
18 pipe insulation that had been removed and disposed of. And
19 for surface insulation, such as transite-type material,
20 there were tens of thousands of square feet that were
21 removed.

22 Q Would 20,000 lineal feet of material abated equate to
23 miles?

24 A Yes, about four miles.

25 Q Are you familiar with industrial hygiene studies

1 regarding exposures to asbestos from the installation and
2 removal of asbestos-containing materials?

3 A I am.

4 Q And have you read testimony in this case that Mr.
5 Stewart worked around people removing and installing and
6 disturbing asbestos-containing thermal insulation materials?

7 A Correct.

8 Q Do you have an opinion to a reasonable degree of
9 scientific certainty, most probably whether that would have
10 exposed him to respirable asbestos fiber?

11 A Yes.

12 Q And that opinion?

13 A Is that it would have.

14 Q Mr. Carlson, Dr. Millette came and spoke to the ladies
15 and gentlemen of the jury last week about his calculations
16 of the amount of asbestos and the number of fibers in a
17 dryer felt based on the size of the dryer felt. Did you
18 review his testimony in that regard?

19 A I did.

20 Q Was that calculation representative of any kind of
21 exposure anyone would get to an asbestos-containing dryer
22 felt in a commercial paper mill?

23 A No.

24 Q You're also familiar with Dr. Millette's dryer felt
25 test, his fingertip test, his post-it note test, and his

1 glove box test?

2 A Yes.

3 Q How did those tests compare to the actual working
4 conditions at a paper mill?

5 A They don't reflect the actual working conditions at a
6 paper mill.

7 Q Did Dr. Millette's testing take into account the three
8 plus million gallons of water used daily?

9 A No.

10 Q Did Dr. Millette's testing take into account the 288
11 million cubic feet of air ventilated daily, the hood over
12 paper machine number one?

13 A No.

14 Q What about the angle of the air hose that Dr. Millette
15 used in his test, how does that compare to what you've seen
16 happening in commercial paper mills?

17 A What I've seen happen at a commercial paper mill is
18 very similar to what you saw in the video where the person
19 holds the hose or maybe there's a metal wand attached to the
20 hose and directs it tangentially along the surface of the
21 dryer felt. The purpose is to dislodge paper. It's not to
22 perform some extensive cleaning on a dryer felt itself.

23 Q Have you ever seen anybody in a commercial paper mill
24 use air the way Dr. Millette did in his glove box test?

25 A No.

1 Q You think it would even be possible?

2 A No.

3 Q Why not?

4 A Mr. Millette took the -- used a perpendicular -- here's
5 the sample, and went straight 90 degrees perpendicular to
6 that and directed the jet at a short distance away. And
7 again, if you go back to an operating paper machine, the
8 physical framework and structure prevents anybody from
9 getting in, turning their wand or the metal gun that they
10 had at the end of the hose directly like that. Putting your
11 hand or your arms in a paper machine like would be a
12 tremendous safety violation.

13 Q Are you familiar with some dryer felt testing that was
14 done at Western Michigan University?

15 A I am.

16 Q Were you at Western Michigan when this test was done in
17 2001?

18 A I was for a time, yes.

19 Q How long was the test overall?

20 A The test overall was roughly 30 days.

21 Q And what was your role in the test?

22 A My role was to observe the operation and then later
23 participate in editing the report that was written from
24 that.

25 Q You didn't design the test, did you?

1 A No, principle design was from another consulting firm
2 that specializes in asbestos analysis and measurements.

3 Q Can you tell the jury just generally what happened with
4 the Western Michigan test, how it worked?

5 A The Western Michigan test was performed on what's
6 called a pilot scale paper machine. Whereas, Dr. Millette's
7 is a glove box, something like a bread box size, a pilot
8 scale machine is not as big as a regular operating machine
9 like number one, but it is set up, usually, in research
10 areas, such as Western Michigan, where they get to try
11 different techniques or different materials in making paper.
12 That machine was smaller, but it was still a functioning
13 paper making machine.

14 Q That machine actually could make paper, correct?

15 A It could and it did.

16 Q And was the Western Michigan study exactly like what
17 happens in a commercial paper mill?

18 A It was very similar.

19 Q You had mentioned that size was smaller than a
20 commercial operating paper mill. Were there any additional
21 differences in addition to the size of the machine?

22 A I'm sure that technically there were other differences
23 in the machine itself since it was a study of asbestos
24 release from dryer felts. The machine itself was totally
25 enclosed in a containment structure such that if there was

1 any asbestos released, it was contained in that area.

2 Q What about the way the workers used compressed air to
3 clean the paper machine at Western Michigan? How did that
4 compare to what was used in a commercial paper mill like
5 what we've been talking about at Bowater?

6 A The clean up was done a couple different ways. The
7 first set of tasks was attempting to do something that you
8 could do not on a regular paper machine, and that is
9 replicate Dr. Millette's type of technique where you were
10 directly over the moving felt or, in one case, a stock felt
11 and you had an air hose, air pressure discharged onto that.
12 In other examples, you moved it back and forth. You could
13 do that because the machine was small enough that the
14 operator could reach across the dryer felt itself. There
15 wasn't any overhanging or structural elements that prevented
16 that.

17 Q And was the use of compressed air across the dryer felt
18 in the second part of the test like what Mr. Stewart and his
19 coworkers testified to?

20 A That's correct. The second set of tests -- there were
21 four subsequent tests and they comport more with the classic
22 style of using a wand or the air hose and directing it
23 parallel to the moving sheet across it or maybe at just
24 slight angle to dislodge paper.

25 Q If you blew across the dryer felt the way that you

1 would in a typical commercial paper mill, what was the
2 result of the Western Michigan test?

3 A The result of the Western Michigan test if you do it
4 that way were really -- no real asbestos exposure itself,
5 very, very low levels.

6 Q What about the ventilation, was the ventilation on the
7 pilot machine at Western Michigan the same as what you would
8 find in a commercial paper mill?

9 A The ventilation rate was much lower.

10 Q You talked about the ventilation rate at Bowater and
11 saw the photos about that, can you compare the ventilation
12 at Bowater to the ventilation at Western Michigan as far as
13 what the CFM at Western Michigan might have been?

14 A The Western Michigan used no more than 15,000 cubic
15 feet per minute of air. The Bowater number one paper
16 machine uses 200,000 -- on the order of 200,000 of cubic
17 feet of air per minute.

18 Q And was the ventilation rate in the Western Michigan
19 test changed at some point in time?

20 A Yes. Towards the end of the testing, it was increased
21 to get a velocity up into the hood of the pilot scale
22 machine that is more like that on a regular operating paper
23 machine. Prior to that time, it was a much lower volume.
24 It was done as much to maintain the containment structure
25 and keep a site vacuum on that as it was to provide the

1 water vapor.

2 Q But even at 15,000 cubic feet per minute, it was still
3 substantially less than the ventilation rate at Bowater?

4 A Yes.

5 Q Which is closer to what happens in a commercial paper
6 mill, the Western Michigan test or Dr. Millette's glove box
7 test?

8 A The Western Michigan study.

9 Q And how do the Western Michigan numbers compare to the
10 personal air monitoring that was done by Azimuth on paper
11 machine number one in 1988 when no asbestos-containing dryer
12 felts were being used?

13 A You look at a daily average of people who are involved
14 in the regular type of clean up after a break at Western
15 Michigan, their exposure levels were lower than those
16 samples from the individuals working on the number one paper
17 machine in 1988.

18 Q Mr. Carlson, you're familiar with some air sampling for
19 asbestos which has been done --

20 THE COURT: Mr. Collier, I detect that you still have,
21 perhaps, some more questions for Mr. Carlson. We're at 3:30
22 now. What I would like to do is give the jury and the court
23 reporter a little break at this point if it is a convenient
24 stopping point for you.

25 MR. COLLIER: Yes, Your Honor. I've got about 15 more

1 minutes.

2 THE COURT: I figured given your slight change in
3 topics that you might be heading towards a little bit more
4 examination, which is fine.

5 Let's take a 15-minute break now. We'll see you again
6 at quarter of 4:00 or thereabouts.

7 (WHEREUPON, the jury leaves the courtroom.)

8 THE COURT: You can't talk about your testimony with
9 anybody, but, otherwise, feel free to roam about.

10 THE WITNESS: Thank you.

11 (WHEREUPON, a short break was taken.)

12 (WHEREUPON, the jury enters the courtroom.)

13 THE COURT: Ladies and gentlemen of the jury, please be
14 seated. We are continuing with the direct examination of
15 Mr. Carlson.

16 Mr. Carlson, you may take the witness stand, please,
17 sir.

18 Mr. Collier.

19 MR. COLLIER: Thank you, Your Honor.

20 BY MR. COLLIER:

21 Q Mr. Carlson, I was getting ready to shift gears with
22 you there right before we took the break. You're familiar
23 with some air sampling for asbestos, which has been done in
24 commercial paper mills, correct?

25 A Yes.

1 Q And you did some of that work when you were an
2 industrial hygienist for Crown Zellerbach, correct?

3 A Yes.

4 Q When you were an industrial hygienist for Crown
5 Zellerbach back, and as you told the ladies and gentlemen of
6 the jury earlier today, you actually looked at some
7 historical data that the mill did regarding air sampling for
8 asbestos; did you not?

9 A Yes, I did.

10 Q And those tests were done before you got to the paper
11 mill?

12 A That's correct.

13 Q And would you consider that to be real world data?

14 A Yes, it was.

15 Q Those were studies that was conducted before there was
16 any litigation involving dryer felts?

17 A That's correct.

18 Q And they weren't paid for by either plaintiff counsel
19 or defense counsel?

20 A Correct.

21 Q Are you familiar with a test conducted by an industrial
22 hygienist, Mr. Windlick, in April of 1973?

23 A Yes.

24 Q Did that involve two paper mill employees during the
25 change out of an asbestos-containing dryer felt in a

1 commercial paper mill?

2 A It did.

3 Q Is that a test that you looked at in conjunction with
4 preparing your opinions in this case?

5 A Yes.

6 Q Is that a test that you rely upon in reaching your
7 conclusions in this case?

8 A Yes.

9 Q And what were Mr. Windlick's conclusions regarding the
10 change out of the asbestos-containing dryer felt?

11 A Mr. Windlick measured exposures of two employees
12 involved in dryer felt change on an operating paper machine.
13 And as a result of his exposure assessment, he concluded
14 that the exposure levels were well below the OSHA standard
15 and that there was no need for warnings or labels as a
16 result of the testing. And there was also no need for
17 personal equipment, such as protective clothing and
18 respirators and that there was no need to subject the
19 employees to medical monitoring as a result of the type of
20 asbestos exposure.

21 MR. JEKELL: Your Honor, I'm going to move to strike as
22 nonresponsive. I thought counsel's statement was what were
23 the results. And he gave us a little conclusions that may
24 be drawn from the results, so I'm going to move to strike
25 the answer as nonresponsive.

1 THE COURT: I'm sure, Mr. Collier, that we're going to
2 get back to both of these topics, both the results and the
3 conclusions.

4 But Mr. Carlson, you've been asked about the results,
5 so please respond in kind.

6 THE WITNESS: The results were the exposure levels did
7 not exceed the applicable standards at the time and did not
8 constitute a hazard.

9 BY MR. COLLIER:

10 Q Mr. Carlson, did Mr. Windlick's conclusions indicate
11 that there was any personal protective equipment required to
12 conduct the dryer felt change?

13 A No.

14 Q Did Mr. Windlick's conclusions indicate that there were
15 any changes in work practices that were necessary?

16 A No.

17 Q Did Mr. Windlick's conclusions indicate that there was
18 any need for labels or warning signs?

19 A No.

20 Q Were the exposure levels that Mr. Windlick found during
21 the 1973 asbestos-containing dryer felt change below the
22 current 2018 OSHA permissible exposure level?

23 A Yes.

24 Q Are you familiar with evaluations conducted by Mr.
25 Salazar in 1977?

1 A Yes.

2 Q Who is Mr. Salazar?

3 A Alberto Salazar was an industrial hygienist that my
4 firm, Crown Zellerbach, retained as an industrial hygiene
5 consultant.

6 Q Did Mr. Salazar's studies for Crown Zellerbach concern
7 looking at some of the same things that you looked at later
8 when you got there in terms of exposure levels from blow
9 downs?

10 A Yes.

11 Q Were his evaluations something that you looked at in
12 conjunction with preparing your opinions in this case?

13 A Yes.

14 Q Were his evaluations something that you rely upon in
15 reaching your conclusions in this case?

16 A Yes.

17 Q And what was Mr. Salazar looking at in his 1977
18 evaluations?

19 A Mr. Salazar was looking at exposure levels during a
20 blow down, more extensive blow down of paper machine hood,
21 including clean up inside the hood.

22 Q Was he concerned the deteriorating hoods were
23 contributing to high asbestos exposure levels?

24 A Yes, his concern was that the way the hood was
25 constructed, it used a material that was determined to be

1 asbestos containing. And because it was deteriorating,
2 those involved in clean up could be exposed to high levels
3 of asbestos.

4 Q Did you actually conduct testing on the same paper
5 machine that Mr. Salazar conducted testing on?

6 A I did later.

7 Q And by later, your testing was about four years later
8 in 1981, was it not?

9 A 1981.

10 Q And when you conducted your testing at Crown Zellerbach
11 on the same commercial paper making machine, were
12 asbestos-containing dryer felts in use?

13 A Not at the time we did the testing.

14 Q Were they in use when Mr. Salazar performed his
15 evaluations?

16 A Yes.

17 Q And what did your testing conclude?

18 A My testing showed levels that were higher or as high
19 Mr. Salazar's testing that he had done several years
20 earlier.

21 Q So what conclusions do you draw in conjunction with
22 comparing this actual field testing that was conducted by
23 Mr. Salazar in 1977 to your actual field testing that was
24 conducted in 1981?

25 A My conclusion would be that you can't say that asbestos

1 dryer felts contributed to exposure levels.

2 Q And was any of that testing by Mr. Windlick, Mr.
3 Salazar or the testing that you performed in 1981 performed
4 in the context of any litigation?

5 A No.

6 Q Mr. Carlson, you know that Scapa sold 23
7 asbestos-containing dryer felts and 49
8 nonasbestos-containing dryer felts to Bowater?

9 A Yes.

10 Q And you've seen in the testimony and documents that
11 there were several other dryer felt manufactured products
12 who were also present at Bowater?

13 A Correct.

14 Q Is it possible to say to a reasonable degree of
15 certainty most probably that Mr. Stewart handled a Scapa
16 dryer felt?

17 A No.

18 Q Is it possible to say to a reasonable degree of
19 certainty most probably that any Scapa dryer felts Mr.
20 Stewart handled contained asbestos?

21 A No.

22 Q Based on your review of the materials in this case, has
23 there been any evidence from Mr. Stewart or any of his
24 coworkers that Mr. Stewart ever installed, removed or cut a
25 Scapa asbestos-containing dryer felt?

1 A No.

2 Q Do you have an opinion to a reasonable degree of
3 scientific certainty most probably as to whether the use of
4 Scapa's asbestos-containing dryer felts at Bowater would
5 contribute to the airborne levels of asbestos in the mill?

6 A Yes.

7 Q And what is your opinion?

8 A My opinion is they wouldn't materially contribute to
9 the airborne levels at the mill.

10 Q Do you have an opinion to a reasonable degree of
11 scientific certainty most probably as to whether the use of
12 Scapa's asbestos-containing dryer felts at Bowater would
13 cause any asbestos exposure to Mr. Stewart?

14 A I do.

15 Q What is that opinion?

16 A Based on the evidence presented, that is that nobody
17 has identified Scapa felts, asbestos-containing felts that
18 were installed, cut, removed by Mr. Stewart that they did
19 not contribute to his exposure to asbestos.

20 Q To a reasonable degree of scientific certainty most
21 probably, what were the probable sources of Mr. Stewart's
22 asbestos exposure at Bowater?

23 A Based on the information provided as I reviewed it, my
24 conclusion is that it could be asbestos insulating materials
25 and surfacing materials that have been identified.

1 Q When you say surfacing materials, you're referring to
2 the block and transite materials?

3 A Block and transite materials.

4 MR. COLLIER: Thank you, Mr. Carlson.

5 THE COURT: Cross-examination, Mr. Jekell?

6 MR. JEKELL: Yes, Your Honor, we have a little bit of
7 that.

8 May I approach the witness, Your Honor? I only have
9 one copy of these.

10 THE COURT: You may.

11 CROSS-EXAMINATION

12 BY MR. JEKELL:

13 Q Mr. Carlson, this is a document that's been previously
14 marked as 07214. It's put out by the asbestos information
15 association 1972. It talks about recommended work
16 practices, use and handling of asbestos textile products. I
17 don't mean to get too close, sir. I don't want to invade
18 your space. Have you ever seen this document before?

19 MR. COLLIER: Objection, Your Honor.

20 THE WITNESS: I --

21 THE COURT: Just one moment. Just one moment. An
22 objection is lodged.

23 MR. COLLIER: May we approach?

24 THE COURT: You may.

25 (WHEREUPON, a bench conference was held.)

1 BY MR. JEKELL:

2 Q Mr. Carlson, I've marked as Exhibit No. 75 the document
3 entitled recommended work practices, use and handling
4 asbestos textile products. You would agree with me that a
5 dryer felt is an asbestos textile product which contains
6 asbestos, right?

7 A Well, I'm not so sure.

8 Q Well, doesn't Scapa advertise itself as a seller of
9 dryer cloth, paper making cloth? We've heard them talk
10 about it being a cloth.

11 A I don't think they think of it as a cloth per se. When
12 I think of asbestos cloth, I'm thinking of the cloth that
13 goes around insulated pipe.

14 Q Well, they've got sections in here on what you do when
15 you cut, housekeeping and waste disposal. My question is,
16 when Crown Zellerbach did the testing where they found no
17 results, can you tell the jury whether the guys that were
18 doing that activity were following these activities or not?
19 Do you know?

20 A Well, what I'm looking for is the date on this
21 publication.

22 Q I can represent to you that it's around 1975?

23 A Okay. Well, I don't know if they used it or not.

24 Q But you would understand and you would agree with me
25 that this type of work practice is designed to control and

1 keep dust down? So if they were following work practices,
2 you wouldn't expect elevated results, would you?

3 A Well, again, subject to the interpretation that that's
4 -- the asbestos dryer felt is a cloth, perhaps.

5 Q If they were following safe work practices designed to
6 reduce dust, would you be surprised if they got results
7 showing no exposures?

8 A I don't know.

9 Q Okay. You're familiar -- I'm going to hit a couple
10 topics and then we'll get a little more organized. You've
11 seen the RJ Lee Group study, right? You're familiar with
12 this?

13 A Yes.

14 MR. JEKELL: Can I get the Elmo, please?

15 BY MR. JEKELL:

16 Q This is a page -- this is the back of a page --

17 THE COURT: Wait a minute. On the screen, it's not
18 very clear. Move that thing over some so the whole thing --
19 can you sharpen the focus on it a little bit?

20 BY MR. JEKELL:

21 Q Have you seen the count sheet before? Again, Mr.
22 Carlson, if they want -- I'm interested -- they took counts
23 of actual asbestos fibers during some of the work in the
24 study, right?

25 A Of some of the fibers?

1 Q Yes.

2 A Yes. And you're looking at a scanning electron
3 microscopy result, correct?

4 Q Exactly. And they actually counted in one instance
5 over a hundred chrysotile fibers that were released during
6 the activity, correct?

7 A Well, yes, but, again, this is test number one. We've
8 already indicated that test number one was trying to
9 reproduce --

10 Q Correct. I just wanted to make sure the jury saw that
11 there were actually fiber counts in there and that fibers
12 were released off the Scapa asbestos-containing dryer felt,
13 correct? Yes?

14 A Using the Millette technique, yes.

15 Q Well, let's go to that. This is Exhibit 67 already in
16 evidence. I'm going to hand this to you and let you look at
17 it before I put it on the screen. This is a Scapa document.
18 Did the lawyers give you that?

19 THE COURT: Hold on one minute, Mr. Jekell. I don't
20 think the monitors are on for the jury. Hold for a minute.
21 Let's get these monitors on. Hold for a moment. Mr. Drake
22 will tell you when she's got them all on.

23 MR. JEKELL: There we go.

24 THE COURT: Wait until Ms. Drake tells you. It's the
25 rear jurors that are affected. Very good.

1 Mr. Jekell, you may proceed.

2 BY MR. JEKELL:

3 Q Mr. Carlson, I was asking you if the lawyers showed you
4 that document. Have you seen that document before?

5 A No..

6 Q It's talking about cleaning the felts, right?

7 A Well, it's talking about cleaning some material off and
8 it looks like it's an experimental method.

9 Q But this is a Scapa document, it's Scapa 1978, cleaning
10 dryer felts by Mr. Hiedlite (phonetic). We've heard his
11 name before. And they do talk about air cleaning, do they
12 not?

13 A I didn't read it comprehensively enough to be able to
14 tell you that.

15 Q That's a 90-degree angle, right?

16 A Yes.

17 Q So that was recognized by Scapa as something that
18 happens on dryer felts, right?

19 A Well, I'm not sure if the intent is related to this.
20 And my reason for saying that is the little bit that I read
21 in there said something about critumin and removing pitch
22 from the felt. So if the intent is to remove those pipes
23 and materials that accumulate, it would be a different
24 function than blow down.

25 Q Well, again, to tell this jury that nobody every

1 envisioned blowing air 90 degrees on a dryer felt is just
2 not accurate. Scapa talked about themselves, did they not?
3 A Well, it isn't the concept of the 90 degrees. It's the
4 concept of thinking that you can do a 90-degree cleaning on
5 a dryer felt when you're cleaning out a machine when it's --
6 when the dryer drums are rotating.

7 Q And we aren't talking about when -- I mean, when they
8 clean the felts, the dryer machine is not on. The machine's
9 not running, is it?

10 A You saw in that video it is. I mean, that's how you
11 clean it.

12 Q No, not during blow down. I'm not suggesting during
13 the blow down. When they're cleaning the felts with air,
14 that's something else they would do separate and apart from
15 a blow down, right?

16 A Yeah, and that was my point. I just wanted to be clear
17 that it was not an assumption that that's done during a blow
18 out.

19 MR. JEKELL: Your Honor, I will mark as Plaintiff's
20 Exhibit No. 76 for identification -- I'm going to mark this
21 one as 77. I marked something else as 76, but I'm going to
22 use it in a minute, Your Honor.

23 May I approach the witness?

24 THE COURT: You may.

25 (WHEREUPON, Plaintiff's Exhibit No. 77 was marked for

1 identification purposes.)

2 BY MR. JEKELL:

3 Q Mr. Carlson, it's got bates numbers on it. I'm going
4 to put these bates numbers in the records. These are a
5 portion of the survey of the asbestos material that you
6 talked about, RFP100358. Now, I know that the lawyers gave
7 you over a thousand pages of documents from Bowater on these
8 surveys, right?

9 A Yes.

10 Q It was almost 1600 pages, right?

11 A Yes.

12 Q Well, this is one of the surveys that's in there. I'm
13 going to hand it to you. I've marked it as 77. Does that
14 look -- you talked about some of the surveys and the ...
15 materials that you reviewed. Is that one of the surveys,
16 Mr. Carlson?

17 A It appears to be.

18 Q Great. And it is Bowater, right?

19 A Yes.

20 Q Now, let's look at Page 1. It's an asbestos survey,
21 right?

22 A Yes, this is bulk samples of asbestos.

23 Q Now, this is in the pulp mill. And is there any
24 evidence that Mr. Stewart worked in the pulp mill?

25 A No. Again, this was a comprehensive mill survey, so it

1 looked at all the areas.

2 Q But again, not every piece of insulation on the steam
3 line had asbestos in it, did it?

4 A No.

5 Q Now, I want -- there is a section -- now, there's a lot
6 of areas in here, powerhouse third floor, powerhouse fourth
7 floor. Now, that is included in some of that, was it two
8 miles or four miles of pipe we talked about, sir, the
9 powerhouse?

10 A No.

11 Q No?

12 A No.

13 Q Just the machine one?

14 A Just the number one paper machine. That came from the
15 abatement documents, not this.

16 Q Well, if you'll look at the very bottom, the number
17 100369?

18 A Yes.

19 Q Got that, all right. First one, MD insulation cloth on
20 dryer steam lines. You see that? Isn't that what you
21 talked about with Mr. Collier?

22 A I'm looking number one paper machine?

23 Q It's right up here on the screen, 154, number 154.

24 A Okay.

25 Q If you'll look at the very bottom, sir -- I'm not

1 trying to -- I'm just trying to move it along. We've got a
2 lot to cover.

3 A 369?

4 Q Yes.

5 A Yes.

6 Q Now, the condense lines in the dryers, there's no
7 asbestos there?

8 A (No response.)

9 Q All right. I just wanted the jury to actually see one
10 of these surveys that we talked about. Now, interestingly
11 enough, in Plaintiff's 77, there is no crocidolite, is
12 there? Go ahead and look at it. No blue asbestos.

13 A I don't see it, but I don't think they sampled gaskets
14 either.

15 Q Oh, I'm glad you brought up gaskets. You've done some
16 work for gasket folks, haven't you?

17 A Yes.

18 Q And in those cases, you tell juries like this they
19 don't give off a lot of fibers, don't you?

20 A Well, I think the exposure levels are relatively low.

21 Q Okay. I wanted to make sure. All right. I'm going to
22 move on to something else. You talked a lot about
23 insulation. And I want to make sure I'm clear, you went
24 there in 2014 and you said that there was still asbestos,
25 thermal -- PSI is what I call it, but thermal insulation in

1 place that was still there, right?

2 A In November of 2016.

3 Q 2016, excuse me. So that means that's been there for
4 over 40 years. I mean, they stopped selling it in '72,
5 right?

6 A Yes, around there.

7 Q So that's insulation's been there for over 50 years and
8 still operational, right?

9 A It's still in place.

10 Q Still in place, okay. Now, you talk about the
11 construction specifications. You understand that a group
12 called Daniel Construction built the plant in paper machine
13 number one, right?

14 A That's my understanding.

15 Q You know Daniels up there in Greenville, right?

16 A No.

17 Q Well, trust me, they are. There's also a group up
18 there -- now, I've seen a lot of constructions specs. You
19 said it talked about Johns-Manville thermobestos, didn't it
20 also say for improved (inaudible)?

21 A Yes.

22 Q And are you familiar with Kaylo 20, it was an
23 Owens-Corning Fiberglass product?

24 A There are a lot of Kaylo products, that one
25 specifically, not necessarily.

1 MR. JEKELL: I'm going to mark this as Plaintiff's 78,
2 Your Honor, for ID.

3 (WHEREUPON, Plaintiff's Exhibit No. 78 was marked for
4 identification.)

5 MR. JEKELL: May I approach the witness?

6 THE COURT: You may.

7 BY MR. JEKELL:

8 Q Mr. Carlson, again, I don't want to invade your space,
9 sir, but that's Daniels Construction, care of Bowater,
10 correct?

11 A Yes.

12 Q It's 1959, correct?

13 A Yes.

14 Q Koval Insulation, again, that's in Greenville, right?

15 A That's what it says.

16 Q And this is an invoice for Kaylo 20?

17 A Yes.

18 Q And this one had the standard canvas on it, right?

19 A Yes. I'm just not sure how it ties into Bowater, but
20 go ahead.

21 Q Well, I mean, it went to Bowater. I mean, it says
22 Daniels Construction at Bowater, Catawba, South Carolina?

23 A Yes.

24 Q So are you satisfied that this is a list of materials
25 that went to Bowater, sir?

1 A Yes, that's the address.

2 MR. JEKELL: We'll mark Plaintiff's 79 for
3 identification.

4 (WHEREUPON, Plaintiff's Exhibit No. 79 was marked for
5 identification.

6 BY MR. JEKELL:

7 Q Mr. Carlson, I'm handing you what's been marked as
8 Plaintiff's Exhibit 79. I am going to represent to you this
9 is an advertisement for Owens-Corning Kaylo-20 from February
10 of 1963. Would you take a moment to familiarize yourself
11 with it? I just want to ask you about the first page, Mr.
12 Carlson.

13 A Okay.

14 Q In 1963, you get standard canvas cabinet on Kaylo at no
15 additional charge, right? You see that?

16 A Yes, that's what it says.

17 Q And then, they had Kaylo clad available, which it's
18 that aluminium jacketing that went on there as well. And
19 they talk about why you want some of that in there, right?
20 They talk about it's a half-inch, the dimensions, 0.016
21 stainless steel and aluminum, right?

22 A That's correct.

23 Q And you would admit that we saw as the felts go through
24 the dryer cage and all that, some of the water and the pulp
25 with the acids and stuff is coming out, right?

1 A Yes.

2 Q All right. And if that stuff got on the uncovered
3 insulation, it might damage that, right?

4 A If it's underneath, if it's in a water shower, yes.

5 Q So there might be good reasons that Bowater got the
6 Kaylo clad, right?

7 A Could be.

8 Q Now, truth be told, you weren't there in '63, were you?

9 A That's correct. I'm looking at specifications.

10 Q And so a lot of the insulation that was around paper
11 machine number one that was clad when you went there may
12 have very well been clad back in 1963 and continuing on,
13 right?

14 A Well, yeah, but you can't ignore the fact that
15 insulation, piping insulation was sampled around the number
16 one paper machine. If we go back to the survey, it showed
17 the presence -- I mean, it just wasn't one sample that
18 showed that. There were numerous examples of pipe
19 insulation on the number one paper machine that contained
20 amosite and chrysotile.

21 Q No doubt. I don't believe I've asked you if that's not
22 true, and I'm not disputing that. What I'm saying, though,
23 if that insulation in 1963 through whatever was clad with
24 aluminum during the time that Mr. Stewart's standing next to
25 an aluminum clad asbestos-containing thermal insulation,

1 he's not going to be exposed to asbestos coming out of that,
2 is he?

3 A Unless it's physically damaged.

4 Q Right. The aluminum would need to be cut and let the
5 asbestos fibers escape out and then they'd suddenly need to
6 make it into Mr. Stewart's breathing zone, right?

7 A Or the insulation was struck by something.

8 Q But truth be told, you can't tell this jury anything
9 about the condition of the insulation on the pipes as
10 existed in 1963 other than the description that Mr.
11 Stewart's coworkers gave, is that fair?

12 A Of course not.

13 Q Well, how do you know what the condition of the
14 insulation was on paper machine number one in 1964? Let's
15 look at this timeframe, sir. What was it like on the back
16 side of paper machine number one in 1964? Can you tell the
17 jury anything about the condition of the steam lines going
18 into the heater pans on the back of this machine in 1964.

19 A Well, number one, it was a brand new machine at that
20 point in time. And so, I would hope that the insulation was
21 in very good condition at that time since it had just been
22 installed.

23 Q Well, it could have been there for five years already,
24 right? You saw the invoice from '59?

25 A Well, the plant was operational, the machines were

1 operational in '62, I believe.

2 Q Well, let's go to '65. I mean, you weren't there,
3 right?

4 A No.

5 Q Now -- and I've got some other Owens-Corning Fiberglass
6 -- there was one I wanted to show you. Let's go to February
7 1973.

8 (WHEREUPON, Plaintiff's Exhibit No. 80 was marked for
9 identification.)

10 BY MR. JEKELL:

11 Q Now, Mr. Carlson, I've highlighted over here the date
12 for you, but this Owens-Corning Fiberglass mechanical
13 insulation systems. Now, Mr. Carlson, have you ever heard
14 of something called the Sweets Catalog?

15 A I haven't.

16 Q And the Sweets Catalog would have these kind of
17 brochures in it for architects, engineers, contractors,
18 things like that to look at materials?

19 A If you say so, sure.

20 Q I mean, is that what you understood a Sweets Catalogue
21 was?

22 A No, I haven't heard of it.

23 Q You haven't heard of it? I'm sorry, sir. Now, I'd
24 like to direct you to a couple of pages. It's a little ways
25 in. There's a section on Kaylo 10. This only goes up to

1 1200 degrees, but I just have a couple of questions. Have
2 you found it, sir?

3 A Kaylo 10?

4 Q 10.

5 A I guess the next page. Okay.

6 Q So in February 1973, we know they've got the
7 asbestos-free insulation, right?

8 A Yes. That's the date on this, yes.

9 Q So if the Daniels folks who were doing the maintenance
10 and repairs in the Bowater facility with the Kaylo product
11 after February of '73, they would have been using
12 asbestos-free product, correct?

13 A They could have been.

14 Q All right. Fair enough. Now, I want to talk to you a
15 little bit about your pictures. And I wanted to show the
16 jury this. Now, you indicated this is the felts, right?
17 You're in the basement?

18 A That's a wire.

19 Q That's a wire to the front of the machine, but these
20 are droppings of paper, right?

21 A Scrap paper.

22 Q Scrap paper, right. Now, with all the ventilation that
23 you were talking about, I'm surprised we see anything down
24 here. That didn't get sucked up like that towel?

25 A No, the ventilation system on the dryer sections aren't

1 designed to pick up scrap paper and collect it in a dust
2 collector. They do not have the velocity to pick it up
3 initially and then transport it up through the ducts to some
4 sort of dust collector. Those were designed for moisture
5 control.

6 Q Exactly. And the fact that you're taking it from a
7 large area, you're compressing and shooting it up, that adds
8 velocity to it, right? I mean, the video -- I'm going back
9 to the video. The video we saw with the guy at the top and
10 it's blowing it up. I mean, that's not what the suction was
11 at the paper machine, was it?

12 A No. And I think the Western Michigan study talked
13 about velocity down there of about 125 feet per minute. You
14 don't -- you need much higher velocities to be able to
15 transport dust.

16 Q Again, my only point was that the ventilation that you
17 saw at the top of the roof or wherever you were -- or do you
18 even know where that video was taken, sir?

19 A The one that we showed?

20 Q Yes.

21 A No.

22 Q Okay. But there was never -- you would agree with me
23 that the ventilation at Bowater had nothing to do with
24 making sure it removed any asbestos fibers that were
25 released off the dryer felt, right?

1 A No, I think that would be in water.

2 Q Okay. Oh, I've got another one here. This actually
3 deals with dryer felts. I'll move on to some dryer felts.
4 And I want to start by talking -- you may not remember this,
5 Mr. Carlson, but you and I saw each other almost 10 years
6 ago to the day in Baltimore, do you remember that?

7 A I do.

8 Q And you and I looked at the 1986 OSHA labeling
9 requirement. Do you remember that?

10 A No.

11 Q And it's all right. I don't take it personally, sir.
12 It was a long time ago. In any event, the labeling
13 requirement kind of goes if you know your product doesn't
14 release asbestos fibers, you don't have to test it. Is it
15 your -- you've always said that Scapa didn't need to label
16 their asbestos-containing dryer felt because of the resin,
17 right?

18 A Well, I think Scapa made internal decisions. I wasn't
19 privy to what they were, what their thinking was.

20 Q You've never tested -- I'm sorry, withdrawn. What
21 information do you have with regard to their resins? Has
22 Scapa shared with you when the resins were actually applied
23 to their yarns?

24 A As a general description, but again, it varies by the
25 type of product and yarns.

1 Q Did you know that Johns-Manville supplied asbestos
2 yarns to Scapa?

3 A I think I read that in Dr. Millette's testimony.

4 Q Just to lay a little foundation, Mr. Carlson, I'm
5 handing you a yarn specification. And you'll see at the top
6 -- I'm going to hand it to you, sir. That specification is
7 1959, right?

8 A Yes.

9 Q Have the lawyers ever given you the Manville specs to
10 look at?

11 A No.

12 Q Does that spec say anything about treating resin with
13 those yarns?

14 A I don't see anything along those lines at all.

15 (WHEREUPON, Plaintiff's Exhibit No. 81 was marked for
16 identification.)

17 BY MR. JEKELL:

18 Q No? All right. Very well. Mr. Carlson, I'm going to
19 approach. Now, I'm going to hand you this and if you don't
20 mind, sir, I'm going to point out some things. First, this
21 is hard to read, but this is a Johns-Manville document.
22 This is a committee meeting between Johns-Manville and some
23 union workers, okay? And it's dated January 30th, 1970. Do
24 you see that, sir?

25 A I see that.

1 Q And I'd like you to go to Page 2. And you see the
2 heading, Canadian Province Division, right?

3 A Yes.

4 Q And I want to direct your attention right there where
5 it says trial. Do you see that?

6 A Yes.

7 MR. COLLIER: Your Honor, I do have an objection to
8 this document.

9 THE COURT: You have an objection to the document? I
10 thought it was already in.

11 MR. JEKELL: I just marked it for identification.

12 THE COURT: Oh, all right.

13 (WHEREUPON, a bench conference was held.)

14 THE COURT: Mr. Jekell seeks to cross-examine the
15 witness on a document from January of 1970 that discusses
16 Johns-Manville's treatment of its yarns with resin. This is
17 an ancient document. I find it meets the requirements of
18 the ancient document exception to the hearsay rule.

19 The objection by Mr. Collier is that it's purely
20 hearsay and connected with a supply of Johns-Manville to
21 Scapa and Joeliette and not Waycross and he objects for
22 those two reasons. I overrule the objection and I am going
23 to allow the question.

24 Mr. Collier, you're completely protected throughout
25 this entire line of examination.

1 MR. COLLIER: Thank you, Your Honor.

2 THE COURT: All right. Mr. Jekell.

3 BY MR. JEKELL:

4 Q So Canadian Province Division. First off, again, they
5 say here the textile department has been operating three
6 shifts per day, five days a week during January. But they
7 note in this document trials to treat asbestos yarns with
8 resin for Scapa company have been completed, 700 pounds have
9 been shipped to the factory at Joeliette. Did you see that?

10 A That's what it says.

11 Q And that's January 30th, 1970, right?

12 A The date of the meeting, yes.

13 Q Now, you don't have -- do you have any information to
14 share with the jury that would indicate that Manville yarns
15 were treated with resin at any time prior to 1970?

16 A No.

17 Q Okay. And even with -- I mean, there's two more
18 documents I'm going to show you, Mr. Carlson. Did Scapa
19 lawyers tell you anything about air testing that they
20 actually did on resin-coated yarns?

21 A No.

22 Q Now, this document is in evidence. It's asbestos dust
23 counts September 1971, Stubin's Mill. This is from Scapa
24 England, Exhibit 65. We talked a little bit about this with
25 Mr. Doherty. I'm going to represent to you that is a Turner

1 Brothers yarn. Do you know who the Turner Brothers were?

2 MR. COLLIER: Your Honor?

3 THE COURT: Yes, Mr. Collier?

4 MR. COLLIER: I'd just like to get the same objection
5 that we had when this document was brought in with Mr.
6 Doherty last Friday, I believe it was.

7 THE COURT: Your objection is overruled, but you're
8 completely protected and the record should reflect your
9 objection from the examination of Mr. Doherty in your case.
10 And that objection is regarded as continuing in examining
11 this witness.

12 You may proceed.

13 BY MR. JEKELL:

14 Q Have you seen this document before?

15 A No.

16 Q Okay. This 0.31, that would exceed 11, wouldn't it?

17 A Well, this is 1971 --

18 Q No, let's go to '86. Would that exceed the '86 PDL?

19 A Well, the 0.2 fiber per cc PDL is based on a personal
20 sample, not area samples.

21 Q But this does show that the Z1U902 Turners Brother yarn
22 was resin coated, that fibers could be released off the
23 resin-coated yarns, does it not?

24 A It chose that, but you can see the sentence right
25 underneath that that says these results are well below the

1 two fiber per cc normally accepted by the factory inspector,
2 which was the English equivalent of OSHA in 1970. That's
3 what was being attempted to measure at the time -- assessed
4 at the time.

5 Q Right. But fibers come off the resin-treated yarns,
6 yes?

7 A Sure.

8 Q Now, one of the things I asked you in Baltimore was, I
9 asked you, I said, have you seen any Scapa testing of its
10 felt at the time of manufacture looking at the issue of
11 asbestos fiber release? You indicated in Baltimore, I asked
12 the lawyers, nothing was forthcoming. Does that sound about
13 right?

14 A Yes.

15 Q In the 10 years since I asked you that question last,
16 have you seen any testing?

17 A No.

18 Q Okay. Now, I saw you in New Jersey a few years before
19 that, didn't I?

20 A I think so.

21 Q And you talked about the RJ Lee study there, didn't
22 you?

23 A Again, I --

24 Q All right. Fair enough. Do you know Mr. R. J. Lee?

25 A Well, I don't know him personally. I've spoken with

1 him on the phone on several occasions.

2 Q You never sought to have that paper submitted to a
3 publication to get it published, did you?

4 A No.

5 Q Why?

6 A I can't answer that.

7 Q Okay.

8 A It probably would have been a good idea.

9 Q Well, I know that company's who've used chrysotile
10 asbestos love to get their stuff published. You've seen the
11 gasket studies, the brake studies that Ford and those have
12 pioneered, haven't you?

13 A No.

14 Q You've never -- you don't know why R. J. Lee doesn't
15 come into this courtroom and tell us about his study, do
16 you?

17 A No.

18 Q Now, you've never tested any of the resin formulas that
19 Scapa used on their yarns, have you?

20 A Tested the resins?

21 Q Yeah, to see what's in them?

22 A No.

23 Q You understand, though, that chrysotile fibers, if you
24 stand them on their end, a chrysotile fiber looks like a lot
25 of individual tubes connected to each other, right?

1 A Are you speaking of fibrils?

2 Q Yes.

3 A That can happen, yeah.

4 Q And then they break out, right?

5 A They can.

6 Q All right. And if the resin only coats those outer
7 fibrils, once those outer fibrils are gone, nothing is
8 coating the inside fibrils, right?

9 A It sounds like a good study, I don't know.

10 Q Well, if you don't know, that's always an answer I will
11 accept. You've never personally with an asbestos-containing
12 dryer felt?

13 A You mean personally handled it?

14 Q Yes.

15 A No.

16 Q And you've not seen any testing of the resins to see if
17 it would withstand the acids and the paper pulp, the heat of
18 the steam, or the rickers of the machine, have you?

19 A Generally, no.

20 Q I want to go back for a second to that Crown Zellerbach
21 testing that you talked about with the change out of dryer
22 felt. Do you know how the employees at Crown Zellerbach
23 disposed of that? Do you know if they were cutting it with
24 a Stanley knife?

25 A Well --

1 Q Do you know, sir?

2 A No.

3 Q We can move on. I'm going to turn to Bowater now. The
4 only thing we really know and that you can tell this jury is
5 that at Bowater between '63 and '81 or '82, there were 23
6 asbestos-containing dryer felts, right?

7 A I don't think that's the period.

8 Q What do you think the period is?

9 A I think the period is later than that.

10 Q Okay. They were selling asbestos felts, Scapa, after
11 1981?

12 A No. I think the beginning date is different.

13 Q Well, that's when Mr. Stewart started at Bowater,
14 that's why I used it?

15 A Okay.

16 Q And that's what they had been using as well, but from
17 '63 -- we know there were 23 Scapa asbestos-containing felts
18 there, right?

19 A Yes.

20 Q And during that same time, they sold, like we've said,
21 over 40 nonasbestos-containing felts, right?

22 A Yes, 48, 49.

23 Q Now, it's possible, isn't it, that all the other felts
24 that were there were nonasbestos? It's possible, right?

25 A Possible.

1 Q You don't really how many more asbestos or nonasbestos
2 felts were there?

3 A You mean from the other brands?

4 Q Yeah.

5 A No.

6 Q Very well. They might have all been nonasbestos and
7 that means the 23 he worked with would be 100 percent of the
8 asbestos-containing dryer felts, right?

9 A If that were the case, yes.

10 Q And you don't consider yourself a dryer felt expert?

11 A Correct.

12 Q Have you seen any Bowater documents acknowledging that
13 Bowater knew Scapa felts contained asbestos?

14 A I don't recall any.

15 Q Have you seen any documents, any documents at all
16 discussing asbestos felts between Scapa and Bowater?
17 Anything other than the Mastercards?

18 A None other than that.

19 Q And you talked about Dr. Millette's math. And it was
20 96, I think, quadrillion fibers in that one felt, right?

21 A Something like that.

22 Q And again, that just means there's a lot of potential
23 for exposure there, right?

24 A Well, if you do those types of calculations, yes.

25 Q And there was 1088 pounds of asbestos yarn in one felt,

1 you understood that, right?

2 A I recall that figure. I wasn't sure what the basis for
3 that was.

4 Q Well, he looked at the formula document, didn't you see
5 that? Did you see it?

6 A Well, I wasn't sure if he did that or his tests.

7 Q I just asked you if you saw the formula document to the
8 calculation he used. Have you seen the formula documents
9 from Scapa for that dryer felt?

10 A No.

11 Q I think it's Plaintiff's 4. Give me a second. Well, I
12 can't lay my hands on it, so we'll move on. But suffice to
13 say that the lawyers never showed you any of the
14 specifications for the actual yarns that are in the
15 Mastercards and the felts that were at Bowater, is that
16 fair?

17 A Yes, I have not seen the documents.

18 Q He looked at the actual specification that talked about
19 the wet yarn, the warp yarn, how much the felt weighed per
20 ounce and that's how he did the math. But you couldn't tell
21 us what's in any of the dryer felts based on the
22 Mastercards, is that fair?

23 A Correct.

24 Q You do know that if it had it, they used a
25 nomenclature, SRA, CRA, GRA, are you familiar with those?

1 A No.

2 Q Okay. You never spoke with anyone other than the
3 lawyers and a Scapa employee about Bowater, did you?

4 A No.

5 Q You did not speak with anyone from Bowater about their
6 knowledge of asbestos content of the Scapa felts, did you?

7 A No.

8 Q Now, do you know how long the paper machine was
9 operational when you went out to Bowater?

10 A The paper machine was not operational.

11 Q I'm sorry, I meant to ask you do you know for how long
12 it had not been operational?

13 A I believe the figure I saw was since 2010, when the
14 mill shut down.

15 Q You've seen a lot of asbestos abatement records. And
16 they might have abated materials that were in good
17 condition, poor condition, right?

18 A Yes, possibly.

19 Q Because there's something called the National Emission
20 Standards for Hazardous Air Pollutants, are you familiar
21 with the NESHAP regulation?

22 A Yes.

23 Q And that requires you if you're going to -- you know,
24 say, you were going to renovate a courthouse, for example,
25 and you're going to disturb in-place material, you've got to

1 remove it, right? That's what NESHAP says?

2 A Yeah, but there's several versions of NESHAP. So the
3 early 1970s versions of NESHAP were different than the
4 current program as practiced that shows up in terms of South
5 Carolina Environmental Control.

6 Q That's fair. But I was just saying that Bowater may
7 have conducted an abatement for a variety of reasons having
8 nothing to do with the condition of the in-place material,
9 would you agree with that?

10 A They could, yes.

11 Q And you don't have any information that would suggest
12 why Bowater did an abatement of any material for any reason,
13 right?

14 A Bowater, specifically, no, but I've been involved with
15 companies making those types of decisions --

16 Q I'm interested in Bowater and you've answered that
17 question. The fact that asbestos was abated does not mean
18 Mr. Stewart would have been exposed during an abatement,
19 does it? You're not suggesting that, are you?

20 A Well, he discussed that. He discussed going into a
21 containment structure in the 1990s when the asbestos
22 abatement project was under way. And to enter a containment
23 area, which is the prescribed practice with the NESHAP type
24 standards, is to risk asbestos exposure.

25 Q Well, now, let's be fair, what's the first part of the

1 containment? Isn't that the change area?

2 A Well, there is a change area, but he talked about it
3 blocking the access to the restrooms, so he walked -- he
4 said containment, number one. And number two, he also said
5 that that containment failed. He said that they could not
6 keep that containment under slight negative pressure as
7 you're required by law to do. And this is my experience in
8 paper mills with asbestos abatement, it's too much heat
9 going on, so that containment structure gets distorted and
10 you can lose containment. If you lose containment, you have
11 asbestos fiber release when you're dealing with asbestos.

12 Q Do you know if there was actual asbestos removal in the
13 containment?

14 A Well, that's why the containment structure was built.

15 Q But sometimes there aren't workers in there?

16 A It's possible.

17 Q So they may not have been actually tearing out asbestos
18 when he was in the containment?

19 A That's possible.

20 Q Did you see records, was Bowater cited by DHEC for that
21 containment?

22 A Well, no. Perhaps, they weren't there. Perhaps, this
23 wasn't raised as an issue.

24 Q You've not reviewed any maintenance records from
25 Bowater detailing the work on steam pipes servicing paper

1 machine number one, have you?

2 A No.

3 Q Now, you talked a lot about Crown Zellerbach when you
4 were up there on the stand. You were employed there, right?

5 A Yes.

6 (WHEREUPON, Plaintiff's Exhibit No. 82 was marked for
7 identification only.)

8 BY R. JEKELL:

9 Q Mr. Carlson, I'm handing you what's been marked as
10 Plaintiff's Exhibit No. 82. July 25th, 1997, Crown
11 Zellerbach internal corporate memo. It's -- the subject is
12 carcinogens. Do you see that?

13 A Yes.

14 Q And they're talking about carcinogens at Crown
15 Zellerbach, right?

16 A Yes.

17 Q And they note asbestos is the only carcinogen that
18 currently presents no potential hazard within the company,
19 although operating locations indicate they use substitute
20 materials for insulation on new construction, asbestos is
21 contained in the following. And item number two there is
22 dryer felts, right?

23 A Yes.

24 Q Crown Zellerbach had concerns about asbestos dryer
25 felts being a carcinogen in 1977, did they not?

1 A Well, they are identifying insulation -- they are
2 identifying materials that had asbestos at the time.
3 They're overall policy is about carcinogens and the first
4 page has to do with substances that could have been added to
5 dyes that could have been added to paper, production of
6 paper. And the policy really seemed more directed at
7 asbestos-free insulation.

8 Q You weren't at Crown Zellerbach in '77, were you, sir?

9 A No.

10 Q Back when I saw you -- you've seen hay outs and blow
11 downs, right? Are those one in the same, by the way?

12 A No.

13 Q They aren't? All right. Let's make sure because this
14 terminology is important. What's a hay out?

15 A A hay out is what occurs whenever there's a paper
16 break. So paper -- scraps of paper, the large scraps of
17 paper flail out and kind of creates this giant event.

18 Q Now, I just want to ask, the hay out is different than
19 what we saw on the video, right? When the guy was walking
20 down the way and you were talking about the angle of the air
21 pressure hose and all that, that's different than a hay out,
22 correct?

23 A Well, it comes at the end of a hay out. So you get the
24 paper rethreaded, so it's going through the correct systems,
25 rollers and any contact with the dryer drums and so on. And

1 before the machine is really stepped up to full production
2 again, you see, as you do on the video, one of the employees
3 go through and clean out that scrap paper in the dryer
4 sections to make sure there's no accumulation that's going
5 to affect the formation of sheet or the quality of the paper
6 or create a fire hazard.

7 Q So when the hay out initially occurs, there might be a
8 number of paper makers trying to clear the hay out; is that
9 fair?

10 A Well, it's such a big glob, it's pretty easy to get it
11 physically pushed aside. And then I think the testimony as
12 you read it is they push it down openings that drops to the
13 basement.

14 Q Now, all the paper mills that you've been into, you've
15 seen the alternative uses for these old felts, right, as
16 wick breaks or in the garden to keep weeds from growing up.
17 Isn't that something you've talked about?

18 A Well, I've seen in depositions. I haven't seen them
19 used, for example, in gardens. That's certainly not the
20 intended use of the dryer felt.

21 Q No, but weren't they -- the folks at Crown Zellerbach,
22 didn't they do that with old felts?

23 A I don't know if they did or not and I can't tell you if
24 they did it for asbestos felts.

25 Q If they knew they were asbestos, right? Have you seen

1 anything that indicated Scapa told Bowater these felts were
2 asbestos contained?

3 A No.

4 Q And you understand that dust in the workplace, they've
5 recognized as a hazard for, at least, a hundred years,
6 right?

7 A Actually, thousands.

8 Q Thousands of years. Let me see if you agree with
9 something. Since the birth of the human race, dust has
10 exerted its harmful effects on civilization. Would you
11 agree with that statement?

12 A Sure.

13 Q Do you agree with this, that the dust particles -- with
14 regard to asbestos, that the dust particles which are
15 visible to the naked eye are the important ones, right?

16 A Those that are respirable, inhaleable really are the
17 ones that present the exposure hazard.

18 Q So you agree dust particles which are visible to the
19 naked eye are the important ones? Doesn't that lead us to
20 the practical and important ones -- the practical point that
21 if a silica or asbestos process produces visible dust in the
22 air, then the invisible dust certainly is in dangerous
23 concentrations, do you agree with that?

24 A I don't know that you can say that.

25 Q You understand I was reading to you from Dr.

1 Meriweather, right?

2 A Yes.

3 Q Now, I want to talk about Windlick and Salazar. Let's
4 go to Windlick first. What asbestos-containing fibers are
5 on there, do you know? Was it asbestos?

6 A Yes, it was asbestos.

7 Q And what was the asbestos content, do you know?

8 A I don't recall.

9 Q Because they can vary greatly, can they not?

10 A They can.

11 Q Some as high as over 70 percent?

12 A Possibly.

13 Q Do you know if the plant had knowledge that they were
14 coming in to do this sampling?

15 A Well, he was the appropriate industrial hygienist for
16 Weyerhaeuser and it was a Weyerhaeuser mill, so, yes.

17 Q So maybe they were on their best behavior that day,
18 possibly? Do you know? I'm sorry, withdrawn. Let me ask
19 you this. I heard of a concept that when people are watched
20 doing an activity, kind of the watch testing effect, they'll
21 do it better. Have you heard that concept?

22 A You know, I've heard that concept and I've seen it
23 other ways as well.

24 Q But again, my point is you don't know what prep was
25 done at the plant before this testing, what cleaning may

1 have been done, right?

2 A No, it was a felt change.

3 Q That stuff, you said it was transite. Did you test
4 that stuff?

5 A No.

6 Q After 1972, '73, wasn't there a nonasbestos corrugated
7 board available? I mean, not all of it was asbestos, was
8 it?

9 A Yeah, after '72, but this mill was built at a different
10 time, preceded that.

11 Q You don't know if that was replaced, do you?

12 A Well, I know that 40,000 square feet of surface
13 material was removed from around the number one paper
14 machine. And it would include transite.

15 Q Well, they didn't get that one then. I mean, maybe
16 that one didn't have asbestos, right? I mean, wouldn't that
17 explain why that was there in 2016 and not removed with the
18 abatement?

19 A There could be other reasons for it. You've indicated
20 earlier as an example that there are a lot of considerations
21 that go into the decision-making of whether you take
22 something out or not.

23 Q But you really don't know if that has asbestos in it,
24 do you?

25 A Well, it physically it appears like transite. I would

1 call it a suspect material.

2 Q But it might not contain asbestos, that's my point.
3 But you came in here and you told them it did. You didn't
4 sample it, right?

5 A Well, I know that positive asbestos-containing transite
6 had been identified. And given the age in which the mill
7 was built that more likely than not, I would treat it as
8 asbestos.

9 Q You'd ask --

10 A You can always sample it.

11 Q Right, of course. And I want to make sure, you don't
12 analyze the samples. I made a note when you were testifying
13 on direct, I want to make sure I ask you this, you might
14 collect a bulk sample and send it to the lab, but they'll
15 put it under the microscope and look at it, right?

16 A Yeah. There are labs that are set up for bulk sample
17 analysis, just processing a lot of samples, but, sure.

18 Q Now, do you know anything about Johns-Manville Canadian
19 chrysotile asbestos?

20 A Not enough to testify to.

21 Q Do you know they own the Jeffrey mine out there? Do
22 you know anything about that?

23 MR. COLLIER: Objection, Your Honor. He's already
24 stated --

25 MR. JEKELL: Withdrawn.

1 THE COURT: Okay.

2 BY MR. JEKELL:

3 Q Do you know if certain chrysotile can be contaminated
4 with tremolite?

5 A Yes.

6 Q Do you know if actually Dr. Millette tested the dryer
7 felts for tremolite or did he just test for chrysotile?

8 A I don't recall him testing for tremolite.

9 Q He didn't even test for it, did he?

10 A I don't recall him doing it.

11 Q These are pictures of the felts from Western Michigan.
12 And I just want to ask you something. You see this
13 discoloration? I mean, those are burn marks, aren't they,
14 off the dryer cans and the heat?

15 A I don't know. If this is from Dr. Millette's
16 testimony, he did testify to looking at something and he
17 said it showed burn marks.

18 Q No, no, this is the felt that came off the pilot plant
19 machine, you understand that, right?

20 A That's what he was testifying about.

21 Q And you've never seen burn marks on a dryer felt
22 before?

23 A No.

24 Q You see the chrysotile fiber?

25 A Okay.

1 Q Do you know if Scapa ever told Bowater the appropriate
2 manner in which to remove an asbestos-containing dryer felt?

3 A No.

4 Q You understand from the testimony that Mr. Stewart
5 testified he used to cut them up in the basement area?

6 A Yes, that was the testimony.

7 Q Did you see those rooms under the dryer sections in the
8 basement when you visited the plant?

9 A I don't know if I'd call them rooms, but they were
10 underneath the paper machines.

11 Q Yes, there were walls and they were enclosed, right?

12 A Well, they had doorways that were open to them.

13 Q The Windlick study, you said it was an
14 asbestos-containing felt. Did you know if it was a Scapa
15 felt?

16 A No.

17 Q You were provided no information from Bowater or Scapa
18 that addressed the ventilation of the number one paper
19 machine at the time Mr. Stewart was there, right?

20 A That is correct.

21 MR. JEKELL: Your Honor, those are all the questions I
22 have.

23 Thank you, Mr. Carlson.

24 THE COURT: All right. Any redirect, Mr. Collier?

25 MR. COLLIER: Briefly, Your Honor.

1 THE COURT: All right, sir.

2 REDIRECT EXAMINATION

3 BY MR. COLLIER:

4 Q Good afternoon again, Mr. Carlson. You were asked some
5 questions right before Mr. Jekell sat down about the testing
6 that Dr. Millette did. If Mr. Young cross-examined Dr.
7 Millette and Dr. Millette said that there was no tremolite
8 found in any of the testing that he did on the Scapa dryer
9 felts, you certainly wouldn't dispute what came out of Dr.
10 Millette's mouth, would you?

11 A That's correct.

12 Q You were asked about Mr. Stewart and his testimony
13 about cutting dryer felts under the paper machine. Do you
14 recall being asked that a couple minutes ago?

15 A Yes.

16 Q Do you recall from reviewing his testimony when he
17 testified that he primarily did that type of activity, what
18 position he was in, and what his coworkers testified to?

19 A That would have been primarily when he was utility and
20 fifth hand. Early in his career at Bowater.

21 Q You were asked some questions about whether paper mills
22 knew about their -- the fact they might have been utilizing
23 asbestos-containing dryer felts. Do you recall that?

24 A Yes.

25 Q In fact, you were shown a document by Mr. Jekell that

1 was marked as Exhibit No. 82, it was an intercompany
2 memorandum from Crown Zellerbach, who was a paper mill that
3 showed that they knew that they had asbestos-containing
4 dryer felts in the mill in 1977; is that true?

5 A That's true.

6 MR. COLLIER: Thank you, Mr. Carlson, that's all I've
7 got.

8 THE COURT: Very good.

9 Mr. Carlson, thank you so much for your testimony. You
10 may be excused and you may be released.

11 THE WITNESS: Thank you.

12 THE COURT: Mr. Collier and Mr. Young, we are at 5:15
13 at this time. And I am thinking that in fairness to the
14 jury that we probably ought to let them go and recommence
15 tomorrow. Is that suitable to y'all? You had one more
16 thing you wanted to do, which was a video, but I think we
17 may hold that until tomorrow if that is not going to
18 interrupt your plans too much?

19 MR. YOUNG: It's very short, Your Honor, and then we
20 just have Dr. Crapo, who will be shorter than I thought.

21 THE COURT: Good. Well, then is it all right with
22 y'all if we save that until tomorrow morning?

23 Ladies and gentlemen of the jury, we'll dismiss you
24 then until tomorrow morning. Let's talk for a moment about
25 when we can commence. Can we do 8:45 again? Everyone is

1 nodding their head. All right. Very good. See you at 8:45
2 tomorrow morning. Thank you again for a very long day and
3 for your great attention to this case. I just can't tell
4 you how much I admire the attention you're putting on this.

5 (WHEREUPON, the jury was released for the day.)

6 THE COURT: All right, Counsel, couple of things.
7 First of all, I believe that both sides now have from Jamie
8 a final on our charges. And that's not something we need to
9 talk about tonight, I just want to advise you that you've
10 got in your e-mails verdict forms and a final on my charges.
11 Now, that doesn't mean we can't talk about it, we certainly
12 can do that, but I wanted to give you something to take home
13 tonight. That's why I've been scribbling up here and trying
14 to get them done for you before you leave. So there's that.

15 Then we have Dr. Crapo. We've got -- I perceive that
16 there are some issues with Dr. Crapo and yet, Mr. Young
17 indicates that, perhaps, he will be shorter. Have we
18 resolved or --

19 MR. JEKELL: I don't know if Mr. -- again, Your Honor,
20 it's just with a few of the slides that we take issue with,
21 the potency of the 500 based on the Berman and Crumb study.
22 If Mr. Young intends not to use some of those slides, then
23 our position might be different.

24 THE COURT: How about let's do this. I am certainly
25 prepared to sit here and go through it, but the memo itself

1 is more broad reaching than that. It attacks the very
2 foundation of his ability to testify, but I don't think
3 that's what we're looking at. I think we are narrowed into
4 some topic areas and slides that may be objectionable.

5 And I'm not forcing the Defendant to agree or try to
6 concede or anything like that, but I am wondering whether it
7 would be okay if I let y'all try to make one more shot at
8 resolving and then we can come together tomorrow morning and
9 explore those things. My thought would be -- the jury is
10 coming in 8:45. My thought would be to meet with counsel at
11 8:00 or 8:15 to talk about Dr. Crapo. Is that possible?

12 MR. YOUNG: Well, Your Honor, first of all, Berman and
13 Crump has already been testified to without objection by Dr.
14 Oury. And --

15 THE COURT: Well, I don't know that. His testimony
16 would not be dispositive of anything because the objection
17 was lodged. Quite frankly, it was an objection as to both
18 Oury and Crapo, so I'm not going to not address it for that
19 reason.

20 MR. YOUNG: All of this to me is cross-examination, but
21 --

22 THE COURT: And it may very well be.

23 MR. YOUNG: -- I don't think Your Honor can rule on
24 this until you see the foundation that Dr. Crapo is going to
25 lay to go into this stuff if we go into it.

1 THE COURT: I'll tell you what I'm going to do. Dr.
2 Crapo's deposition and -- or a transcript of his video
3 deposition are both included in that notebook that I was
4 given. So I think I can examine those materials and make
5 some kind of preliminary estimate about what the foundation
6 is and so forth and be prepared to rule on it tomorrow
7 morning if it's still an objectionable area. So I would
8 suggest what we do is come together tomorrow morning before
9 the jury gets here. My suggestion would be either 8:00 or
10 8:15, whichever one y'all can manage.

11 MR. JEKELL: I'll be here at 8:15, Your Honor.

12 THE COURT: Let's just get together at 8:15 and I will
13 have looked at this material and try to understand what the
14 foundation is and we'll go from there. And you may be
15 right, it may just be a question of cross-examination, as
16 many times these things are, but I don't know that until I
17 look at it.

18 MR. YOUNG: Their memo, Judge, I believe takes things
19 completely out of context.

20 THE COURT: Well, I get that. That's why I said, the
21 memo is a very broad thing, but I think it's narrowed down
22 to a disagreement with respect to Berman and Crump. This
23 isn't the first courthouse in which Berman and Crump have
24 been assailed and there have been rules all over the block
25 about it, so I'll take a crack at it.

1 MR. COLLIER: Your Honor, one final thing, we got an
2 e-mail last night or this morning, I can't remember, an
3 e-mail from one of them saying they do plan to call a
4 rebuttal witness.

5 THE COURT: I have not seen that, of course.

6 MR. COLLIER: Well, my point is, Your Honor, it's a
7 fact witness that met Mr. Stewart late in his life that
8 could have been put up in their case in chief. And I think
9 the law is pretty clear that a rebuttal witness has got to
10 be rebutting something as to something that came out of the
11 defense's case. And I've got cases ready to talk about
12 that. I don't know whether they still plan to call Mr.
13 Neeley, and if they do, in rebuttal to what.

14 MR. JEKELL: It would be on two issues that we've seen.
15 I think you remember, Your Honor, the slides, they put up a
16 whole slide on adoption. Mr. Neeley is certainly prepared
17 to talk about how Steven Stewart always loved --

18 THE COURT: I don't think that's in any way necessary.
19 I think the testimony of these two children and the
20 testimony of the father in the video establishes beyond any
21 doubt what the relationship was.

22 MR. JEKELL: The only other issue, Your Honor, would be
23 the comorbidities, his health. They made it sound like he
24 wasn't getting around. But those would be the only issues.
25 We have to make a final determination if we're going to call

1 him. But if Your Honor is going to rule, that will make my
2 determination easier.

3 THE COURT: I frankly think, unless you tell me more --
4 on the basis of what you're telling me right now, I believe
5 your record already fully covers those issues in a way that
6 would allow you to argue them to the jury in a very
7 productive way. So I don't see the necessity of doing that.

8 MR. COLLIER: And Dr. Oury didn't bring up any
9 comorbidities. We only have one medical doctor.

10 MR. JEKELL: Your Honor, we'll go with your ruling.

11 THE COURT: Anything else?

12 MR. JEKELL: Your Honor, I think it would be helpful
13 for us to know which slides we're going to be arguing over.

14 THE COURT: Y'all can get together and talk about all
15 that and then we'll see where we stand. And I know that
16 you're speaking with each other, even though it's late in
17 the day and we are all tired from a long day in court, you
18 will be your usual civil and easy-going sort of way. So I
19 trust you guys that no one will come to any blows or
20 fisticuffs or mean remarks. Y'all will exchange your views
21 and then if you can't resolve it, I'll be glad to do so
22 tomorrow morning.

23 Very good. Thank you again for the very professional
24 way in which everybody has presented this case today. Hats
25 off to you. Thank you so much.

1 (WHEREUPON, court was adjourned for the day to be
2 reconvened on Thursday, February 8, 2018.)

3 THURSDAY, February 8, 2018

4 THE COURT: I have got two slides here that I
5 denominated as Dr. Crapo's slides.

6 And Madam Court Reporter, I would ask you to mark these
7 as Court's Exhibit Nos. 1 and 2.

8 THE COURT REPORTER: I think there's some Court
9 Exhibits already marked, Judge.

10 MR. JEKELL: Yeah, it would have to be a different
11 number, Your Honor.

12 THE COURT: All right. Court's Exhibits 3 and 4.

13 THE COURT REPORTER: I thought I saw somewhere where
14 there were more than two, but he's only got 1 and 2 marked.
15 Can you double check?

16 MR. JEKELL: That's the red exhibits there, yeah.

17 THE COURT REPORTER: 3 and 4?

18 MR. JEKELL: Yes.

19 (WHEREUPON, Court's Exhibit Nos. 3 and 4 were marked
20 for identification.)

21 THE COURT: Court's Exhibit No. 3 is a slide from Dr.
22 Crapo's presentation entitled standard dose response curve.
23 I am sustaining Mr. Jekell's objection to this slide because
24 it does not contain any notation for the number of cases of
25 disease nor does it contain any notations for the dose that

1 is being discussed. Therefore, the slide is so incomplete
2 that it is misleading to the jury, therefore, I am excluding
3 it over Mr. Young's very strong objection, which he says
4 that he can explain it and, therefore, it's an aid to his
5 testimony. I have excluded that.

6 Mr. Young, anything you want to add to that?

7 MR. YOUNG: Not other than, Your Honor, that dose
8 response has been talked about throughout the trial and that
9 really is just a slide that he uses to explain the -- what
10 dose response is.

11 THE COURT: Right. And my ruling is made in light of
12 the fact that he is being offered as an expert to testify
13 about dose response and that this is a misleading slide. It
14 does not contain the data that he's using to make the
15 conclusion he makes about dose and dose response.

16 Court's Exhibit No. 4 is a slide from Dr. Crapo's
17 presentation entitled Mesothelioma Risk Models. And it is
18 intended to discuss exposure per fiber count year. Is that
19 how you denominate that?

20 MR. JEKELL: Fiber years of exposure, Your Honor.

21 THE COURT: Fiber years of exposure. And it is -- on
22 the horizontal line, it talks about ambient air, then 10
23 fiber years, a hundred fiber years, a thousand fiber years
24 and 10,000 fiber years of exposure. And it cites some
25 studies in that regard. Then it shows a regulatory model

1 with a red line, not denominated other than that. Then it
2 has a vertical line that says number of cases of diseases.

3 I am excluding this slide as it stands now because it
4 contains no data about the number of cases that are studied
5 to arrive at whatever designations are made here. And
6 therefore, it's misleading to the jury.

7 Mr. Young may choose to have this slide added to by
8 putting some numerical data on the vertical. If so, we'll
9 revisit allowing it to be used. And if some numerical
10 information is put on the vertical, I would be inclined to
11 allow it to be used if it turns out that the source for
12 those numbers is a source that Mr. Jekell explores and finds
13 to be lacking in some respect, that's for cross-examination.

14 Does that make the ruling clear, Mr. Young?

15 MR. YOUNG: Yes, Your Honor. I need just a few minutes
16 to talk to Dr. Crapo to make sure I don't violate the
17 Court's ruling.

18 THE COURT: That's fine. That's fine.

19 MR. YOUNG: I know it's 8:43.

20 THE COURT: Talk to him quickly and we'll await your
21 advise that he's ready to assume the stand.

22 (WHEREUPON, a short break was taken.)

23 THE COURT: Mr. Young, are we ready?

24 MR. YOUNG: We are, Your Honor. We changed the last
25 slide to take out all of the objectionable parts.

1 THE COURT: Did you add something on the vertical, the
2 numbers on the vertical?

3 MR. YOUNG: We just took that out.

4 THE COURT: Okay. Very good.

5 MR. YOUNG: The Judge said she was okay with the
6 bonding --

7 MR. JEKELL: Yeah --

8 THE COURT: I'm not okay with it without the number of
9 diseases.

10 MR. YOUNG: We took that out.

11 THE COURT: So what does the slide mean then? It
12 doesn't mean anything if you can't talk about the number of
13 cases.

14 MR. YOUNG: Well, he's going to explain that, Your
15 Honor.

16 MR. JEKELL: Can we see the slide?

17 THE COURT: I think I know what it's going to be. He's
18 just going to put a slide in that has regulatory model and
19 exposure, but that's -- that's -- I don't see what you're
20 doing there. I'm not going to let that one in either. That
21 doesn't tell me anything.

22 MR. YOUNG: We're not offering that one, Your Honor.
23 We took out the --

24 MR. JEKELL: That's not what Your Honor --

25 THE COURT: No, it's the vertical, that yellow

1 vertical. So you've just taken out number of cases, so all
2 you've got now is something that has nothing on the vertical
3 and on the horizontal, it has some data and then regulatory
4 model. It doesn't have where the regulatory model is. That
5 can't be used.

6 MR. YOUNG: He's going to explain that, Your Honor.

7 MR. JEKELL: This is terribly misleading.

8 MR. YOUNG: How do you know?

9 MR. JEKELL: I'm looking at it.

10 And I know asbestos pretty well, Your Honor. I mean,
11 it looks like --

12 MR. YOUNG: He hasn't the opportunity to explain it, so
13 I don't know how --

14 THE COURT: It says mesothelioma risk models. It's
15 exposure per fiber year. And it has all these exposures,
16 but it doesn't tell you anything about what the pool of
17 people whose exposures are being looked at nor does it tell
18 us anything about where the regulatory model. It is not
19 enough simply to take out the things that are questionable
20 and not put anything else in. What I thought you were going
21 to do is have him on the vertical put the number of cases,
22 which is what that vertical is for. It's the number of
23 cases of disease.

24 MR. YOUNG: Yes, Your Honor, he can do that.

25 THE COURT: Well, that needs to be done if you're going

1 to use it. Let's put some numbers on that vertical.

2 MR. YOUNG: She wants exact numbers.

3 THE COURT: I want some numbers on the vertical. It's
4 not enough to say high low --

5 MR. EARLY: It should be easy --

6 MR. JEKELL: Your Honor --

7 THE COURT: Mr. Jekell, five people can't talk at one
8 time now.

9 Hold on. It's not going to work this way. We can't
10 just kind of all this --

11 THE BAILIFF: Hold on, sir.

12 THE COURT: Hold on. Dr. Crapo can't just be talking
13 to you while we're having a court ruling here.

14 I am not going to allow that slide as it currently
15 exist. And I'm not going to allow a regulatory model unless
16 it shows where it is on the vertical -- or on the graph. So
17 if you can put that slide in some -- the problem with the
18 slide is the number of cases.

19 MR. YOUNG: Your Honor, if you could just give us like
20 two minutes.

21 THE COURT: All right, let's take two more minutes and
22 let's either use it or not use it.

23 (WHEREUPON, a short break was taken.)

24 THE COURT: Bring in the jury.

25 (WHEREUPON, the jury enters the courtroom.)

1 THE COURT: Ladies and gentlemen of the jury, please be
2 seated. We've had to take up a few evidentiary matters, but
3 we've gotten them straightened out now and we are ready to
4 proceed this morning with the Defendant's case. The
5 Defendant will be offering Dr. Crapo as another expert
6 witness.

7 Mr. Young.

8 MR. YOUNG: Thank you, Your Honor. Your Honor, at this
9 time, Scapa would call Dr. James Crapo to the stand.

10 THE COURT: Dr. Crapo, come around to the clerk's
11 station and be sworn.

12 THE CLERK: If you'll please your left hand on the
13 Bible and raise your right.

14 JAMES CRAPO, M.D.,

15 after being duly sworn, testified as follows:

16 THE CLERK: Have a seat in the witness box.

17 DIRECT EXAMINATION

18 BY MR. YOUNG:

19 Q You know that I'm Lane Young and I'm one of Scapa's
20 lawyers; is that correct?

21 A Yes.

22 Q And we're going to be asking you some questions today
23 about Mr. Stewart and his mesothelioma and the cause of his
24 mesothelioma, at least, in your opinion?

25 A Yes.

1 Q Would you introduce yourself to the ladies and
2 gentlemen of the jury, please?

3 A I'm Dr. James Crapo.

4 Q And where do you live?

5 A I live in Denver, Colorado.

6 Q Are you a medical doctor?

7 A I am.

8 Q And how long have you been a medical doctor?

9 A Since 1971.

10 Q Long time?

11 A Yes.

12 Q Will you give the ladies and gentlemen of the jury all
13 of the opinions that you give today to a reasonable degree
14 of medical certainty most probably?

15 A I will.

16 Q Now, this is fairly lengthy, but could you give the
17 ladies and gentlemen of the jury as succinctly as you can
18 your educational background and qualifications to give the
19 opinions that we're going to ask you about today?

20 A Yes. I went to undergraduate -- I got a degree in
21 chemistry and English at Brigman Young University.
22 Following that, I went to the University of Rochester in New
23 York and went through medical school from 1967 to 1971,
24 graduating with an M.D. I then did a year of internship in
25 medicine at Harvard General Hospital in Los Angeles, which

1 is affiliated with UCLA. Following that, I moved to North
2 Carolina where I became a staff associate at the National
3 Institute of Environmental Health Sciences. It's an NIH
4 institute in Research Triangle Park, North Carolina. And I
5 did three years of research and that's where I developed my
6 first interest in how debris causes lung injury.

7 Q Dr. Crapo, let me interrupt you for a second. Would
8 you tell the ladies and gentlemen of the jury what the
9 National Institute of Health Sciences is?

10 A Yes. That's one of the national institutes of health.
11 It's located in North Carolina instead of in Washington.
12 And it focuses on environmental health sciences, which means
13 things that we encounter in our environment, primarily
14 through breathing them or water content, how they cause lung
15 injury -- or how they cause body injury and, of course, a
16 large section is lung injury. But that's the primary
17 institute of the National Institutes of Health that focuses
18 on how things we breath can cause injury to the lungs.

19 Q Does that involve asbestos?

20 A Yes.

21 Q Studying asbestos?

22 A Yes.

23 Q And what were you doing earlier this week?

24 A Well, this week -- I serve on the national advisory
25 council for the National Heart, Lung, and Blood Institute.

1 And I attended their advisory council as a member yesterday.
2 At that point in time, we were authorizing multiple grants
3 for people looking at heart, lung and blood disease
4 throughout the United States.

5 Q I want to go back to the research and training at Duke.
6 Can you tell the ladies and gentlemen of the jury about
7 that, when it was and what you did and that type of stuff?

8 A After I finished my training at the National Institute
9 of Environmental Health Sciences, I went to Duke University
10 and I completed training in internal medicine and in
11 pulmonary medicine, finishing that in 1976, at which time, I
12 joined the faculty there. I then served on the faculty for
13 a little over 20 years. I was appointed chief of the
14 pulmonary and critical care medicine division and I served
15 as the head of that program for 17 of those 20 years.

16 Q What's pulmonary medicine?

17 A Pulmonary means the lungs. It's all the upper and
18 lower respiratory tract. So all things dealing with
19 breathing is pulmonary.

20 Q And is Duke where Mr. Stewart had some surgery, as you
21 understand it?

22 A Yes, Mr. Stewart had his partial pneumonectomy done at
23 Duke University.

24 Q And do you know Dr. Harpole?

25 A I do.

1 Q Was he there when you were there?

2 A Yes, he's a thoracic surgeon.

3 Q Can you tell the ladies and gentlemen of the jury what
4 your medical specialty is?

5 A My specialty is internal medicine with a subspecialty
6 in pulmonary diseases.

7 Q During your work in pulmonary medicine, can you tell
8 the ladies and gentlemen of the jury the types of diseases
9 you've looked at and treated and studied?

10 A You treat any disease of the lung, which chronic
11 obstructive lung disease or emphysema is a common one that I
12 study, asthma is another one. Other diseases, we studied a
13 lot of were the interstitial fibrotic lung diseases,
14 diseases that cause scarring of the lung. And asbestos is
15 one of those. I spent many, many years studying
16 asbestos-induced scarring of the lung. I also studied lung
17 cancer and related cancers that occur in the chest. So
18 there's a broad field that comes under lung disease.

19 Q Does that include the study of mesothelioma?

20 A Yes.

21 Q How long have you been involved in the study of the
22 causes of -- diagnosis and causes of mesothelioma?

23 A Well, I didn't study mesothelioma in my laboratory. I
24 studied asbestos, how it moved in the lung, how it caused
25 inflammatory injury in the lung. But I took care of

1 patients with mesothelioma. And there's a major referral
2 center in the southeast for cases of mesothelioma. As the
3 chief of pulmonary, I served on the pulmonary consult
4 service -- I managed the pulmonary consult service three
5 months out of the year for almost 20 years. And when you're
6 seeing patients on the pulmonary consult service, you would
7 include seeing patients with mesothelioma. So saw them
8 regularly as referral patients to Duke University.

9 Q You said that you were the chief of pulmonary medicine
10 at Duke, did I understand that correctly?

11 A Yes.

12 Q What years was that?

13 A Well, it started in 1979 -- and it's actually pulmonary
14 and critical care medicine, so included the critical care
15 units. And I served from 1979 until 1996 in that position.

16 Q And during that period of time, were you involved in
17 the care and treatment of patients, including patients with
18 mesothelioma?

19 A Yes.

20 Q And did you -- were you involved in the diagnosis of
21 mesothelioma?

22 A Yes.

23 Q And in ascertaining the cause of someone's
24 mesothelioma?

25 A That would be part of the evaluation, yes.

1 Q While you were at Duke, did you investigate things like
2 the level of a particular pollutant, including asbestos that
3 someone might be caused to -- exposed to that would cause an
4 injury?

5 A I did. The majority of my research was done with
6 animals. And we were very much involved in exposing animals
7 to various concentrations of things that we are exposed to
8 in the environment. Air pollutants are considered, like
9 ozone, NO2, particulates, the major air pollutants, but we
10 also studied asbestos. I had a contract with the NIEHS for
11 over 10 years in which we studied hazards of asbestos
12 exposure in animals in a chamber and where the asbestos went
13 and how much it went, to which part of the lung and how it
14 causes inflammatory injury to the lung. And my colleagues
15 at the NIEHS studied the cancers that were caused in those
16 mice that were -- actually, rats, in the rats that were
17 exposed to asbestos. So we had a pretty large research
18 group, part looking at cancer and part looking at
19 inflammatory lung disease. And I headed the inflammatory
20 lung disease part of it.

21 Q And Dr. Crapo, were rats used because they have similar
22 lungs to humans?

23 A There are a lot of similarities. You have to be
24 careful when you extrapolate from animal to human. And we
25 did a lot of work on how you do that extrapolation and we

1 worked on the difference between animal lungs and human
2 lungs. We studied both. But yes, there are a lot of
3 similarities and if you're careful, you can make reasonable
4 extrapolations for the type of injury that will occur.

5 Q Were you looking at the level, let's say, of asbestos
6 that was needed to cause diseases like asbestosis and
7 mesothelioma?

8 A Yes. We looked at both very high and very low doses
9 and looked at what happened and how it was processed and how
10 it caused injury.

11 Q The ladies and gentlemen of the jury heard from Dr.
12 Arnold Brodie, do you know him?

13 A Yes.

14 Q Was he there?

15 A Yes. He moved to the NIEHS after -- actually, I moved
16 to Duke first and then a few years later, he moved to North
17 Carolina and we worked together as colleagues for probably
18 15 years and published many papers together.

19 Q And the NIEHS, is that the National Institute of Health
20 Sciences?

21 A National Institute of Environmental Health Sciences.

22 Q The jurors are not familiar with all these acronyms
23 that you guys use. Back when you were doing that work, is
24 that when you -- is this the period of time when you became
25 interested in asbestos?

1 A It was actually the late 1970s. Actually, the people
2 at the NIEHS, the institute, made the decision to study a
3 large number of animals with asbestos exposure. And because
4 I had a lot of experience with pathology and physiology, I
5 contracted with them to study the pathologic changes in the
6 lung in all the animals that were studied. And so they did
7 the exposures at the NIEHS in the 1970s, early 80s and I did
8 the pathology at Duke University. And then we worked
9 together on all parts of the experiment. So I'd worked on
10 this probably for 12 to 15 years, from the late 1970s until
11 the early 1990s.

12 Q During that period of time, you were studying asbestos
13 and how it causes disease?

14 A Yes, I was.

15 Q And what level of asbestos you needed to cause
16 particular diseases?

17 A Yes.

18 Q And we'll get to this in a minute, but did you also
19 look at asbestos fiber types and their ability to cause
20 disease at certain levels?

21 A I did.

22 Q Chrysotile was looked at?

23 A Yes.

24 Q And amphiboles, the jurors have heard a ton about, were
25 they looked at?

1 A Yes, most of my work was on chrysotile, but comparison
2 to the amphibole was very important.

3 Q Have you continued to today to review the literature on
4 the question of the diagnosis of mesothelioma and the causes
5 of mesothelioma?

6 A Yes, I've kept up on those. It continues -- literally,
7 there's over 10,000 articles on this now. I've continued to
8 read that literature and keep up to date on the field.
9 After I stopped doing research on it in the early 1990s,
10 I've continued to read the literature.

11 Q Dr. Crapo, the work that you did studying asbestos,
12 mesothelioma, the cause of mesothelioma and other asbestos
13 diseases from the 70s to the early 90s, did that have
14 anything to do with lawsuits or litigation?

15 A No, I didn't have any contact with lawsuits or
16 litigation until the very late 80s. Then probably the early
17 1990s, after I stopped doing research, I started getting
18 involved and offering my professional opinion in a legal
19 setting. But that occurred -- the research ended and I
20 started doing the -- the early 90s, I started offering
21 testimony about my opinions.

22 Q Have you also spent a great deal of time looking at
23 smoking-related illnesses?

24 A I have.

25 Q Can you explain that to the ladies and gentlemen of the

1 jury?

2 A First, I should explain that I left Duke in 1996. I
3 moved to National Jewish Health out in Denver, Colorado, was
4 the chair of medicine in 1996 and served as chair for 10
5 years. As I did that, I was involved in specifically
6 teaching lung disease. National Jewish is a hospital that
7 focuses on pulmonary medicine, probably the highest rated
8 program in the country on lung disease. So the biggest lung
9 disease is actually chronic lung disease caused by smoking.
10 So I changed my focus and started studying chronic lung
11 disease.

12 And then in about 2007, I stepped down from chair of
13 medicine and I started a research program called COPD Gene.
14 COPD means chronic obstructive pulmonary disease, genetics.
15 And this is a NIEHS study that's now its 11th year now.
16 It's a funded study of over 10,000 people who are heavy
17 smokers and we're looking at how they develop various
18 diseases, primarily lung diseases. And we're looking for
19 all the genetic aspects, doing their entire human genome on
20 all 10,000 people looking for the genetics that tells you
21 why one smoker develops lung disease and another one doesn't
22 and see if we can find new pathways to cure for that.

23 There's about 200 people and about 20 medical centers
24 across the country that are part of this program. I'm one
25 of the two PIs for it, principle investigator, and it's a

1 major focus of my work today. About half my time is spent
2 trying to understand chronic lung disease and how to develop
3 a better treatment for it.

4 Q Dr. Crapo, does that have anything to do with
5 litigation?

6 A No.

7 Q And tell the ladies and gentlemen of the jury why did
8 you go to National Jewish? I think you said it was a
9 prominent lung hospital?

10 A Well, first of all, I grew up in Idaho, so I've always
11 wanted to live in the west. I spent 25 years in North
12 Carolina. But the National Jewish program is the most
13 prestigious lung disease program in the world, in my
14 opinion. So they offered me the position of chair of
15 medicine there and that was -- and it was in the west. It
16 was a great opportunity for me and my family.

17 Q Were you proud to be appointed the chair there?

18 A Yes.

19 Q So Dr. Crapo, studying chronic obstructive pulmonary
20 disease, are you still looking at lung disease and the
21 levels that are required for something that's inhaled to
22 cause disease?

23 A Yes. Well, in this case, primarily, it's tobacco or
24 environmental fluids that cause lung disease, but that's the
25 major focus of my current research.

1 Q But, essentially, the same type of investigation is
2 what you were doing at Duke when you were looking at the
3 level of asbestos and type of asbestos necessary to cause
4 mesothelioma?

5 A It's similar. But i should point out that my work at
6 Duke and research with asbestos was on animals, on rats, and
7 I was taking care of human patients at the same time. My
8 research on chronic obstructive lung disease is all on
9 humans. So there's been an evolution, so there are
10 differences, but they all correlate.

11 Q Dr. Crapo, the animal studies that you did at Duke, are
12 those the types of things that doctors like yourself would
13 rely upon to reach conclusions with respect to causation of
14 mesothelioma from asbestos in humans?

15 A Yes. In fact, you can't deliberately expose a human to
16 asbestos, so the best way to do that in an experimental
17 session is in an animal. Unfortunately, humans will
18 voluntarily expose themselves to tobacco smoke, so we can
19 study tobacco smoke in humans quite readily.

20 Q Are you currently trying to find a cure for
21 cigarette-related lung cancers?

22 A Well, we are. But the first thing we do is tell them
23 to stop smoking, then we start looking for ways we can
24 prevent the injury that's occurred.

25 Q Can you tell the ladies and gentlemen of the jury about

1 how many papers you've authored on lung disease?

2 A It's well over 300 today.

3 Q And how many of those involved asbestos?

4 A Book chapters and papers that directly deal with
5 asbestos, it's about 12.

6 Q Written book chapters involving asbestos disease and
7 its causation?

8 A Yes.

9 Q Will you tell the ladies and gentlemen of the jury what
10 the American Thoracic Society is?

11 A The ATS, or the American Thoracic Society, is the
12 primary professional organization for people interested in
13 lung disease. So pulmonologists, people interested in lung
14 disease join that society. It holds the largest annual
15 conference on lung disease and it publishes two of the
16 biggest journals in the field.

17 Q And are you a member?

18 A I am.

19 Q Have you ever been the head of that?

20 A Yes, I've served in many official positions, including
21 being president of the American Thoracic Society in 1992.

22 Q Are you board certified in any areas of medicine?

23 A Yes. I'm board certified in internal medicine and a
24 subspecialty in pulmonary diseases.

25 Q Would it be fair to say, Dr. Crapo, that you've spent

1 your entire medical career studying lung disease, including
2 asbestos-related lung diseases, like mesothelioma?

3 A Yes.

4 Q Have you been the editor of any medical journals?

5 A Yes. The primary journal -- I've been associated with
6 several, but for the last 10 years, I've edited the Journal
7 of COPD, which we started as the Journal of the COPD
8 Foundation. So I edit one of the primary journals in the
9 field of chronic obstructive lung disease.

10 Q In addition to all the work you've told the ladies and
11 gentlemen of the jury about, have we missed anything that --
12 besides the consulting with me and other lawyers that we'll
13 talk about in a second that you're spending a great deal of
14 time on right now?

15 A Well, the only other thing I'm doing -- during my
16 career, I've also had a lot of interest in developing a new
17 class of drugs that are antioxidants. Because the major
18 injury to the lung is an oxidant injury when you breathe
19 high concentrations of concentrations of oxygen or oxidant
20 gases like ozone or NO₂. So we're working on developing a
21 very powerful small molecule antioxidant and now we have
22 that compound ready for clinical trial.

23 And I started a firm that is now conducting clinical
24 trials. We have four human clinical trials going on with
25 this new drug. One of them addressing inflammatory skin

1 disease and three of them are addressing various types of
2 cancer. So we're doing those clinical trials now as well.

3 Q And do you also consult with lawyers like me in
4 lawsuits?

5 A I do.

6 Q And what percentage of your time do you spend doing
7 that?

8 A I would say that 25, 30 percent of my time is spent
9 looking at medical legal cases and consulting about medical
10 legal cases. About 70 percent of my time is spent on the
11 other two major things, running the COPD Gene project for
12 research and doing clinical trials of the new very powerful
13 drug.

14 Q I'm sure you'll be asked this later, but do you
15 typically consult with the defendants in the cases?

16 A Yes.

17 Q If a plaintiff's lawyer asked you to consult on a case,
18 would you do so?

19 A I would, sure.

20 Q Would your opinions be any different --

21 A No, in each case, I identify whether or not asbestos
22 caused it and which type of asbestos caused it. I would
23 offer that opinion the same either way.

24 Q Dr. Crapo, are you an epidemiologist?

25 A I'm not a trained epidemiologist, but I do a lot of

1 epidemiology. I use it in my life and practice for medicine
2 consistently and I manage the COPD Gene study, which is
3 currently the largest epidemiologist study being done in
4 medicine -- in pulmonary medicine today. So genetics is
5 something I do everyday. I mean, epidemiology, I do
6 everyday as part of my research.

7 Q Dr. Oury already told the ladies and gentlemen of the
8 jury a little bit about what an epidemiological study is,
9 but can you explain it to them simply in your terms?

10 A Well, an epidemiology study is a study of a group of
11 humans that you define having something in common. They
12 would either have a certain disease expression or they work
13 in a certain environment or they work in a certain factory,
14 but there's some common element about them. And you look
15 for elements of their commonality that could be associated
16 with the disease and/or exposure. So epidemiology is how
17 you use human populations to understand more about the
18 disease and, ultimately, disease causation, if you can.

19 Q For example, there's been testimony in this case that
20 Mr. Stewart worked around and was exposed to thermal
21 insulation at the Bowater paper mill in the 60s and the 70s.
22 Did you see that?

23 A Yes, I did.

24 MR. JEKELL: I'm sorry, Your Honor, are we going to get
25 him qualified here before he starts getting into the facts

1 of the case?

2 THE COURT: I think that's what we want to do.

3 MR. YOUNG: Well, that's not where I was headed with
4 that, Judge.

5 BY MR. YOUNG:

6 Q Dr. Crapo, have you reviewed materials with respect to
7 Mr. Stewart that would allow you to come here and give
8 opinions to this Court and jury?

9 A Yes.

10 Q And can you tell the ladies and gentlemen of the jury
11 what you looked at?

12 A Well, I've looked at his medical records from multiple
13 medical care people. I have reviewed his testimony. He
14 gave depositions in December of 2012, February of 2013 and
15 two depositions in March of 2013. And I have reviewed
16 reports of Mr. Carlson on his industrial hygiene evaluation.

17 Q Did you also talk to Mr. Carlson?

18 A And I've spoken with Mr. Carlson. And I've seen case
19 documents.

20 Q So based upon that information, did you -- were you
21 able to gather or see the types of asbestos -- were you able
22 to see that Mr. Stewart was exposed to thermal insulation at
23 Bowater?

24 A Yes.

25 MR. YOUNG: Your Honor, at this time, we would tender

1 Dr. Crapo as an expert in the field of pulmonary medicine,
2 lung disease, asbestos-related diseases and diagnosis and
3 causation of asbestos-related diseases, including
4 mesothelioma.

5 MR. JEKELL: Your Honor, may I voir dire the witness?

6 THE COURT: You may voir dire the witness.

7 VOIR DIRE

8 BY MR. JEKELL:

9 Q When did -- well, I've got a few things to go over, Dr.
10 Crapo. Do you remember when we all came out to Denver back
11 in 2016 and put you on videotape because we thought we were
12 going to be in the court and you weren't going to be
13 available to testify? Do you remember that?

14 A Yes.

15 Q Do you remember you told the attorney at that point in
16 time that you hadn't looked at Mr. Stewart's deposition? Do
17 you remember that?

18 A I looked at it only a few days before that.

19 Q No, you told him, though, in response to his question,
20 Have you read Mr. Stewart's deposition? It's Page -- have
21 not read Mr. Stewart's deposition; is that correct? And you
22 said, That's correct?

23 A If that's what I said, then that would have been
24 correct at the time. I've certainly read them since that
25 time.

1 Q I want to go back. I think we've broken some history
2 here. For a person who's written 300 articles, you didn't
3 bring your CV today, did you?

4 A I have it electronically if you'd like it.

5 Q Well, I just -- it's -- you would agree with me, would
6 you not, the word mesothelioma does not appear on your CV;
7 is that correct?

8 A Yes. My CV list the articles that I wrote, not the
9 articles I read. I wrote on inflammatory lung disease --

10 MR. JEKELL: Your Honor, if the witness would answer my
11 questions, this will move a lot faster.

12 THE COURT: Mr. Jekell, I certainly am going to ask him
13 to be responsive. And I'm also going to ask you, since this
14 is voir dire and not cross-examination, I'm going to ask you
15 to be a little less argumentative and not interrupt him as
16 well.

17 MR. JEKELL: Fair enough.

18 THE COURT: So let's proceed in that civilized way and
19 we'll get along well.

20 BY MR. JEKELL:

21 Q These rat studies that you told counsel about that were
22 looking at how much exposure causes disease in rats, did I
23 hear that right?

24 A Yes, you did.

25 Q Did you bring those studies with you?

1 A Well, they're listed on my CV.

2 Q And that's not here either. Okay. Let me ask you this
3 --

4 MR. YOUNG: His CV is right here. I was going to
5 introduce it --

6 THE COURT: Well, how about go on and hand it up and
7 introduce it.

8 Just a second, Mr. Jekell..

9 Go on and introduce it so we won't have any quarrels
10 about that. That's a normal thing that you do with
11 witnesses and that will eliminate that issue.

12 MR. YOUNG: Your Honor, I apologize. I actually just
13 forgot.

14 THE COURT: That's all right. We'll get it done now.

15 (WHEREUPON, Defendant's Exhibit No. 10 was admitted
16 into evidence.)

17 THE COURT: Now, Dr. Crapo, you have your curriculum
18 vitae there.

19 Mr. Jekell.

20 BY MR. JEKELL:

21 Q Can you point me to the article on your CV that
22 identifies the studies where you exposed rats to determine
23 levels of safe exposure in humans?

24 A Well, I didn't say that I did that. You don't use a
25 rat to define a safe exposure in humans. But I can point

1 you to the studies where I looked at low and high levels in
2 rats.

3 Q Fair enough. Go ahead.

4 A So 1988 would be the one on low levels. Let's look
5 through here.

6 Q Just tell me what page it's on and I'll be able to
7 locate it, sir.

8 A First author is Pinkerton and it's 1988.

9 Q What page is that on your CV, Doctor?

10 A I'm looking for it.

11 Q Okay. I'm sorry. We'll move on, Dr. Crapo, I'll find
12 it. I want to get the examination done. It's true you've
13 done no epidemiological study looking at asbestos exposure
14 in humans, right?

15 A Yes, that's correct.

16 Q You've never conducted any independent study or
17 evaluation of low dose chrysotile exposure in humans, right?

18 A That's correct.

19 Q You've never published a meta analysis on article
20 reviews in any peer review on the issue of low dose
21 chrysotile exposure; is that correct?

22 A That's correct.

23 Q And you're extrapolating a lot of this from studies on
24 rats, is that what I understand?

25 A Well, it's also from reading extensive studies that are

1 done on humans as well from the epidemiology, so I've read
2 the human literature and my personal research is on rats
3 with asbestos.

4 Q You've not treated a mesothelioma patients since
5 probably 1996, correct?

6 A After I left Duke, I stopped seeing cases of
7 mesothelioma.

8 Q And your time with National Jewish is only about 50
9 percent, right, currently?

10 A About 50 percent, yes. Half my time at National Jewish
11 is assigned to the COPD Gene study and the other half of my
12 time, I'm doing medical legal work and running a biotech
13 company.

14 Q And most of the articles that are included in this CV
15 are not related to asbestos, right?

16 A That's correct.

17 MR. JEKELL: Thank you, Dr. Crapo.

18 MR. YOUNG: Your Honor, I have just a couple more
19 questions.

20 THE COURT: All right.

21 BY MR. YOUNG:

22 Q Dr. Crapo, you were asked about epidemiological studies
23 that you have done with respect to mesothelioma and its
24 causes?

25 A Yes.

1 Q Have you read hundreds, if not thousands of
2 epidemiological studies that deals specifically with the
3 question of the cause of mesothelioma and whether or not low
4 dose chrysotile can cause mesothelioma?

5 A Yes.

6 Q Can you tell the ladies and gentlemen of the jury and
7 the Court about how many?

8 A Well, there's probably tons of epidemiology studies
9 that address that topic, including the amphiboles as well as
10 chrysotile, high and low doses. There's probably between 60
11 and 80 such studies. Each study is sometimes reported many
12 times in the literature, so you may read five or 10
13 different reports of a study. So I've read all of those.

14 Q Is that something that you rely upon to come here and
15 give your opinions to the ladies and gentlemen of the jury
16 about mesothelioma and its causation, particularly in Mr.
17 Stewart's case?

18 A Yes.

19 Q Is that something that scientists and doctors like you
20 customarily rely upon when they're reaching opinions like
21 that?

22 A Yes.

23 Q Do you feel like that you've adequately studied the
24 epidemiological studies that deal with these issues?

25 A Yes.

1 MR. YOUNG: Your Honor, I renew my request that Dr.
2 Crapo be designated as an expert in the area of pulmonary
3 medicine lung disease, asbestos-related disease, including
4 mesothelioma diagnosis and causation.

5 THE COURT: Mr. Jekell?

6 MR. JEKELL: He's a pulmonologist, I'll stipulate to
7 that.

8 THE COURT: I am going to find that Dr. Crapo, by
9 reason of his education, training and experience is
10 qualified as an expert in the areas of pulmonary medicine,
11 lung disease, asbestos-related disease and diagnosis of
12 mesothelioma. Of course, that will not preclude Mr. Jekell
13 from cross-examining him with respect to the opinions he
14 renders, but he may render those opinions as an expert.

15 You may continue, Mr. Young.

16 CONTINUED DIRECT EXAMINATION

17 BY MR. YOUNG:

18 Q Dr. Crapo, just a little while ago, I was asking you
19 about some specific studies involving mesothelioma and
20 thermal insulation, do you recall that?

21 A Yes.

22 Q And based upon what you reviewed and what has been
23 presented here in court, is it your opinion that Mr. Stewart
24 had exposure to thermal insulation while he was working at
25 Bowater in the 60s and the 70s?

1 A Yes. That is my opinion. He would have been exposed
2 to thermal insulation.

3 Q And have there been a number of studies --
4 epidemiological studies done over the years looking at the
5 association between thermal insulation exposure and
6 mesothelioma?

7 A Yes.

8 Q Did Dr. Selikoff do one?

9 A Yes.

10 Q Can you tell the ladies and gentlemen of the jury when
11 that was and what he found?

12 A Dr. Selikoff was involved in many studies over several
13 decades. Probably the most famous one is the mid-1960s. He
14 started studying insulators, all people who were part of the
15 insulators union in the United States. And he made the
16 observation that they had increased risk of cancer and that
17 created a shift and the people understanding the risk of
18 asbestos in causing disease.

19 Q Have you also searched -- did Dr. Selikoff conclude
20 that there was a relationship between amphibole-containing
21 thermal insulation and increased incidents of mesothelioma?

22 A Ultimately, he did, yes. His first study was on lung
23 cancer. But they, ultimately, came along and showed that
24 amosite, which was a major component of U. S. insulation was
25 a significant cause for mesothelioma.

1 Q Okay. And so how long has it been in the literature
2 that thermal insulation -- amphibole-contained thermal
3 insulation causes increased incidents of mesothelioma?

4 A I would say that dealing with amosite-containing
5 insulation, that was identified in the early 1970s.

6 Q And in anything that you've ever read, have you seen
7 any indication that dryer felts caused increased incidents
8 of mesothelioma in anyone?

9 A No. There's nothing in the published literature that
10 would suggest that dryer felts caused mesothelioma.

11 Q And, Dr. Crapo, I think one of the things you said that
12 you had studied over the years and read articles about is
13 the different asbestos fiber types?

14 A Yes.

15 Q And we'll talk about that in a second, but based upon
16 your review of the information in this case, did you learn
17 what type of asbestos was used in the Scapa dryer felts that
18 did contain asbestos?

19 A I did.

20 Q And what was that?

21 A If the Scapa dryer felts contained asbestos, they
22 contained chrysotile asbestos.

23 Q And there was some talk yesterday about tremolite and
24 chrysotile. Dr. Millette, who did a bulk sample analysis on
25 the Scapa dryer fabrics to check for asbestos, did he find

1 any tremolite in the dryer felts?

2 A No.

3 Q So based upon what you have looked at and seen in your
4 studies and your reviews of the epidemiological literature,
5 what in your opinion was the cause -- well, first of all,
6 did Mr. Stewart have mesothelioma?

7 A Yes, he did.

8 Q No question about that?

9 A There's no question about that.

10 Q And what was the cause of his mesothelioma in your
11 opinion?

12 A In my opinion, the cause would have been his work in
13 the paper mill where he was exposed to amphibole forms of
14 thermal insulation that were a big part of the paper making
15 machine that he worked on for about 40 years.

16 Q Where was the thermal insulation, if you know?

17 A The --

18 MR. JEKELL: Objection, Your Honor. He has not laid
19 any foundation --

20 MR. YOUNG: Okay. I'll --

21 MR. JEKELL: -- of his knowledge of paper machine
22 number one and asbestos.

23 MR. YOUNG: I'll withdraw --

24 THE COURT: He's withdrawing the question.

25 MR. JEKELL: All right.

1 BY MR. YOUNG:

2 Q Dr. Crapo, to your knowledge, did Dr. Selikoff ever
3 expand his investigation to include paper mill workers?

4 A No. No, he did not.

5 Q In your opinion, based upon everything that you've
6 looked at, including the review of Mr. Carlson's report and
7 the studies that you've looked at over the years, do you
8 believe that the 23 Scapa asbestos-containing felts that
9 were at Bowater during the 60s and the 70s caused or
10 contributed to Mr. Stewart's mesothelioma?

11 A No, I do not.

12 Q And are we going to -- is one of the reasons that you
13 say that --

14 THE COURT: Now, just a minute, Mr. Young. Please ask
15 him a direct question rather than suggesting the answer in
16 the way you phrase the question with giving him an answer
17 and then having him agree with it. You're on direct
18 examination and you're at the heart of his opinion and that
19 opinion has got to have a foundation laid for it. He has
20 given a very broad opinion here and it's going to have to be
21 -- for me not to strike it, it's going to have to be one
22 that's based on a foundation laid as to how he knows that
23 Scapa felts didn't cause et cetera. So don't ask him a
24 question that assumes in the question the answer.

25 MR. YOUNG: Yes, Your Honor. I'm fixing to go straight

1 into that.

2 THE COURT: Thank you.

3 BY MR. YOUNG:

4 Q Dr. Crapo, as the Court just indicated, do you have a
5 basis for what you just said with respect to dryer felts?

6 A I do.

7 Q And can you just tell the ladies and gentlemen of the
8 jury, first of all, I guess the broad basis for that?

9 A Well, the reason why I concluded dryer felts were not a
10 cause for Mr. Stewart's developing mesothelioma is that the
11 -- if the dryer felts contained chrysotile, it is woven into
12 the fabric of the dryer felt and it was on -- and those
13 dryer felts would have been put on the machines that he
14 worked with. Typically, the machine number one there would
15 have had four units, each unit having two felts on it, so it
16 could be eight felts simultaneously.

17 And when they're running, they're running under
18 conditions of high moisture. They're drying the paper
19 against the feelers. There's massive air flow going across
20 these, taking the steam and the heat out through the
21 ventilation. And the dryer felts would be a wide process so
22 -- the conditions of paper making is in -- it's in a chamber
23 with air flowing throughout and out the ceiling. And in the
24 conditions in which there's something going wrong and
25 they're trying to clean the paper felts, they would be

1 blowing air across that. And industrial hygiene that would
2 have evaluated that showed there's no significant fiber
3 release from the --

4 MR. JEKELL: Objection, Your Honor. I don't believe
5 the proper foundation has been laid for how he knows people
6 blew the dryer felts out.

7 THE COURT: I think he's in the process of doing that.
8 I'm listening quite closely. What he's stating right now is
9 that experts -- and he hasn't named who they are. I'm
10 assume we're going to find that out. But he's got some
11 information that blowing air across a dryer felt does not
12 release the asbestos fibers that are in the dryer felt. I
13 don't know what the foundation for that is, but I assume
14 that's going to be asked. So I'll withhold ruling on your
15 objection until we hear that.

16 MR. JEKELL: Yes, Your Honor.

17 BY MR. YOUNG:

18 Q Your information in this regard, did it come from
19 reviewing Mr. Carlson's report?

20 A That was one source. I've also read studies -- for
21 example, there was a study of a pilot plant where they
22 looked at the exact question done in Western Michigan in
23 1991, if I remember correctly. So there's been multiple
24 studies done of it and there's multiple industrial
25 hygienists that did it. And Mr. Carlson summarized them,

1 but I've read those previously. And they came from
2 Carlson's reports, they came from -- I've read reports in
3 the other plants from industrial hygienist named Salazar.

4 So I've read Carlson and Salazar, I read the Western
5 Michigan plants, all of which show there is no major release
6 above background. You get levels that are equivalent to
7 ambient for background, but there's no significant high
8 levels of chrysotile released from a functioning dryer felt
9 when it's used under conditions of paper making. And there
10 is a report by Millette who looked -- took an old dry
11 section of felt out and blew it directly in a way that's not
12 done under function and got some fiber release.

13 So I've read everything that I could find on the
14 industrial hygiene studies that looked at what happens to --
15 it looks at possible chrysotile release in dryer felt. And
16 after reading all of those, it's my conclusion that you
17 would not get any significant chrysotile release from a
18 functioning dryer felt in a machine like this. And it
19 mostly would be background level that would be equivalent to
20 common ambient levels.

21 Q Dr. Crapo, the type of asbestos, does that have
22 anything to do with your opinion?

23 A Yes, it's very important that it's chrysotile because
24 low levels of amphibole can cause mesothelioma. For
25 chrysotile, it's my opinion that only very high levels might

1 be a cause for mesothelioma. So you have to know dose and
2 fiber type in order to reach the conclusions that I reached.

3 Q Dr. Crapo, have you prepared some slides that would
4 assist you in explaining to the ladies and gentlemen of the
5 jury further the foundation or basis for your opinion with
6 respect to dryer felts in this case?

7 A Yes.

8 Q And would those assist you in explaining your opinions
9 to the ladies and gentlemen of the jury?

10 A I think they would.

11 THE COURT: Just one moment. Let's the clerk turn on
12 the screen for the jurors. Just hold for a minute.

13 MR. YOUNG: Your Honor, may I approach?

14 THE COURT: Certainly.

15 MR. YOUNG: Your Honor, the pointer doesn't work on
16 this screen, so at some point, we're going to ask if Dr.
17 Crapo can come down and explain.

18 THE COURT: Any time you want him to come down, just
19 ask me and he'll come down and approach the screen. Let's
20 just get it set up first.

21 All right. The screen is operational for the jury.
22 You may proceed.

23 BY MR. YOUNG:

24 Q Dr. Crapo, is this is a summary of your opinions in
25 this case?

1 A Yes.

2 Q Could you explain this to the ladies and gentlemen of
3 the jury.

4 A Well, there are three opinions that I think are very
5 important to understand my overall opinion. First is the
6 respiratory system, our lungs, head and lungs are well
7 designed to handle low levels of glutens. That's why we
8 live in the environment we live in. So understanding our
9 body's defense mechanisms helps us to understand why low
10 level glutens do not cause injury.

11 And then a second opinion is low level chrysotile
12 exposures do not cause mesothelioma. A third one is that
13 mesothelioma is caused by amphibole exposures, which I say
14 significant, but it can be a low level. And it's also
15 possible that very high levels of chrysotile cause
16 mesothelioma. So dose and fiber type become critical
17 elements to understand causation.

18 Q Dr. Crapo, would the amphibole exposure of Mr. Stewart
19 --

20 THE COURT: Mr. Young, you're going to need to approach
21 that microphone.

22 MR. YOUNG: I was trying to stay out of the way, Judge.

23 BY MR. YOUNG:

24 Q Dr. Crapo, would the amphibole exposure that Mr.
25 Stewart had at Bowater come from thermal insulation?

1 A Yes.

2 Q I think you've already told the ladies and gentlemen of
3 the jury, but do you believe that there was any high level
4 of exposure to chrysotile from dryer felts?

5 A Not from dryer felts. Dryer felts would not result in
6 high level exposures.

7 Q Will you look at the next slide, please? Dr. Crapo,
8 Dr. Oury explained some of this to the ladies and gentlemen
9 of the jury yesterday, but he didn't have any pictures, so I
10 don't want to bore everybody, but I think it would be
11 helpful for you to go through the actual pictures of the
12 lungs and explain to them the defense mechanisms and the
13 reasons why the low dose chrysotile doesn't cause
14 mesothelioma in your opinion.

15 MR. JEKELL: Your Honor, I'm going to object to this.
16 We've heard from, at least, four witnesses throughout this
17 trial. If the jury doesn't understand about defense
18 mechanisms in our body, we've all been doing it wrong. This
19 is duplicative and unnecessary.

20 MR. YOUNG: Judge, this is the first time we've had any
21 pictures of the lungs.

22 THE COURT: I won't exclude it, but let's not dwell on
23 it. The jury has, I think, a pretty good operational
24 knowledge about the lungs and the body defense mechanisms,
25 but let's go through it quickly for them, Mr. Young.

1 MR. YOUNG: Thank you very much.

2 BY MR. YOUNG:

3 Q Can you run through this quickly for the ladies and
4 gentlemen of the jury?

5 A I can do it. Could I come down at this point?

6 THE COURT: Go down and get the microphone from the
7 clerk.

8 Madam Clerk, is it turned on?

9 THE CLERK: Yes, ma'am.

10 THE COURT: All right.

11 THE WITNESS: The point of this slide is the air that
12 we breathe is still full of many, many particulates. A
13 single cubic centimeter of gas in this room, the size of the
14 tip of my finger, on the average, if you look at it with a
15 high powered microscope will contain up to 100,000
16 particles. So you breathe millions of particles with every
17 breath and contain all kinds of elements as written here.

18 What they do is they go directly into the nose, they
19 hit various parts of the nose and mouth and go in the
20 right-hand corner and go down. 90 percent of the particles
21 that we breathe come out of the head and neck right over
22 here because they simply can't make the corner to go down.

23 Then if you start to go down -- I blow that up and just
24 look at the airways going down. This is the trachea right
25 here and this is going into the right lung, the right side,

1 the right upper lobe, the right lower lobe. There's about
2 15 branches to reach the bottom of the lung. Each time the
3 air stream splits, goes on one of these splits, the
4 particles tend to hit the junction. I said that about 90
5 percent come out of the head, another 90 percent fall on
6 this pathway coming down like this. I've just drawn one
7 pathway.

8 So if you look at the actual human lungs -- this is one
9 of the human lungs that we actually obtained in the 1980s to
10 try to characterize the difference between rat and human
11 exposure. It's actually this human lung from which I drew
12 that picture. The picture I just drew is this picture right
13 here, down like that.

14 Q That's where the air sacs are?

15 A The air sacs -- there's about 20,000 small airways and
16 each of them have a group of air sacs on them. But the
17 pathway that I drew literally came off this one and the
18 angles and the sizes are correct based on an actual human
19 lung. This is a cast that was made from a person that
20 donated their lungs.

21 Q Does chrysotile get caught in all those --

22 THE COURT: Mr. Young, you're going to have to speak
23 into the microphone. The jury can't hear you.

24 BY MR. YOUNG:

25 Q Does chrysotile get caught in the -- all those branches

1 and things?

2 A Yes, sir. When you breath something like chrysotile or
3 any form of asbestos, it will tend to fall in the head and
4 neck that I said and then it will fall at every branch point
5 as you go down. So if I go back to that -- I said that 90
6 percent of the fibers that enter the lung right here will
7 fall on one of these branches.

8 So if I take this lung right here and say what does it
9 look like in real life, I blow it up, it looks something
10 like this. Now, this is actually a rat, but it looks almost
11 identical to the human. These cells with their heads
12 pointing up are called goblet cells. They secrete a mucus
13 coat and lays it on the lung. Each of these cells are cilia
14 cells. I can blow that up right there. This is a
15 mucociliary cell right here. And there's a mucous coat laid
16 on top of it and the cilia will be like this so that the
17 mucous moves upward.

18 If a fiber lands on this surface right here, it will
19 rapidly move up from the back of your throat. And it takes
20 about 15 minutes. I've used a bronchoscope to put a dot of
21 ink down here in somebody's lungs. And you'll see that it
22 did move up to the back of the throat in about 15 minutes.
23 So that's a very rapid clearance pathway. It gets --
24 anything that lands on the airways rapidly clears to the
25 back of the throat and is swallowed. So this whole

1 patterns here shows anything that falls out of the lung here
2 is going to come back up quickly and never reach the lower
3 lung.

4 However, if you look at the lower lung down here. This
5 is one of the 20,000 small clusters of airways. This side
6 is drawn of the cut-away version. This side is like the
7 little grapes that they are. If a particle goes down into
8 here, it will stay there for a longer period of time. They
9 tend to land in this region right there.

10 Now, if that happens -- this is a picture from a rat,
11 but, again, it looks like a human. This is that small
12 airway opening up. This is the pathway going -- you saw the
13 drawing of the pathway going through it. It was covered
14 with razor blades and bright surfaces or the cut surfaces
15 and deep surfaces. Part of this tend to land on the ridge,
16 this ridge right here going down.

17 Every one of these air sacs has an average of 12
18 macrophages in it, which are little cells that can crawl
19 around and eat things. And those macrophages are what
20 clears up -- any particles that make it to the deep lung are
21 cleared by macrophages.

22 Q And can the macrophages eat chrysotile fibers?

23 A Yes. In fact, they eat everything they see actually.
24 But asbestos is one thing that's hard for them to digest.
25 When a macrophage takes ahold of a chrysotile fiber, it

1 can't just instantly -- in fact, the fiber is longer than
2 the macrophage. It can't instantly take it in. So it has
3 to break it down. And I'll talk to you in a minute,
4 chrysotile gets broken down over a period of weeks to about
5 a few months. The amphiboles are very resistant to being
6 broken down by macrophages and last for years, which is
7 every important in understanding why one causes more injury
8 than the other. The macrophages are the process we're
9 working on.

10 Q What percentage of chrysotile is either removed from
11 the lungs by the defense mechanisms or the macrophages?

12 A I would say that very, very close to 100 percent. But
13 if you had a huge dose, there will be some residual
14 chrysotile in your lung. But 99 percent of the chrysotile
15 will be removed by the mucociliary and working quickly. And
16 that one percent that makes it deeper will be broken down
17 over a period of months or years to little tiny fibrils,
18 those that will not cause injury.

19 MR. JEKELL: Objection, Your Honor. This is -- I don't
20 even know what question he's answering now.

21 THE COURT: The jury is having a lot of trouble hearing
22 you, Dr. Crapo, and that is because as you speak, you tip
23 the microphone down or you gesture. And when you pull it
24 away from close to your mouth, then they can't hear you.
25 And it's real important for them to hear you, so, please,

1 try of do that for us, if you can.

2 THE WITNESS: I will do it.

3 BY MR. YOUNG:

4 Q Dr. Crapo, my question was what percentage of
5 chrysotile that someone might breathe is removed from the
6 body by the defense mechanisms or the macrophages?

7 A And my answer is with different timeframes, virtually a
8 hundred percent. You end up with little tiny chrysotile
9 fibers that are not causing disease, but most of it is
10 removed.

11 Q Do the fibers have to get through all this to be able
12 to get out to the pleura and be involved in a mesothelioma?

13 A Yes.

14 Q And is the fact that 99 percent or more is cleared, is
15 that one of the reasons that you believe chrysotile doesn't
16 cause mesothelioma, particularly in small doses?

17 A Yes. It's all dose related. If you have a low dose
18 and clearing 99 plus percent of it will eliminate disease.
19 If you have a massive dose, you may get some fibers that
20 will actually reach the pleura.

21 Q You can continue.

22 A So the bottom line is you have two clearance pathways,
23 one is the upper respiratory system called the mucociliary
24 pathway. And it's that rapid movement of mucous on top of
25 these cilia cells clearing out of the lung. And then the

1 second pathway is in the lower respiratory tract where we're
2 having macrophages at each of these small intercepts that
3 will attempt to process -- eat or process and digest dust
4 and fibers that land in the lower lung.

5 Q Are those defense mechanisms able to remove 99 percent
6 or more of the amphiboles?

7 MR. JEKELL: Objection, Your Honor, could he ask --

8 THE COURT: Please don't lead him. Sustained.

9 BY MR. YOUNG:

10 Q What percentage --

11 MR. JEKELL: Objection, Your Honor, this has been asked
12 and answered.

13 MR. YOUNG: I haven't even finished the question.

14 THE COURT: Mr. Jekell and Mr. Young, now, we're going
15 to settle down here. I have ruled on your objection and
16 sustained it. And Mr. Young is in the process, I hope, of
17 rephrasing the question so that it is a direct question and
18 not a leading question.

19 Go ahead, Mr. Young.

20 BY MR. YOUNG:

21 Q Dr. Crapo, what percentage of the amphibole-type
22 asbestos is removed by these defense mechanisms?

23 A My answer is for the upper airways, it's roughly the
24 same percent. About 99 percent will be removed quickly of
25 both chrysotile and amphibole that lands on the airways.

1 But when it reaches the lower level, the portion that makes
2 it to the lower level, the chrysotile will be degraded over
3 a period of a couple of years and the amphiboles remain for
4 decades. So you have a much longer residence of long-fiber
5 amphibole in the lower level because it's very hard to
6 break. But the big difference is down here.

7 Q So what is the significance of the amphibole staying in
8 the lungs a lot longer as far as causing mesothelioma?

9 A Well, what causes mesothelioma is when a long fiber
10 lands in the lower lung and then moves to the pleura and
11 remains there for a long period of time, meaning decades.
12 So it has to reach the lower lung and it has to then move to
13 the pleura and has to stay there. Amphiboles are very hard
14 to degrade and they can remain there for decades. They have
15 the capacity to move to the pleura and cause mesothelioma.
16 Chrysotile is broken down during that period and it does not
17 reach the pleura and remain there as a long fiber.

18 So the number -- it takes a massive dose of chrysotile
19 to get enough down in there where a long chrysotile fiber
20 can reach the pleura. That occurs with people who work with
21 really high levels, like chrysotile miners, but it doesn't
22 occur with somebody that's exposed to low levels of
23 chrysotile like you might see from working with dryer felts.

24 MR. YOUNG: Go to the next slide.

25 Q Can you tell the ladies and gentlemen of the jury what

1 you're talking about here?

2 A Basically, I just summarized what I just said. The
3 lung is really well designed process in clearing inhaled
4 glutens. And the real critical issue of ventilation
5 toxicology when you're trying to understand what causes
6 disease is to look for the threshold of which some inhaled
7 gluten can cause injury. There is a threshold for any
8 pollutant. And we do that in all fields, like in ozone
9 injury or particular air pollutant and chrysotile or
10 amphibole. So understanding the threshold of exposure that
11 creates risk for injury is the key to understanding disease
12 risks.

13 Q Is that something you've looked at from the standpoint
14 of the level of chrysotile that might be necessary to cause
15 mesothelioma?

16 A Yes.

17 MR. YOUNG: Go to the next slide.

18 THE WITNESS: And understanding everything going
19 forward, one has to understand dose response. And the dose
20 response, doses calculated for chrysotile and for amphiboles
21 as fiber cc years. And what that means is we calculate dose
22 in order to have all scientists speak a common language, we
23 calculate what we call a dose to the nose. Because a
24 calculated dose of the lower lung is very complicated.

25 So the dose to the nose is the number of fibers per cc

1 -- a cc is the size of the tip of my finger, that you breath
2 for an occupational year. So an occupational year is 2000
3 hours, 40 hours a week for 50 weeks a year. So if you
4 breath one fiber per cc and you breathe it for an
5 occupational year, that would be one fiber cc year. So if
6 you get to a 100 fiber cc years, which is a high dose, you
7 could breathe 20 fibers per cc for five years, five fibers
8 per cc for 20 years and, theoretically, one fiber per cc for
9 a hundred years. This becomes -- just showing you how the
10 calculation is done.

11 So this would be a high dose. I use that because if
12 chrysotile, in my opinion, is a cause for mesothelioma,
13 you're going to have doses much bigger than a hundred fiber
14 cc years. You could only get a risk of mesothelioma if
15 you're exposed to levels like this or this. But this is how
16 it's calculated in the field of industrial hygiene that
17 deals with asbestos.

18 Q Dr. Crapo, Mr. DePasquale told the ladies and gentlemen
19 of the jury that studies have been done indicating exposures
20 from thermal insulation between five fibers per cc and 30
21 fibers per cc. Where would that be on here?

22 A That would be in this range. Working in that field for
23 40 years might not have been constant for 40 years, but you
24 would have had doses in this range. I need to add -- I said
25 this was a dose of chrysotile you need to cause

1 mesothelioma. The dose you need for amphibole is much
2 lower. It could be down around to two fiber cc years. So
3 the -- could be, you know, 20 to 30 to 40 to 50 times lower
4 than this for an amphibole to cause the disease.

5 Q Is that something that's been studied and looked at and
6 written about?

7 A Yes, there's extensive literature on the fact that low
8 level amphiboles are a cause for mesothelioma.

9 MR. YOUNG: Go to the next slide, please.

10 Q Dr. Crapo, can you tell the ladies and gentlemen of the
11 jury the significance of this slide?

12 A Well, here, I just tried to summarize a variety of
13 studies telling you how much asbestos there is in the air.
14 Asbestos, primarily chrysotile, is a common part of our air.
15 It's a rock. And it weathers off rocks and it's been
16 weathering off our rocks the historic lifetime of the earth.
17 And you get levels that are quite variable. In some parts
18 in the rural United States, the levels are 0.0001. Urban
19 cities can be 0.001. And even in some urban cities go as
20 high as 0.01, like Portland or Seattle or San Francisco.

21 So let me explain all these zeros. These is fibers per
22 cc. Cc is just that big, my fingertip. If there's a
23 thousand ccs in a liter and a liter is about a quart, so if
24 you have something else -- put my hands right here, that's a
25 liter. And a liter would have a thousand ccs. So if I went

1 down here at this level right here, 0.01, in Portland, that
2 would mean that there would be -- multiply it by a thousand,
3 you'd have 10 fibers in a liter. This means that a person
4 in Portland would have been breathing 10 fibers every time
5 they breathe a liter.

6 Now, my ventilation when I'm walking is about 10 liters
7 per minute. Now, I take a big breath, would take in a whole
8 liter. So that would mean that the average person on this
9 day walking through Portland would be breathing about 100
10 asbestos fibers per minute while they're walking. These are
11 all chrysotile, they're small in length, they do not cause
12 disease. These levels and these levels, none of them are
13 associated with any disease.

14 So chrysotile is a common part of our environment and
15 low levels of chrysotile do not cause disease. What you're
16 looking for is something with the exposure that would be
17 hundreds of thousands times higher than this.

18 Q Dr. Crapo, you were talking about 40 hours a week work
19 life. Are these numbers something that would be breathed
20 24/7?

21 A Yes. We're breathing asbestos with every breath of our
22 lives, a little bit. It's part of our environment, so
23 you're breathing is 24/7. The point is this is not -- this
24 does not cause harm.

25 Q So in summary, the ambient air levels of asbestos,

1 though it is a level of exposure, does it cause disease in
2 humans?

3 MR. JEKELL: Objection, Your Honor, leading.

4 THE COURT: Overruled.

5 THE WITNESS: No.

6 BY MR. YOUNG:

7 Q And you told the ladies and gentlemen of the jury just
8 a minute ago, but based upon your review of Mr. Carlson's
9 report and talking with Mr. Carlson, if there was any
10 asbestos exposure from a Scapa dryer felt at Bowater, would
11 the levels be in this range?

12 A Yes. Everything I've read, if you have major
13 chrysotile from use of dryer felts on a dryer machine -- a
14 paper making machine, those levels are in this range.
15 They're not above ambient.

16 MR. YOUNG: Can we go to the next slide?

17 Q I think we've already talked about this fairly well,
18 but could you just briefly tell the ladies and gentlemen of
19 the jury about the two different types of asbestos.

20 A We use a similar term for two very different types of
21 asbestos. Chrysotile is a serpentine, it's a white,
22 flexible fiber. And an amphibole, the classic one in
23 thermal insulation in the United States, amosite, which has
24 a brown tint to it. But they're very different. What I
25 really need to do is illustrate how they're so different.

1 So this is a picture of the chrysotile that I studied
2 in the 1980s. It's one of the biggest mines in Canada
3 called the Jeffrey Mine. And this is a chrysotile fiber.
4 And what you see in this fiber is the -- this is a -- in
5 fact, this is a micron, one micron. A cell is about 10
6 microns in size. So a cell would be 10 times bigger than
7 that white line. So it would be about the size of this
8 string. And you can see that this fiber would be longer
9 than a cell.

10 What's really important is that chrysotile is actually
11 made up of a series of little tiny fibrils that are wound
12 together. If I show the next slide, it's a picture of that.
13 It's like this. A chrysotile --

14 THE COURT: Just a second.

15 You wanted to ask him a question, Mr. Young?

16 MR. YOUNG: No, I just told him he had to hold the
17 microphone up.

18 THE COURT: Yes, you do have to do that or we're not
19 going to be able to hear you.

20 THE WITNESS: Chrysotile is a magnesium silicate, rock.
21 It forms and binds as a sheet like this and then that sheet
22 rolls up like this. It rolls up like this as you can see
23 here. And then those sheets form very tiny threads. I'll
24 back up. That's one of these sheets here. And many of
25 these rolls wind together to form the fiber. It's like a

1 cotton thread. You know you try to thread a needle, it
2 breaks up into little teeny fibers, little tiny threads as
3 they do it. Five or ten of these wind together to form the
4 fiber itself. So this is really tiny.

5 But the impact of that, because it's made up of
6 separate threads that wind together, it's very flexible.
7 It's like cotton. You can weave it into cloth. But it also
8 means that it's held together, as I showed you in the last
9 slide, it's held together by magnesium. And when a
10 macrophage takes ahold of this, it unleashes the magnesium
11 out, the fiber begins to unwind. You see the end of it here
12 unwinding like that. And as it unwinds, then it breaks up
13 into little pieces and you find little pieces like this
14 laying around.

15 Q Where do they go?

16 A These are tiny. These are a tenth of a micron in size.
17 They don't cause diseases. They're like dust. They're
18 found in everything. They're found throughout all our body.
19 They're found throughout all water media materials. These
20 are harmless. And that's how chrysotile is broken down.
21 The average chrysotile fiber, I would say, in the body has
22 about a 90-day half life. If you put a hundred chrysotile
23 fibers in the deep lung, 90 days later, there will only be
24 half of them left, about 50.

25 Q Dr. Crapo, what is the significance of that with

1 respect to your opinions concerning the amount of chrysotile
2 necessary to cause mesothelioma?

3 A Well, if it breaks down half of them every 90 days,
4 after a couple years, you're almost to zero. And it's all
5 broken down into these little teeny fragments, which do not
6 cause disease. And the bottom line is this fiber doesn't
7 have the durability to stay in the lungs for decades and
8 move across the pleura and stay there and cause
9 mesothelioma. That's the point. This is dramatically
10 different from the amphiboles.

11 Q There's another slide?

12 A Yes. So this is an amphibole. This is amosite. And
13 instead of being --

14 THE COURT: Hold that microphone up now, Dr. Crapo.

15 THE WITNESS: Instead of being a weighty fiber made of
16 lots of tiny fibrils, it's a solid -- it's like an aluminum
17 rod. It's more like this. And silica is crossing across
18 the entire rod, so it's a solid piece like that. It can
19 break up in small chunks like this that can't unwind. And
20 as a result, when a macrophage takes ahold of it and it
21 can't release the metals out and the metal includes iron,
22 which is another problem, but it -- so it's durable. And
23 this can remain in the lung for decades.

24 The calculated half life for one long amosite fiber is
25 seven years. If you put a hundred down in your lung, seven

1 years later, you have 50 and 14 years later, you have 25,
2 and twenty years later, you still have 12 and a half. You
3 still have -- over 10 percent of them are still there. So
4 the point is these can remain in the pleura for a long time
5 and are known to be a cause of mesothelioma.

6 Q What is the typical latency period for mesothelioma?

7 A Typical is 40 years.

8 Q And is that one of the reasons that the half life is
9 important with respect to amphiboles versus chrysotile?

10 A Mesothelioma occurs, at least, 20, usually, as much as
11 40 years after exposure. So you're looking for fibers, that
12 can be a lung fiber, can get down in the deep lung and it
13 goes to the pleura and remains there for 20, 30, 40 years.

14 Q Dr. Crapo, is what you just showed the ladies and
15 gentlemen of the jury one of the reasons that you indicated
16 that you felt that amphibole asbestos caused Mr. Stewart's
17 mesothelioma?

18 A Yes.

19 Q And that either no chrysotile exposure or low
20 chrysotile exposure did not?

21 A That's correct.

22 Q Did you see anything in the depositions you read about
23 Mr. Stewart actually working with an asbestos-containing
24 Scapa dryer felt?

25 A No. Scapa felts were not specifically identified in

1 his depositions.

2 MR. YOUNG: Let's go to the next slide.

3 Q Dr. Crapo, has there been a number of studies,
4 epidemiological studies on -- with respect to the issues you
5 just talked about?

6 A Yes.

7 Q Level of chrysotile necessary to cause mesothelioma,
8 whether chrysotile causes mesothelioma at all and whether
9 amphiboles cause --

10 MR. JEKELL: Objection, Your Honor, leading.

11 THE COURT: What is the grounds for the objection?

12 MR. JEKELL: Leading, Your Honor.

13 THE COURT: He is leading.

14 Please don't lead. That means do not ask a question
15 that suggest the answer so that all he has to do is say yes
16 or no. He is the expert. Ask him a question and let him
17 elucidate on it.

18 BY MR. YOUNG:

19 Q Dr. Crapo, have there been epidemiological studies
20 looking at the question of the level of chrysotile necessary
21 to cause mesothelioma?

22 A Yes, there are many epidemiologic studies done on both
23 chrysotile and amphiboles. And they're done on people,
24 workers who work in different environments. And they have
25 -- I had -- a few years ago when I did a survey of all the

1 literature, I found at that time 62 studies that had looked
2 at the incidents of mesothelioma in groups of workers and
3 also characterized the type of fibers they were exposed to.

4 Q And have you read all these studies?

5 A I've read all of these.

6 Q Do you rely upon those --

7 A I do.

8 Q -- in giving your opinions to the ladies and gentlemen
9 of the jury?

10 A Yes.

11 MR. YOUNG: Go to the next slide.

12 THE WITNESS: They were 12 that were high dose
13 chrysotile, seven low dose, 32 that had mixed fiber
14 exposure, four that were primarily amosite and seven that
15 were primarily amphiboles and crocidolite. So there were
16 quite a few studies.

17 Q What's a mixed fiber?

18 A Well, a mixed fiber means -- well, an insulator, for
19 example, is a mixed fiber. Most of their insulation had
20 both chrysotile and amosite in it. So you're exposed to
21 both fibers at the same time.

22 Q And have you prepared a slide that shows a number of
23 these studies?

24 A I did. I think -- to illustrate it. Showing you 62
25 results would be confusing. It would take a long time. So

1 I separated them into high dose amphibole, mixed fiber, high
2 dose chrysotile and low dose chrysotile.

3 And what I found is when you looked at the people who
4 were exposed to high dose amphiboles, it was absolutely
5 frightening the number of mesothelioma cases that occurred.
6 An amosite factory in 1986 reported three out of a hundred
7 people developed mesothelioma. That's a huge number, by the
8 way, because it should be only one per million for three
9 years or something like that. Three percent died of
10 mesothelioma.

11 Then there's reports from that go as high -- they
12 actually made a form of cigarette in the 1950s that was made
13 with a crocidolite filter and men and women packed the
14 filter with crocidolite. People who worked in that factory,
15 almost one in five died of mesothelioma.

16 So amphiboles are associated with very high risk for
17 mesothelioma.

18 Q What about insulators?

19 A Insulators have a very high exposure. They have a
20 mixture of amosite and chrysotile. And Selikoff reported
21 them as having a nine percent incident of mesothelioma,
22 which should have been a few per million. It's just an
23 enormous rate.

24 Q Is that people working with and around thermal
25 insulation?

1 A Yes. This would be a thermal insulation worker. Now,
2 when you start looking at relatively pure chrysotile, I
3 found 12 studies. Again, I think I showed you three of
4 them. The one that had the most mesothelioma was the
5 chrysotile miners in Quebec. And there were about 11,000
6 chrysotile miners working there who were studied over almost
7 their whole lifetime. After 8,000 had died, about 36 of
8 them had developed mesothelioma, all pleural mesotheliomas.

9 So you could argue that high dose chrysotile causes
10 mesothelioma. There are other theories on that because
11 there was also a little bit of tremolite in that mine. But
12 if you want to just ignore that, you can say that really
13 high doses of chrysotile causes mesothelioma.

14 Q What level of exposure would a chrysotile miner have?

15 A Oh, it was in the, literally, many hundreds of fiber cc
16 years, even thousands. They were exposed to enormous
17 levels. So we're talking about very, very, very high
18 exposure. Clearly, many hundreds of fiber cc years.

19 Q Were they actually digging the chrysotile out of the
20 earth?

21 A Yes. They were digging the mine, digging the
22 chrysotile out with equipment, loading up trucks, taking it
23 to a mill and then crushing it and releasing the chrysotile
24 and running it through a hydro cyclone to separate it and
25 sell it.

1 Q Was there some tremolite found in that mine?

2 A One of the mines had two percent tremolite. One had
3 one percent tremolite. And there were mines further away
4 that had no tremolite.

5 Q Is tremolite an amphibole?

6 A Yes. So you could argue -- most of the mesotheliomas
7 here did occur in the mine that had two percent tremolite,
8 so you can argue that the tremolite caused it. But the --
9 I'm just pointing that out, that's a debate in the
10 literature, high dose chrysotile can be clearly the cause
11 for mesothelioma in my opinion.

12 Q What about low dose chrysotile?

13 A Well, now, you have multiple studies that show that
14 chrysotile -- well, first of all, there are studies that
15 show that high dose chrysotile didn't cause it as well. For
16 example, there were chrysotile mines in South Africa that
17 had no tremolite and there were no mesotheliomas reported
18 there.

19 And you have a very interesting study where they -- in
20 World War II, they made gas masks for people, where the
21 women packed the gas masks with asbestos, the filter of the
22 gas mask. And they used crocidolite for their gas masks for
23 the soldiers because they thought that was a better
24 material. Of the women who did that in England, about 11
25 percent, almost one in 10 died of mesothelioma.

1 They had packers only a few miles away, which packed
2 them for civilians and they used chrysotile because it was
3 cheaper for the civilian masks. And the women who only
4 worked in the chrysotile factory, none of them developed
5 mesothelioma. One woman worked in both and developed
6 mesothelioma.

7 So if there's a low dose, probably the best set of data
8 for low dose chrysotile are auto mechanics. Because for
9 many years, we made brakes for automobiles with chrysotile.
10 And the workers who worked with that had an average exposure
11 of about, let's say, 0.4, 0.5 fiber years cc. And you have
12 auto mechanics that did that for years. So you have many,
13 many studies, more than a dozen studies of auto mechanics in
14 many different countries looking to see if they have an
15 increased risk of mesothelioma. And their answer is a
16 complete no, they do not have an increased risk of
17 mesothelioma. So I think that's the best set of low dose
18 exposures where there's a large number of people who did it
19 and you have a large database.

20 Q Dr. Crapo, were you able to put the information you got
21 from Mr. Carlson with respect to dryer felts, where would
22 that be on this chart?

23 A It would be down here. It would be lower than auto
24 mechanics. That's where his dryer felt exposure was.

25 Q Do you believe that there's a safe level of exposure to

1 chrysotile asbestos?

2 A Clearly, chrysotile at this level doesn't cause injury
3 and, clearly, ambient levels don't cause injury, so there
4 are safe levels. I mean, we're all breathing them today and
5 we breathe them our whole life. Those low levels do not
6 cause injury. They're clearly safe. In my opinion, it
7 takes about 25 fiber cc years or more to create any injury
8 that could cause lung scarring, for example. And I don't
9 think mesothelioma will occur until your exposures are over
10 a hundred fiber cc years of chrysotile.

11 Q Dr. Crapo, we heard earlier in the trial that certain
12 governmental agencies and other folks had indicated that
13 chrysotile causes mesothelioma without regard to any level
14 or anything like that. Do you agree with that?

15 A I do not.

16 Q Okay. And have you looked at that issue and the basis
17 of those opinions?

18 A I have looked at it carefully.

19 Q And do you agree -- well, can you explain to the ladies
20 and gentlemen of the jury why you disagree with those
21 opinions?

22 A I can. Well, let me first just point to my opinion.
23 My opinion is not the same as theirs. Amphiboles are a
24 clear cause of mesothelioma. High dose chrysotile has
25 either a low or a zero risk of causing it. I can't rule out

1 that it does have cause it at high levels. Low dose
2 chrysotile do not cause mesothelioma. That's my opinion.

3 Now, the basis for government regulations come from
4 work that was done -- it started with work done by the EPA
5 and OSHA in the 1980s. And the first regulations came from
6 there. EPA identified four studies, one of a cement plant
7 that had chrysotile and crocidolite in it. One was a
8 textile plant that had chrysotile and crocidolite in it.
9 One of the insulators that used amosite and another one --
10 this was an insulation plant. This was insulators that used
11 the amosite and chrysotile combined. The EPA used those
12 four.

13 Q Did all of those studies involve amphibole exposure?

14 A Yes. They all had big amphibole exposures. And the --
15 and then OSHA came along a couple years later and added two
16 more. They added the study of the textile plant that was
17 mostly chrysotile and a very little bit of amphibole in it.
18 Dr. Weil studied cement plants in New Orleans that was
19 mostly chrysotile and had just a little bit of amphibole.
20 So those studies were done.

21 And this is what they did with them, they graphed them
22 on a graph in which the exposure is a log scale. So we're
23 talking about exposures and cc years -- fiber cc years that
24 goes 10, a hundred, a thousand, 10,000. Log scales is how
25 this kind of analysis done scientifically. And then they

1 put these four studies on them. Finkelstein had about a 19
2 percent incident of mesothelioma. Selikoff had 7.9 percent
3 incidents. Sipan had 2.6 percent and Peko, 2.93 percent.
4 Those are all big numbers because we're supposed to be
5 getting something like a few per million.

6 Q Did all those involve amphiboles?

7 A They all had amphiboles. The last line I showed you
8 had both -- this was amosite -- this is a combination of
9 amosite and chrysotile. These are combinations with
10 crocidolite in them right here.

11 So the -- what they did then is they then added Weil.
12 Remember, that was mostly chrysotile. It had very, very --
13 just a few mesos, mostly chrysotile and had just a very,
14 very few mesos. So what they did is they drew a curve, what
15 they call a regulatory model curve. This is a governmental
16 approach to dosing. What they're saying is they had no data
17 down at the low level.

18 So to be careful and to design your model so that you
19 over estimate risks, you want to protect human health.
20 These are regulatory models which are linear, no dose
21 response occurs. It just goes straight into zero. And they
22 used this kind of data right here to draw that line. And
23 once you draw that line, you then predict disease at very
24 low levels, though, without data.

25 Q Is there anything about the studies they looked at that

1 suggest low levels of chrysotile actually causing an
2 increase in mesothelioma?

3 A No, they didn't look at low levels. They just simply
4 used a regulatory model. And I want to say that I don't
5 object to regulatory models, I understand what it is. It's
6 designed to set regulations, not to tell you exactly what's
7 happening. And it's designed to over estimate risks rather
8 than under estimate it. So from a regulatory point of view,
9 this is an appropriate thing. What's not appropriate is to
10 interpret it that you actually have data that there's a risk
11 at low levels. That curve is not designed to answer that
12 question. And it's inappropriate when government agencies
13 and anybody uses that curve, a straight curve like that.
14 When they use that to make policy or to try and interpret
15 reality, they're going to completely misestimate what
16 happens down here.

17 Q Is there any scientific study by the government with
18 respect to whether low dose chrysotile causes mesothelioma?

19 A No.

20 Q So do you think it would be appropriate to suggest that
21 what OSHA and EPA did suggest low dose chrysotile causes
22 mesothelioma --

23 MR. JEKELL: Objection, Your Honor. He's leading
24 against.

25 THE COURT: Please don't lead, Mr. Young.