

1 In the Circuit Court of the Seventeenth Judicial Circuit
2 Illinois

Winnebago County, Rockford,

3 Law Division

4 Russell Bremer and)

5 Barbara Bremer,)

6)

7 Plaintiffs,)

8)

9 vs.) No. 01 L 133

10)

11 Metropolitan Life)

12 Insurance Company)

13 et al.,)

14)

15 Defendants.)

16 -----)

17

18 Deposition

19 of

20 Victor Roggli, M.D.

21

22 In Durham, North Carolina

23 January 22, 2002

24 1:09 p.m. - 2:36 p.m.

25 Reported by: F. M. Harvey

1 A P P E A R A N C E S Page 2
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1 Dr. Roggli Direct Page 4
2 Whereupon,
3 Victor Roggli, M.D.,
4 having first been duly
5 affirmed, was examined and
6 testified as follows:
7 Direct Examination by Mr. Radcliffe: 1:09 p.m.
8 A Dr. Roggli, good afternoon. We're here to take your
9 deposition in the case of Mr. Russell Bremer. Is
10 that your understanding of why you're here today?
11 A Yes, it is.
12 Q Can you identify for us the materials that you've
13 brought with you today?
14 A I brought a current copy of my CV. I brought my
15 reports in this case and my handwritten notes. I
16 brought my medical files. I brought the Notice of
17 Deposition. I brought three depositions by
18 plaintiffs' daughters and correspondence from Mr.
19 Penn's office.
20 Q May I see your file?
21 A Sure.
22 [Witness Hands Paperwriting to Counsel]
23 Q Are the documents you brought with you copies that we
24 can mark and attach to the deposition?
25 A Yes, except for the article by Ilgran and Chatfield.

1 Dr. Roggli Direct Page 5
2 I'd like to keep that.
3 Q When did you get the article by Ilgran and Chatfield?
4 A Well, I just picked it up today. It was--I'm not
5 sure when it was sent to my office, whether it was
6 sent late last week or--yesterday was vacation day so
7 I don't think it was sent yesterday.
8 Mr. Radcliffe: We'll mark the CV as Exhibit No.
9 1.
10 [Defendants' Exhibit No. 1 Marked]
11 Q Your December 20 report is three pages, is that
12 correct?
13 A Yes, sir.
14 Mr. Radcliffe: We'll mark that as Exhibit No.
15 2.
16 [Defendants' Exhibit No. 2 Marked]
17 Q Are these your handwritten notes?
18 A Yes.
19 Q Is there only one page of handwritten notes?
20 A Correct.
21 Mr. Radcliffe: We'll mark that as Exhibit No.
22 3.
23 [Defendants' Exhibit No. 3 Marked]
24 Q Your December 27 report is one page, is that correct?
25 A Yes, sir.

1 Dr. Roggli Direct Page 6
2 Mr. Radcliffe: That will be Exhibit No. 4.
3 [Defendants' Exhibit No. 4 Marked]
4 Q The remaining documents and materials in this stack
5 are what was sent to you by plaintiffs' counsel in
6 this case, is that correct?
7 A Yes, sir.
8 Q And they consist of reports from other experts, a few
9 medical records, as well as transcripts, is that
10 correct?
11 A Yes.
12 Mr. Radcliffe: We'll mark these collectively as
13 Exhibit No. 5.
14 [Defendants' Exhibit No. 5 Marked]
15 A Somewhere in there, I think, is the article, unless
16 you took it out.
17 Q I did not. I didn't see it either. Maybe I skipped
18 over it.
19 A It's one of the paper clipped things, I believe it
20 is.
21 Mr. Radcliffe: I'll hand your file materials
22 back to you, all of which we're going to attach to
23 the deposition, with the exception of the article by
24 Leigh and Ilgran.
25 Mr. Larson: Ilgran and Chatfield?

- 1 Dr. Roggli Direct Page 7
2 Mr. Radcliffe: Ilgran and Chatfield, excuse me.
3 Q Dr. Roggli, when you wrote your report on December
4 20, what were your conclusions about the cause of Mr.
5 Bremer's mesothelioma?
6 A I need to see my--okay. I don't think my December 20
7 report dealt with causation, as I recall.
8 [Witness Peruses Document]
9 A Yes, that's correct.
10 Q Now, is that because the materials sent to you at
11 that time were not sufficient for you to reach an
12 opinion about causation?
13 A No, not necessarily. It was--the way I typically do
14 these cases is that my report about the pathologic
15 findings deals with objective findings, medical or
16 pathological, that allow me to determine about
17 whether a mesothelioma is related. If it cannot be
18 determined from that information, then I have to rely
19 on subjective information, which I typically do in a
20 separate report.
21 Q The objective information that you had, did anyone
22 describe finding any asbestos-related disease--a non-
23 malignant asbestos-related disease in Mr. Bremer?
24 A Not to my knowledge.
25 Q Did anyone describe finding asbestos bodies or above-

1 Dr. Roggli Direct Page 8
2 background asbestos fiber levels in Mr. Bremer?
3 A No.
4 Q Objectively, if all you had to go by was the medical
5 records and the results of the various medical tests,
6 what would your conclusion be about the cause of his
7 mesothelioma?
8 A It would be inconclusive.
9 Q So the additional materials which are collected in
10 Exhibit No. 5 are the materials upon which you
11 relying in order to reach your conclusion as to the
12 cause of Mr. Bremer's mesothelioma?
13 A Yes, sir.
14 Q Now, included in that stack of materials there were
15 some reports from other experts, including Dr. Crapo,
16 I saw Dr. Barrett, and Dr. Dyson, is that correct?
17 A Yes, sir.
18 Q You're familiar with Dr. Crapo, correct?
19 A Yes.
20 Q And are you familiar with Dr. Dyson?
21 A I've heard the name. I'm not really familiar with
22 his work.
23 Q Did you read--do you understand Dr. Dyson to be a
24 certified industrial hygienist?
25 A Yes.

1 Dr. Roggli Direct Page 9
2 Q Did you read his report?
3 A I skimmed through it. I did not read it in great
4 detail.
5 Q Did your skimming through of his report affect your
6 opinion in any way?
7 A No.
8 Q Were Dr. Dyson's conclusions about the allegations of
9 exposure different or the same as the information
10 that you've been provided and upon which you're
11 relying?
12 A I'd have to look back, because I don't have any
13 recollection sitting here today of what Dr. Dyson's
14 report said.
15 Q Did you read Dr. Crapo's report?
16 A Yes.
17 Q Did Dr. Crapo's opinions differ with your opinions in
18 the case?
19 A Yes.
20 Q In what material way?
21 A I think that Dr. Crapo did not believe that exposure
22 to joint compounds contributed to the mesothelioma.
23 Q Did Dr. Crapo believe this to be an idiopathic
24 mesothelioma?
25 A I think so, yes.

1 Dr. Roggli Direct Page 10
2 Q You do agree that idiopathic mesotheliomas exist,
3 right?
4 A Yes, sir.
5 Q And there are a certain percentage of cases that--
6 mesothelioma cases that occur for which we are unable
7 to determine a cause, correct?
8 A Correct.
9 Q And of those cases, there are probably a portion of
10 them that just occur without any specific agent or
11 material being the cause of that cancer, is that
12 correct?
13 A Yes, sir.
14 Q So in order to distinguish between a mesothelioma
15 that occurs just naturally without any cause and one
16 that occurs as a result of exposure to asbestos you
17 have some criteria that you apply, is that correct?
18 A Yes, sir.
19 Q What are those criteria?
20 A Well, the criteria is basically that the person has a
21 level of asbestos in their lungs that's above that of
22 background. And there are a number of things that
23 you can look at to determine that, objective and
24 subjective data to try to determine whether or not
25 that is likely to be the case.

1 Dr. Roggli Direct Page 11

2 Q In this case we don't have any objective data that
3 lets you conclude that Mr. Bremer did, in fact, or
4 does, in fact, have above-background levels of
5 asbestos in his lung tissue, is that correct?

6 A That's correct.

7 Q So you have to point to the subjective? You have to
8 look at the subjective data, is that correct?

9 A Yes, sir.

10 Q And the subjective data in this case necessarily
11 relies on people's memories from 30 or 40 years ago,
12 is that correct?

13 A Yes.

14 Q A person can--you agree with me that a person can use
15 an asbestos-containing joint compound and not have
16 above-background levels of asbestos in his or her
17 lung tissue, is that correct?

18 A That can happen.

19 Q And so what you want to see--you, Dr. Roggli, want to
20 see in a case like this is a description of use of a
21 joint compound for a sufficient length of time that
22 would result in an above-background level of asbestos
23 in lung tissue, is that correct?

24 A Yes, sir.

25 Q And what is that length of time?

- 1 Dr. Roggli Direct Page 12
- 2 A A couple of months.
- 3 Q I want to talk to you specifically about the joint
- 4 compound allegedly manufactured or sold by Georgia-
- 5 Pacific. You understand that there was one five-
- 6 gallon bucket of Georgia-Pacific joint compound that
- 7 Mr. Bremer allegedly worked with or around?
- 8 A I didn't know it was only one bucket, no, sir.
- 9 Q Assume for me that there's only one five-gallon
- 10 bucket.
- 11 A Okay.
- 12 Q You agree with me, based on just common sense, common
- 13 knowledge, and your review of the available
- 14 literature about drywallers and people who work with
- 15 joint compound that that five-gallon bucket is not
- 16 going to last indefinitely, correct?
- 17 A Sure.
- 18 Q The use of the joint compound is going to make that
- 19 five gallons disappear over a certain amount of time,
- 20 correct?
- 21 A Sure.
- 22 Q Do you know how long it takes for a person to apply
- 23 five gallons of ready-mixed joint compound?
- 24 A I have no idea.
- 25 Q Do you know how much wall board--how many seams or

1 Dr. Roggli Direct Page 13
2 cracks are filled with one five-gallon bucket of
3 ready-mixed joint compound?
4 A I would think it would fill a lot of seams, but I
5 don't know.
6 Q Is one five-gallon bucket of joint compound enough to
7 do an entire house?
8 A I do not know.
9 Q Ready-mixed joint compound comes premixed and ready
10 to apply. Do you understand that to be the case?
11 A Yes, sir.
12 Q And do you understand it to be the case that once you
13 open and start to use ready-mixed joint compound that
14 it starts to harden and stiffen so you have to use it
15 within a relatively short amount of time--weeks or
16 months at the greatest?
17 A I wasn't aware of that.
18 Q Does that make sense to you that ready-mixed joint
19 compound is going to start to harden or stiffen in
20 the can once you open it and expose it to air?
21 A I know that happens with paint, but I don't know
22 about joint compounds.
23 Q Do you understand that Mr. Bremer described using
24 joint compound in connection with remodeling work
25 that he was doing?

1 Dr. Roggli Direct Page 14
2 A Yes, sir.
3 Q And that would involve putting up drywall and coming
4 back later to tape the joints and coming back later
5 and finishing those walls?
6 A Yes.
7 Q The process of remodeling, if that takes three
8 months, just hypothetically speaking, you'd agree
9 that only a percentage of that time was spent working
10 with the joint compound, correct?
11 A Yes.
12 Q And of the percentage of the time that was spent
13 working with the joint compound, you'd agree that
14 only a smaller percentage of that time would actually
15 have been the time when there was any dust created
16 from the joint compound, correct?
17 A Yes.
18 Q There's no dust created when you take ready-mixed
19 joint compound out of the box and apply it, correct?
20 A Not that I know of.
21 Q I said out of a box--out of a bucket?
22 A Yes.
23 Q When you say that your criteria--it's a matter of
24 months of use before you can say that a product such
25 as joint compound would result in an above-background

1 Dr. Roggli Direct Page 15
2 accumulation of asbestos in the lung tissue, is it
3 your understanding that a single five-gallon bucket
4 of ready-mixed joint compound would result in that
5 much exposure?
6 A I don't know.
7 Q When you say it's several months that you require of
8 use, that's several months of continuous use, right?
9 A No, a couple of months would be a minimum of two
10 months, and that's cumulative.
11 Q Cumulative. So in other words, if I have a bucket of
12 joint compound and I use it over the course of two
13 months, but I only use it on three days, that's not
14 two months of use, correct?
15 A That's correct.
16 Q And you know how big a five-gallon bucket of joint
17 compound is, don't you?
18 A Yes.
19 Q You've seen five-gallon buckets before?
20 A Yes, sir.
21 Q If someone was to use that over a three-month time
22 frame and every day they would open it and they would
23 only take a small portion--maybe amounting to a half
24 cup or so--of joint compound and use that and that
25 would be the only use that day, would that three

- 1 Dr. Roggli Direct Page 16
2 months amount to the two months minimum that you
3 require?
4 A Well, each of the days needs to have a couple of
5 hours of exposure to levels above background, and the
6 way joint compounds are used and create levels above
7 background is more in the area of an industrial
8 hygienist than it would be in my area of expertise.
9 Q So in this case you're relying on the allegation or
10 the claim that the Georgia-Pacific joint compound
11 was, in fact, used for at least a couple of hours
12 each day for two months minimum, correct?
13 A Or that there was exposure to dust from that for at
14 least over a two-hour period--levels above
15 background.
16 Q And you're not in this case to say whether or not
17 those allegations or claims are true?
18 A That's correct.
19 Q And if at the end of the case the jury finds that
20 those allegations or claims are not true, that it was
21 less than two months, then your opinion would be that
22 that's not a sufficient exposure to have been a cause
23 of Mr. Bremer's mesothelioma, is that correct?
24 A That's correct.
25 Q Are you aware of the fiber type that was used in the

1 Dr. Roggli Direct Page 17

2 Georgia-Pacific joint compound allegedly at issue in
3 this case?

4 A Yes, sir.

5 Q And what is that fiber type?

6 A Chrysotile.

7 Q Are you aware of the results of any testing of
8 Georgia-Pacific joint compound that show amphibole
9 contaminants or amphibole levels in the joint
10 compound?

11 A I'm not aware of any testing in that regard, no.

12 Q If the evidence at trial is that Georgia-Pacific
13 joint compound has been tested and that the only
14 fiber found in the joint compound is chrysotile,
15 would you then conclude that you do not have enough
16 information to say that Mr. Bremer's mesothelioma is
17 causally related to his alleged use of Georgia-
18 Pacific joint compound?

19 A No, I wouldn't say that.

20 Q Hypothetically, if the only fiber in Georgia-Pacific
21 joint compound is chrysotile, you would agree with me
22 that the joint compound manufactured and sold by
23 Georgia-Pacific was not a cause of Mr. Bremer's
24 mesothelioma, correct?

25 A I would agree that I would not be able to say to a

1 Dr. Roggli Direct Page 18
2 reasonable degree of medical certainty that it was a
3 contributor.
4 Q And you understand that that's the requirement that
5 you have to follow in testimony in court, correct?
6 A That's my understanding of the burden of proof and
7 the level of certainty that I, as an expert, have to
8 use, yes.
9 Mr. Radcliffe: May I see the Exhibit No. 5
10 materials right there.
11 [Witness Hands Paperwriting to Counsel]
12 Q In your review of Dr. Crapo's report, did you form
13 any criticisms of any of the statements that he made
14 in here?
15 A I'd have to look back at it specifically to see if
16 there was anything that I disagreed with, other than
17 his conclusion.
18 Q Dr. Crapo states that Mr. Bremer had a history of
19 mild obstructive lung disease most likely related to
20 his history of significant smoking. Do you agree
21 that Mr. Bremer has a significant smoking history?
22 A That's my recollection.
23 Q Do you agree that Mr. Bremer has a history of mild
24 obstructive lung disease?
25 A That's my recollection from the medical records, yes.

- 1 Dr. Roggli Direct Page 19
2 Q Do you also agree that his mild obstructive lung
3 disease is most likely related to his smoking
4 history?
5 A Yes, sir.
6 Q Do you agree that the most common cause for malignant
7 mesothelioma in men is exposure to thermal insulation
8 type products that contain amphibole forms of
9 asbestos?
10 A Yes, sir.
11 Q Do you agree that chrysotile asbestos has a much
12 lower propensity to contribute to the causation of
13 mesothelioma and requires exposure levels far in
14 excess of that described by Mr. Bremer in order to be
15 a potential contributor to mesothelioma?
16 A I agree with the first half, but not the second half.
17 Q Do you agree that--have you read the report by Dr.
18 Hodgson--the article?
19 A Yes.
20 Q Dr. Hodgson does a review. It's a review of the
21 literature on the propensity or potential of
22 amphiboles versus chrysotile caused mesothelioma, is
23 that true?
24 A Yes.
25 Q And Dr. Hodgson concludes that based on the

1 Dr. Roggli Direct Page 20
2 literature he's reviewed crocidolite is 500 times
3 more potent in causing mesothelioma than is
4 chrysotile and amosite is 100 times more potent in
5 causing mesothelioma than is chrysotile, is that
6 correct?
7 A Yes.
8 Q Do you agree with those numbers?
9 A I have some trouble with those numbers. The area
10 where I have trouble with those numbers is that
11 there's some good studies out of Canada that have
12 been done by Dr. McDonald--Corbett McDonald and his
13 group--that indicate that there's about a 300-fold
14 increased risk of mesothelioma in chrysotile miners
15 and millers who are exposed to 1000 to 1,500 fiber
16 per cc years. And there's good data out of Wittenoom
17 in western Australia indicating that there's a
18 fourfold increased risk at about half a fiber per cc
19 year. If you do the cross multiplication math there,
20 what you get is that crocidolite is about 25 to 40
21 times as potent as chrysotile, rather than 500 times
22 that Hodgson calculates.
23 Q But doesn't the data from McDonald suggest that there
24 is no risk at the lower levels of exposure in the
25 chrysotile miners? I think it's the 300 fiber cc

- 1 Dr. Roggli Direct Page 21
2 years and lower.
3 A I would say that there was an undetectable risk. I
4 don't think that it indicates that there is no risk.
5 Q Does that, to you, imply that there is a threshold of
6 exposure to chrysotile that you must have surpassed
7 before you have a significantly increased risk for
8 the development of mesothelioma as a result of
9 exposure to chrysotile?
10 A That's probably true.
11 Q Would you put that level at 300 fibers per cc or some
12 other level?
13 A Well, if you extrapolate down from those numbers
14 that--with a linear level those numbers that I just
15 gave you, you get that a twofold increased risk would
16 occur at about seven to ten fiber per cc years for
17 chrysotile.
18 Q Is that where you would put the significant level at
19 a twofold increased risk--two times?
20 A One could make an argument for that number
21 considering that the background rate is one to two
22 per million population per year. So that shows
23 there's considerable uncertainty and--where the
24 background is over a twofold value.
25 Q So is it fair to say that until you get a two times

1 Dr. Roggli Direct Page 22
2 increased risk, it's just as likely that a
3 mesothelioma was background idiopathic as it is that
4 it was related to exposure to asbestos?
5 A For a disease that rare I think you can make a good
6 argument to that effect.
7 Q Do you agree with that argument?
8 A Well, I'll put it this way: If the increased risk in
9 mesothelioma had never gotten more than twofold above
10 background, then the discovery of the association
11 between asbestos and mesothelioma would never have
12 been made, epidemiologically.
13 Q The incidence of mesothelioma in the cohort of people
14 studied by McDonald--the miners and millers in
15 Canada--is around .03 percent, is that correct?
16 A The incidence of mesothelioma?
17 Q Yes.
18 A For the whole group it's a half a percent--0.5
19 percent.
20 Q 0.5 percent?
21 A Right.
22 Q And the published medical and scientific data
23 supports the conclusion that the incidence of
24 mesothelioma in chrysotile or predominantly
25 chrysotile exposed populations is about .5 percent,

1 Dr. Roggli Direct Page 23
2 is that correct?
3 A It was miners and millers, yes, that's right.
4 Q For other studies, as well?
5 A I think it depends on the study. For some you find
6 zero percent.
7 Q The incidence of mesothelioma in amphibole exposed
8 populations as a percentage of deaths ranges from 5
9 to 10 percent, is that correct?
10 A I don't know what the lower limit is. I know that
11 data is published in Churg's book. For insulators
12 it's up to about 8 percent. In Selikoff's work for
13 the people who made the Kent filter cigarettes out of
14 crocidolite it was up to 18 percent.
15 Q My next question was that the incidence of
16 mesothelioma as a percentage of deaths for
17 crocidolite-exposed populations ranges from 5 to 18
18 percent, is that correct?
19 A I don't know what the lower limit is, but the 18
20 percent is the upper, yes.
21 Q People who have mesotheliomas that can be related to
22 exposure to chrysotile dust have on average much
23 higher levels of fiber in their lung tissue than do
24 people who have mesotheliomas as a result of exposure
25 to amphibole fibers, is that correct?

1 Dr. Roggli Direct Page 24
2 A Is that in terms of fiber number or fiber mass?
3 Q Fiber number.
4 A Yes.
5 Q And it's often an order of magnitude--it's often two
6 orders of magnitude higher in terms of fiber number
7 for the chrysotile-related mesotheliomas versus the
8 amphibole-related mesotheliomas, is that correct?
9 A For the miners and millers compared to--with
10 mesothelioma compared to amphibole exposed
11 individuals with mesothelioma, that is correct, yes.
12 Q Do you agree--well, you told us that a person who has
13 a half a fiber year cumulative exposure to
14 crocidolite from Wittenoom has a four times increased
15 risk for the development of mesothelioma, is that
16 correct?
17 A I think that's some of the data that's come out of
18 the Wittenoom study, from de Klerk and those guys.
19 Q And a fiber year is an exposure to one fiber per cc
20 in the air on average for five days a week 50 weeks a
21 year, correct?
22 A Yes.
23 Q So a person can be exposed to ten fibers per cc in
24 the air for one-tenth of a year and that will equal
25 one fiber year, correct?

1 Dr. Roggli Direct Page 25

2 A Yes.

3 Q Or a person could be exposed to one fiber per cc of
4 air for one year and that equals one fiber year?

5 A Yes.

6 Q Or a person could be exposed to one-tenth of a fiber
7 per cc in the air for ten years and that would equal
8 one fiber a year?

9 A Correct.

10 Q Very low levels of exposure to amphibole asbestos
11 have been causally associated with mesotheliomas, is
12 that correct?

13 A Yes.

14 Q What percentage of mesotheliomas in men do you
15 believe to be idiopathic?

16 A Well, for pleural mesotheliomas in men, it's probably
17 less than 10 percent.

18 Q What about the peritoneal mesotheliomas?

19 A Maybe as high as 20 percent.

20 Q Is that based on your data, or is that based on
21 published data?

22 A That's based on my own data and experience, and I
23 think there is some data in the literature to support
24 that, but there's--there's not a lot of data in the
25 literature in that regard.

1 Dr. Roggli Direct Page 26
2 Q Do you think that your data is biased in any way due
3 to the fact that the majority of your cases come from
4 the litigation process?
5 A There may be some medical/legal bias there, although
6 as indicated in our recently accepted article for
7 publication, the types of exposures that we find
8 associated with mesothelioma in the United States are
9 very similar to what they find in Australia where
10 they would collect information on all the cases and
11 don't have the medical/legal bias.
12 Q Where is that information from Australia published?
13 A They publish biennially a registry of the
14 mesothelioma cases. I think Jim Leigh publishes that
15 out of Sydney.
16 Q Did you review the depositions of Mary Jo Collins,
17 Pamela Gentner, and Patti Ann Bremer?
18 A I reviewed selected parts of those, yes.
19 Q Was there any information about alleged exposures in
20 any of those depositions?
21 A Yes.
22 Q What information about exposures--alleged exposures--
23 did you find in those depositions?
24 A There was information about several different
25 residences that Mr. Bremer worked on, including one

1 Dr. Roggli Direct Page 27

2 in Rock City, another in a place that started with a
3 D--I forgot the name of it--and then one or two
4 others that were mentioned.

5 And those depositions included some information
6 about the period of time over which that work was
7 done, the extensiveness of the renovations, and there
8 was some identification of Georgia-Pacific compound
9 as being used in at least one and maybe more of those
10 construction or renovation sites.

11 Q In reaching your conclusion that Mr. Bremer has an
12 asbestos-related mesothelioma, are you relying only
13 on the alleged Georgia-Pacific exposures, or are you
14 relying on all of the exposures?

15 A All of the exposures.

16 Q I see that you were provided some information here
17 about some of the Sears products. Did you see that
18 any of those products contained asbestos?

19 A My understanding is that that is an area of
20 disagreement in this lawsuit, and I don't have any
21 specific information myself in that regard.

22 Q If the evidence--if there's evidence produced to your
23 satisfaction that the Sears products did not contain
24 asbestos, would you, then, conclude still that Mr.
25 Bremer had an asbestos-related mesothelioma?

- 1 Dr. Roggli Direct Page 28
- 2 A Based on the information I was asked to assume when I
- 3 wrote my December 27 report, the answer would be yes.
- 4 Q And what information--excluding the Sears exposures,
- 5 what information is there that you were asked to rely
- 6 upon that permits you to say it's still an asbestos-
- 7 related mesothelioma?
- 8 A The Georgia-Pacific product use was probably three
- 9 months--that part and based on the description of the
- 10 work that was done.
- 11 Q And by that three months, you interpret that to mean
- 12 exposures for at least a couple of hours every day to
- 13 dust from a Georgia-Pacific product, is that correct?
- 14 A For a total of a couple of months, yes, sir.
- 15 Q And you're also assuming that the dust from the
- 16 Georgia-Pacific product was contaminated at some
- 17 level with an amphibole fiber, is that correct?
- 18 A Yes, sir.
- 19 Q Is there a minimum contamination level of amphibole
- 20 fiber that you require in order to determine that a
- 21 chrysotile-containing product was, in fact, a cause
- 22 of a mesothelioma?
- 23 A The short answer to that is no. The long answer to
- 24 that is that there are studies that have looked at
- 25 the range of contamination of Chinese chrysotile by

1 Dr. Roggli Direct Page 29
2 Dr. Tossavainen and have shown anywhere from 20 parts
3 per million by weight up to 3,000 parts per million
4 by weight, and by analyzing the lung tissue of the
5 chinese workers who use that chrysotile, he found the
6 same ratios of tremolite to chrysotile as he finds in
7 Canadian chrysotile workers' lungs. So those levels
8 of contamination likely apply to the variation you
9 see in Canadian chrysotile, as well.
10 Q What's the half-life of chrysotile in lung tissue?
11 A It's been estimated that for humans it's around three
12 months.
13 Q What's the half-life of tremolite in lung tissue?
14 A It should be the same as for commercial amphibole
15 fibers of similar length and dimensional
16 characteristics, which is 10 to 20 years.
17 Q You agree that the term "asbestos" is a commercial
18 description used to describe the three types of fiber
19 that were used commercially in the past, is that
20 correct?
21 A The three commercially used fibers are included in
22 them--and athopolite [phonetic], too, yes--are
23 included under the term of asbestos. I understand
24 that, yes.
25 Q From a mineralogical standpoint, it's probably more

1 Dr. Roggli Direct Page 30
2 appropriate to refer to the different fibers by their
3 specific names rather than to clump them all together
4 and refer to them as asbestos, is that correct?
5 A I would defer to a mineralogist like Art Langer on
6 that question.
7 Q Getting back to the studies about the Chinese
8 chrysotile, 3,000 parts per million is 3 fibers out
9 of every thousand, correct?
10 A That's by weight. And since the tremolite fibers are
11 about three times the diameter of chrysotile fibers,
12 their weight would be about--on each equal length
13 basis would be about ten times as much.
14 So whatever the part per million by weight,
15 you'd have to divide that by ten to get it in terms
16 of parts per million by number. In other words, 20
17 parts per million by weight would probably be 2 parts
18 per million by number.
19 Q So the Chinese studies--the lower level you found was
20 20 parts per million--they found--not you, but they
21 found--was 20 parts per million. The upper level was
22 3,000 parts per million by weight, correct?
23 A 3,100 parts per million, yes, sir, by weight.
24 Q So that would, in terms of fiber counts on equal
25 length fibers, be anywhere from 2 to 310--

1 Dr. Roggli Direct Page 31
2 A Approximately.
3 Q --fibers per million?
4 A Approximately, yes, sir.
5 Q Does that hold true for the UICC chrysotile samples?
6 A It should because it's derived from the--well, the
7 UICC-A, at least, which is derived from Canadian
8 chrysotile.
9 Q Is the geology of the Canadian chrysotile deposits
10 the same as the geology of the Chinese chrysotile
11 deposits?
12 A That's my understanding, yes, sir.
13 Q What's the basis of that understanding?
14 A Just what I know about the--reading from the
15 Tossavainen article.
16 Q When was the Tossavainen article published?
17 A 2001. I think it was in the Annuals of Occupational
18 Hygiene.
19 Mr. Larson: How do you spell that?
20 Witness: T-o-s-s-a-v-a-i-n-e-n. He was also at
21 the Helsinki conference.
22 Mr. Radcliffe: All right, I don't think I have
23 any other questions for you right now.
24 Witness: I might have had that reversed. The
25 UICC-A might have been Rhodesian, the UICC-B Canadian

1 Dr. Roggli Direct Page 32
2 chrysotile.
3 Mr. Radcliffe: I don't have any questions at
4 this time.
5 Mr. Larson: Do you want a ten-minute break
6 before we go on?
7 Witness: Sure.
8 [Recess 1:50 p.m. - 1:57 p.m.]
9 Mr. Larson: Back on the record.
10 Direct Examination by Mr. Larson: 1:57 p.m.
11 Q Doctor, my name is Chris Larson. I'm here
12 representing Union Carbide. I want to ask you a
13 couple of background questions first. When were you
14 first contacted about this case?
15 A Well, let's see, my report is dated December 20,
16 2001. I guess you have the files.
17 [Counsel Hands Paperwriting to Witness]
18 A I have a cover letter dated November 15, 2001. I
19 believe that's the earliest communication in my file.
20 Q And what were asked to do at that time?
21 A Okay.
22 Mr. Penn: Actually, Chris, for the record,
23 there should be a letter in here back in May, but I--
24 Witness: I missed that.
25 [Witness Peruses Document]

1 Dr. Roggli Direct Page 33
2 A It really doesn't give a lot of direction. This last
3 paragraph says, "I'm currently under a time
4 constraint to provide your report by month's end,
5 which I do not believe is realistic. Please call me
6 upon receipt of these materials to discuss time
7 frames and additional items. Please do not generate
8 a report until we have spoken. You can reach me at
9 the above number on my cellular phone. As always,
10 thank you for your attention in this matter."
11 Q So you were asked to review medical records and--
12 A Pathology material.
13 Q --pathology material in mid-November, anyway, and the
14 idea was to have an opinion by the end of the month?
15 A Yes.
16 Q And the question was asked of you either by phone or
17 otherwise by plaintiffs' counsel if you could relate
18 this individual's mesothelioma to asbestos exposure?
19 A Yes.
20 Q Did he ask that you relate it to any particular
21 company's asbestos or asbestos products?
22 A We discussed exposures to joint compound in general
23 and also with respect to joint compounds made by
24 Sears and by Georgia-Pacific.
25 Q And do I assume that initially, at least, you didn't

1 Dr. Roggli Direct Page 34
2 have an opinion based upon the medical records on
3 causation whether or not this particular individual's
4 mesothelioma was caused by asbestos?
5 A I did not have an opinion about causation based on
6 the medical records alone, that's correct.
7 Q You needed more than that?
8 A Yes, sir.
9 Q And the first that you published any kind of an
10 opinion concerning causation was the December 27,
11 2001, letter you sent to Mr. Penn, is that right?
12 A Yes, sir.
13 Q What specifically, in addition to the medical
14 records, did you review in order to be able to make a
15 correlation that you weren't able to make earlier
16 based on medical records alone?
17 A Well, in the package that I received with the medical
18 records was information about the asbestos exposure
19 and cover letter from Mr. Penn's office. And I
20 received a specific hypothetical about exposure which
21 was incorporated in my December 27 report. And based
22 on that hypothetical, I gave my conclusion about
23 asbestos causation.
24 Q Can you tell me what exactly is your assumption?
25 What assumptions did you make based upon the

1 Dr. Roggli Direct Page 35
2 information you've been provided by plaintiffs'
3 counsel about Mr. Bremer's exposure to asbestos that
4 allowed you to make the correlation that you make in
5 that report?
6 A Okay. The assumptions are included in my report and
7 there are some that are out of my report. So I'll
8 deal with those one at a time. First, it is my
9 understanding that Mr. Bremer remodeled eight homes
10 from approximately 1960 through 1971 where joint
11 compounds and patching plasters were used.
12 Mr. Bremer recalls using five gallons of
13 Georgia-Pacific joint compound in the late 1960s. In
14 addition, Ms. Bremer recalls the product being used
15 by professional drywallers at the Rock City,
16 Illinois, address in 1970 and Mr. Bremer sweeping up
17 after its use. This joint compound contained up to 5
18 percent chrysotile asbestos.
19 Further Mr. Bremer used Sears brand joint
20 compounds and patching plasters in his remodeling
21 work. Exposure testimonies: sanding, sweeping,
22 cleaning for the entire eight properties totaled
23 approximately one year.
24 The Sears product was used the majority of the
25 time, and the Georgia-Pacific product use was

1 Dr. Roggli Direct Page 36
2 probably three months. There is no other known
3 exposure to asbestos.
4 In addition to the information that's in that
5 paragraph, I'm assuming that, one, the products
6 contained at least 1 percent asbestos; number two,
7 that at least some of the fibers are five microns or
8 greater in length; number three, that the use of the
9 products created dust levels that are substantially
10 above background; number four, that that dust level
11 that were above background were in the breathing zone
12 of Mr. Bremer; and number five, that the duration of
13 exposure was at least a couple of months.
14 Q Now, is that a test that you applied to any
15 particular manufacturer's product to determine
16 whether or not that manufacturer's product could have
17 been a cause of an individual's mesothelioma?
18 A A cause or contributing factor, yes, sir.
19 Q So in other words, if one particular company's
20 product was not used for more than a couple of weeks,
21 you would exonerate that company's product from being
22 a cause or a substantial factor in the development of
23 mesothelioma?
24 A I would be unable to say to a reasonable degree of
25 medical certainty that that exposure was a

1 Dr. Roggli Direct Page 37

2 substantial contributing factor.

3 Q If one particular company's product contained less
4 than 1 percent asbestos, you would similarly be
5 unable to say that that company's product was a
6 substantial contributing cause in the development of
7 mesothelioma in an individual?

8 A That's correct.

9 Q If one particular company's product contained
10 asbestos that was five microns or less in length,
11 again, you would exonerate that particular company's
12 product from being a substantial contributing cause,
13 correct?

14 A If the fibers were all less than five microns, that's
15 correct, yes.

16 Q And if an individual's product was not in the
17 breathing zone of the worker or the individual
18 claiming injury, similarly you'd exonerate that
19 company's product?

20 A Yes.

21 Q So you have to meet every single one of those tests
22 and it has to be true for any particular company's
23 product to be considered a substantial contributing
24 cause, in your estimation?

25 A That's correct.

1 Dr. Roggli Direct Page 38

2 Q And the failure of any one of those in your
3 estimation based on the tests that you have just
4 described is enough to exonerate that company from
5 blame or at least from being a substantial
6 contributing cause of a mesothelioma?

7 A The lack of any one would either allow me to
8 exonerate a particular company's product or be unable
9 to say to a reasonable degree of medical certainty
10 that it was a contributing factor.

11 Q Are you familiar with a company called Union Carbide
12 Corporation?

13 A Yes.

14 Q Are you aware of any asbestos-containing products
15 that that company ever manufactured?

16 A Yes.

17 Q What products are you familiar with that Union
18 Carbide ever made that contained asbestos?

19 A Joint compound.

20 Q Do you believe there was a product that was just
21 called Union Carbide joint compound on the market?

22 A I have no idea what it was called.

23 Q Okay, but you believe that they manufactured a
24 product that contained asbestos, as opposed to them
25 supplying asbestos fibers to other companies that

1 Dr. Roggli Direct Page 39
2 manufactured products?
3 A I think it's the latter--they supplied the fiber.
4 Q So you're not saying Union Carbide put a product out
5 there that you could buy at the store called Union
6 Carbide joint compound?
7 A No.
8 Q But you believe that they supplied fiber to other
9 companies that put their fiber in the products that
10 they manufactured?
11 A Yes, sir.
12 Q And do you know what companies purchased asbestos
13 fiber from Union Carbide?
14 A The only one I know of is Georgia-Pacific. There may
15 be others, but that's the one I'm familiar with.
16 Q And where did you get that information? Was that
17 also supplied to you by plaintiffs' counsel in this
18 case or somewhere else?
19 A Both.
20 Q Where is the somewhere else, then?
21 A Well, I consulted with lawyers for Georgia-Pacific
22 and possibly with lawyers for Union Carbide. I'm not
23 sure who they represented at the time I talked to
24 them.
25 Q We switch around sometimes. You never know from one

1 Dr. Roggli Direct Page 40
2 day to the next. Are you familiar with the type of
3 fiber that Union Carbide supplied--allegedly
4 supplied--to Georgia-Pacific?
5 A Yes.
6 Q And what kind of fiber was that?
7 A It was chrysotile fiber.
8 Q And do you know where that chrysotile fiber came
9 from?
10 A Yes.
11 Q Where?
12 A The Calidria mine or Calidria chrysotile in
13 California.
14 Q Would you agree with the statement that chrysotile
15 fiber coming out of the Calidria mine in California,
16 otherwise--I'll use the term Calidria asbestos--did
17 not contain any contaminants, such as tremolite or
18 others?
19 A To my knowledge, it's not known to contain tremolite
20 as a contaminant.
21 Q Would you agree with the statement that based upon a
22 reasonable degree of medical certainty an individual
23 diagnosed with mesothelioma whose only known exposure
24 was to Calidria asbestos--that in such an individual
25 there is no causal connection or you can't see based

1 Dr. Roggli Direct Page 41
2 upon a reasonable degree of medical certainty that
3 the Calidria asbestos was a substantial contributing
4 factor in the development in that man's mesothelioma?
5 Mr. Penn: Object to the form.
6 Mr. Larson: That's not clear.
7 Q Would you agree that exposure to Calidria asbestos--
8 Calidria chrysotile asbestos--is not a substantial
9 contributing factor in the development of
10 mesothelioma?
11 A I would say that based on the information that I have
12 currently available and what's presently in the
13 literature there is insufficient information for me
14 to say that Calidria chrysotile by itself can cause
15 mesothelioma in humans.
16 Q Now, do you remember just a few minutes ago where I
17 was asking you whether you would exonerate a
18 particular company's product if it didn't meet
19 certain of your criteria? We were talking about that
20 just a couple of minutes ago?
21 A Yes.
22 Q Similarly, if, in fact, the only fiber supplied by
23 Union Carbide to Georgia-Pacific was Calidria
24 chrysotile asbestos fiber, would you exonerate Union
25 Carbide as being a substantial contributing factor in

1 Dr. Roggli Direct Page 42

2 Mr. Bremer's mesothelioma?

3 A Based on information I currently have available,
4 including what little information there is in the
5 medical literature, I would be unable to say at the
6 present time that exposure to a product containing
7 Calidria chrysotile was a substantial contributing
8 factor in a mesothelioma in Mr. Bremer's case.

9 Q And if you agree with my assumption that I've given
10 you, that the only asbestos fiber supplied by Union
11 Carbide Corporation were Calidria asbestos fibers,
12 you would exonerate Union Carbide as being a
13 substantial contributing cause in Mr. Bremer's
14 mesothelioma?

15 A Based on the information I currently have available,
16 that would be correct.

17 Q This case is going to be going to trial, we believe,
18 March 4 of this year, which is a little more than a
19 month away. Do you have any anticipation that you're
20 going to be either researching or getting additional
21 information between now and then that would change
22 that opinion?

23 A It's possible.

24 Q Okay. But you don't have any current plans, or do
25 you? Are you doing some research right now, or are

1 Dr. Roggli Direct Page 43
2 you investigating?
3 A I'm not, but it's possible that the plaintiffs'
4 attorney may send me additional documents: for
5 example, if they receive internal company documents
6 that I'm not currently privy to, it might change my
7 opinion. And I'll be happy to review that.
8 Q But if we were at trial today, your opinion would be
9 that Union Carbide--the supply of Union Carbide
10 Calidria fiber to Georgia-Pacific is not a
11 substantial contributing factor for Mr. Bremer's
12 mesothelioma?
13 A Based on information I have today, that's correct.
14 Q Do you have any opinions--is that opinion based
15 because there's no contamination in the Calidria
16 asbestos or because it's less than five microns in
17 length or both?
18 A Both of those are important factors in determining
19 pathogenicity, and to the degree that they apply to
20 Calidria chrysotile, then they would be important
21 factors in my opinion about that.
22 Q Do you have an opinion or any information as to
23 whether the Calidria chrysotile is less than five
24 microns in length based on what you reviewed?
25 A My understanding is I think that the vast majority of

1 Dr. Roggli Direct Page 44
2 the fibers are less than five microns in length, but
3 I don't necessarily believe 100 percent of them are.
4 Q Is that the topic the Ilgran article touched upon?
5 A That's one of the topics, yes.
6 Q Have you had a chance to review that article?
7 A Yes, wherever it is. I don't see it right now.
8 Mr. Penn: Here it is.
9 Witness: Okay.
10 Q Are there any particular portions of that article
11 with which, as you sit here today, you know you
12 disagree?
13 A No.
14 Q You've testified before that you don't believe that
15 smoking is a causative factor in the development of
16 mesothelioma, correct?
17 A Yes.
18 Q Would you agree that cigarette smoking over a
19 prolonged period of time does have the capacity to at
20 least diminish the lungs' natural defense mechanisms
21 that would otherwise, perhaps, eliminate irritants,
22 like dusts and fibers from the lungs?
23 A Yes.
24 Q So, in essence, an individual who has smoked
25 cigarettes for 20 years, although that smoking in and

- 1 Dr. Roggli Direct Page 45
2 of itself may not be a causation or a cause and
3 effect in the development of disease, it certainly
4 does diminish that person's lungs' capacity to
5 prevent disease from occurring?
6 A Which disease?
7 Q Mesothelioma.
8 A Not necessarily.
9 Q Would you agree that a person's chances of developing
10 mesothelioma decrease with the--in direct proportion
11 to the diminished amount of asbestos fiber in that
12 individual's lungs?
13 A I think that the person's risk of mesothelioma
14 increases in proportion to the number of fibers that
15 make their way to the pleural.
16 Q Okay. And if smoking--well, strike that. Do the
17 lungs have any kind of defense mechanism by which
18 they can eliminate irritants that have been inhaled,
19 such as asbestos?
20 A Sure.
21 Q And would you agree that cigarette smoking can
22 prevent those defense mechanisms from working to
23 their full capacity to eliminate irritants like
24 asbestos fibers in the lungs?
25 A Sure.

1 Dr. Roggli Direct Page 46
2 Q Okay. So an individual who smokes will have a higher
3 incidence of developing disease, such as
4 mesothelioma, than another individual who doesn't
5 smoke, assuming that they both have equal exposures
6 to asbestos?
7 A No, I don't agree with that.
8 Q Why not?
9 A The reason is smoking is a double-edged sword. Not
10 only does it interfere with mucociliary escalator
11 clearance, but it also decreases the diameter of the
12 bronchi, increases the thickness of the mucous layer,
13 which, in turn, would decrease the percentage of
14 fibers which make it to the most peripheral part of
15 the lungs where the pleural is located.
16 So based on the two conflicting mechanisms,
17 cigarettes could either be protective or they could
18 be harmful as far as mesothelioma is concerned. And
19 since the epidemiology shows that there is no
20 increased incidence of mesothelioma based on smoking
21 habits, then those two mechanisms apparently cancel
22 out and it's a wash.
23 Q So you're saying there's some element of cigarette
24 smoking that actually can help prevent mesotheliomas
25 from occurring?

1 Dr. Roggli Direct Page 47
2 A Theoretically it could, yes.
3 Q If you were to do digestion studies in a given case
4 and there was no prevalence of asbestos fibers in the
5 lung greater than background levels, would I assume,
6 then, that you would not attribute asbestos as a
7 causative factor in that individual's mesothelioma?
8 A That's correct.
9 Q All right. And in this case you believe that Mr.
10 Bremer actually had exposure greater than background
11 levels?
12 A Based on the hypothetical I was asked to assume, yes.
13 Q Did your hypothetical also include any exposure Mr.
14 Bremer had in the work place at Honeywell Microswitch
15 from 1957 to 1988?
16 A I don't believe so.
17 Q So the only exposure you're considering in that
18 hypothetical are from home remodeling and houses he
19 either owned or rented out?
20 A Well, the exposures it says are to eight homes--
21 remodeled eight homes, and it said there's no other
22 known exposure to asbestos. So based on those two
23 statements, I would assume that to be the case.
24 Q Do you know how extensively he remodeled any of those
25 eight homes?

1 Dr. Roggli Direct Page 48
2 A The only information I have in that regard is from
3 the depositions of the daughters where they described
4 a couple of the homes as simply being gutted and was
5 completely redone.
6 Q What years of exposure are you considering in your
7 hypothetical of Mr. Bremer's exposure to asbestos in
8 joint compounds--during what years?
9 A The total exposure went from 1960 through 1971.
10 Q Do you agree--and I'll tell you right now I'm reading
11 from the conclusions of William Dyson's report that
12 you have in your materials. Do you agree that Mr.
13 Bremer's cumulative lifetime asbestos exposure dose
14 was significantly less than the lowest doses found in
15 epidemiological studies found to be associated with
16 mesothelioma?
17 A I presume he's talking about chrysotile mesotheliomas
18 and I presume he's talking about the studies from the
19 Canadian chrysotile miners and millers in that
20 regard. And if that's the case, then I agree with
21 that.
22 Q You do agree with that?
23 A If that's--if what I'm presuming to be the case is
24 correct, I agree with that.
25 Q Do you agree that Mr. Bremer's mesothelioma should be

1 Dr. Roggli Direct Page 49
2 considered idiopathic?
3 A No.
4 Q Could it be idiopathic, in your opinion?
5 A If the assumptions that I'm working with are
6 incorrect, then it could be, yes.
7 Q Even if the assumptions that you're working with are
8 not incorrect, even if the assumptions you're basing
9 your opinions on turn out to be borne out by the
10 facts in this case when presented to the jury and the
11 evidence, isn't there still some percent chance that
12 Mr. Bremer's mesothelioma is an idiopathic
13 mesothelioma, given the low level of exposures in
14 this case?
15 A I think that the way this argument typically goes is
16 that even in a person who is exposed to a toxic
17 product that's known to cause a disease, there's
18 still a finite probability that they would have
19 gotten the disease had they not had that exposure
20 just because it occurs in a background population.
21 And certainly I'd have to acknowledge that that's a
22 possibility.
23 But if you want to assume that the individual
24 has exposures that result in asbestos content in the
25 lung that are greater than background, then I would

1 Dr. Roggli Direct Page 50

2 say more likely than not the asbestos was a causative
3 factor in spite of that possibility.

4 Q Did your hypothetical information or the assumptions
5 that you were asked to make include the fact that the
6 work in Rock City at the Rock City farmhouse was not
7 done directly by Mr. Bremer, but was performed by an
8 outside worker that came in and did the drywalling or
9 work that was done in that house?

10 Mr. Penn: Let me object. I think that
11 mischaracterizes the totality of the testimony in
12 this case.

13 A Yeah, that was my understanding is that there is some
14 of the evidence that indicates that at the Rock City
15 dwelling that Mr. Bremer did mainly sweep ups, but
16 there is a recollection, I think, on part of at least
17 two of the daughters that he actually did some of the
18 work there. So I understand that that's contested.

19 Q I have a sneaking suspicion in this case that when we
20 actually get to trial and we're listening to the
21 evidence we're going to come down to figuring out day
22 by day just exactly how much time Mr. Bremer actually
23 spent working around any insulation products at all
24 and that's why I'm trying to be so specific here.

25 When you have a conclusion or a test that

1 Dr. Roggli Direct Page 51
2 includes this notion that he worked around a
3 particular company's product at least two months, are
4 we talking about daily for two months? You said it's
5 cumulative, but I'm not sure I understand.
6 A I think what I said before is that to get a couple of
7 months you basically need in terms of workdays--
8 that's five days a week, four weeks a month--that's
9 40 workdays with at least a couple of hours of
10 exposure of breathing excess levels of dust from that
11 product on each of those days.
12 Q So at least a couple of hours for 40 days?
13 A Yes, sir.
14 Q That's at least 80 hours, right?
15 A Yes, sir.
16 Q So if the evidence ends up being that you can't
17 continually use a five-gallon bucket of joint
18 compound for 80 hours--if those who actually work in
19 the trade will say a five-gallon bucket of continual
20 use only lasts a few hours, not anywhere close to 80
21 hours, would you exonerate that five-gallon bucket of
22 a ready-mixed joint compound being a substantial
23 contributing factor in Mr. Bremer's mesothelioma?
24 A I mean, I don't know about that, because I don't have
25 any knowledge about how many hours you can use a

1 Dr. Roggli Direct Page 52
2 five-gallon bucket. But if you have--I mean, my
3 criteria are for cumulative exposures, not
4 necessarily--you know, it does not have to
5 consecutive. It's cumulative exposures.
6 Q Well, we said two hours a day, working with the
7 product for two hours a day, right?
8 A Yes.
9 Q Forty days?
10 A Well, let's get back to working around the product.
11 It's breathing in excessive dust levels, which
12 includes sanding, sweeping up, anything else that
13 would create excessive dust levels from use of the
14 product.
15 Q And actually the application of the product wouldn't
16 be included at all, would it, because of the wet
17 product?
18 A If an industrial hygienist tells me that that does
19 not create levels above background, then certainly I
20 would not count that as time in.
21 Q Would you agree that this is about as borderline a
22 case as you come under the tests that you've
23 announced here in terms of trying to make a relation
24 between an individual's exposure and mesothelioma? I
25 mean, this is on the lower end of how far you can go

1 Dr. Roggli Direct Page 53
2 in expressing an opinion on this?
3 A I agree it's a difficult case. I think it is
4 borderline. I have seen cases with lesser exposures,
5 and I've seen cases with much lesser exposures where
6 I didn't think it was related.
7 Q Right. But you haven't seen a lot of cases of much
8 lesser exposure when you said it was related?
9 A Correct.
10 Mr. Larson: That's all the questions I have.
11 Thank you very much.
12 Mr. Bouch: I've got eight questions.
13 Direct Examination by Mr. Bouch: 2:29 p.m.
14 Q Doctor, you've looked at cases and materials supplied
15 to you by gasket packing companies in the past,
16 haven't you?
17 A Yes, sir.
18 Q And you have consulted with those companies?
19 A That's correct.
20 Q And you've reviewed industrial hygienist material
21 regarding fibers released by packing in gaskets?
22 A Yes.
23 Q And you're familiar with the OSHA regulations
24 concerning gasket packing use?
25 A Yes.

1 Dr. Roggli Direct Page 54
2 Q And you're familiar with the EPA ban on the use of
3 asbestos products?
4 A Yes.
5 Q You're aware that EPA has exempted gaskets and
6 packing material from that ban?
7 A Yes.
8 Q And you've seen studies of professional industrial
9 hygienists concerning fibers released from packing
10 and gaskets that are below the OSHA permissible
11 exposure level?
12 A That's correct.
13 Q Assuming that--those studies are accurate, is it your
14 current belief that exposure to gaskets and packing
15 material are not a substantial contributing cause to
16 mesothelioma?
17 A Yes, sir.
18 Q I do have one more.
19 A Was that eight?
20 Q That was my eight, but I do have one more. What was
21 Mr. Bremer's day job?
22 A Day job?
23 Q Yes.
24 A It was working at a plant. What was the name of it?
25 I've forgotten the name of it, and I don't know what

1 Dr. Roggli Direct Page 55
2 he did there.
3 Q You have previously indicated that throughout your
4 extensive experience in collecting your own data that
5 you have broken down the likely occupations of which
6 individuals in those occupations would be at a
7 greater risk of mesothelioma?
8 A Yes, sir.
9 Q Does Mr. Bremer fall in those occupations?
10 A One of the big groups is construction work,
11 carpenter, and, in fact, that's--I think that's the
12 number one as far as the numbers of mesothelioma
13 cases from the Australian mesothelioma surveillance
14 group. And so he would fit into that group of
15 construction work.
16 Q But it is my understanding in your prior testimony
17 that that occupation is their livelihood, their full-
18 time occupation for a period of time?
19 A In general, that's true, yes, sir.
20 Q In the hypothetical given you on Mr. Bremer, this was
21 in addition to his full-time occupation?
22 A That is correct.
23 Mr. Bouch: That's all my questions. Thank you.
24 Mr. Penn: I just have a couple of follow up.
25 Cross-Examination by Mr. Penn: 2:31 p.m.

- 1 Dr. Roggli Cross Page 56
2 Q I just want to clear--it's not the volume of the
3 joint compound we're concerned with. We're concerned
4 with the time he's exposed to dust created from the
5 joint compounds, is that true?
6 A Yes, sir.
7 Q So if you assume Mr. Bremer testified that it took
8 him three to four applications with sanding to make a
9 wall look, quote, perfect, each time he sanded we
10 would have to consider that--he, himself, sanded, we
11 would have to consider that in the time frame of
12 cumulative exposure?
13 A Yes, sir.
14 Q And if you would assume further that an industrial
15 hygienist tells us the dust lingers in the air that
16 he's now created for awhile, we--it's not just the
17 act of sanding. We would also include that in the
18 time frame, correct?
19 A Yes, sir.
20 Q We would also include in that time he spent sweeping
21 up where dust was created from the materials sanded?
22 A That's correct.
23 Q And if he spent time cleaning up after others who
24 used, if the testimony is, Georgia-Pacific joint
25 compound, we would also include that, correct?

1 Dr. Roggli Cross Page 57
2 Mr. Radcliffe: Object to the form.
3 A Yes.
4 Q Doctor, when you created your report on the 27th, had
5 you had the opportunity to review the deposition
6 transcripts of the daughters?
7 A No.
8 Q Has reviewing that material influenced your opinions
9 in any way?
10 A Only to the extent that it indicates that perhaps
11 that the work at the Rock City dwelling was not
12 entirely just a sweeping up after use.
13 Q And if the testimony at trial is that exposure to the
14 Georgia-Pacific joint compound, without the Sears
15 exposure, is a couple of months based on your
16 criteria, is it still your opinion that that is a
17 causal connection between Mr. Bremer's disease?
18 Mr. Radcliffe: Object to the form.
19 A Yes.
20 Q Other than the corporate documents from Union Carbide
21 you may want to see, is there anything else that
22 you're aware of that you would want to see regarding
23 the Calidria asbestos--
24 Mr. Larson: Object to the form.
25 Mr. Penn: I haven't finished it.

1 Dr. Roggli Cross Page 58

2 Q Is there anything else you would want to see which
3 may influence your opinion one way or another as to
4 whether or not the Calidria chrysotile asbestos had
5 any causative effect in the development of the
6 mesothelioma?

7 A One thing I would like to see is that I know Dr. Art
8 Langer--my understanding is that he has given a
9 deposition in which he comments about Calidria and
10 how it differs from usual chrysotile and that its
11 milling procedure is different, and I would be
12 interested in knowing more about Dr. Langer's
13 opinions in that regard.

14 Mr. Penn: I don't have any other questions.

15 Thank you.

16 Mr. Larson: Let me just ask one more question.

17 Redirect Examination by Mr. Larson: 2:34 p.m.

18 Q I'd like you to assume for the moment that regardless
19 of the origin of the Union Carbide chrysotile, if you
20 assume for the moment that Union Carbide's chrysotile
21 never found its way into Georgia-Pacific products in
22 the Rock City, Illinois, area before October of 1970,
23 would you exonerate Union Carbide as being a
24 substantial contributing cause of this man's
25 mesothelioma?

1 Dr. Roggli Redirect Page 59
2 Mr. Penn: I will object. It's an incomplete
3 hypothetical.
4 A I think it depends on how much exposure, then, there
5 was between 1970 and 1971.
6 Q Between October of 1970 and 1971?
7 A Yes. I'd have to determine about what that total
8 cumulative exposure was.
9 Q And that's information you don't have?
10 A That's correct.
11 Q But you'd need at least two months of cumulative
12 exposure after October of 1970?
13 A Making your hypothetical, that's correct, yes, sir.
14 Mr. Larson: Okay, thank you.
15 Recross-Examination by Mr. Penn: 2:36 p.m.
16 Q If you assume or if it's shown at trial that the
17 Union Carbide--that after October of 1970 there was
18 more than two months' use, you just don't have an
19 opinion yet because you don't have complete
20 information regarding Union Carbide?
21 A Correct.
22 [Witness Dismissed 2:36 p.m.]
23
24 Reading and Signing Waived
25

1 C E R T I F I C A T E Page 60

2 I, F. M. Harvey, notary public/court reporter, do
3 hereby certify that Victor Roggli, M.D., was duly sworn by
4 me prior to the taking of the foregoing deposition, that
5 said deposition was taken and transcribed by me or under my
6 supervision, and that the foregoing 59 pages constitute a
7 true and accurate transcript of the testimony of the
8 witness.

9 I do further certify that the persons were present as
10 stated in the Appearances.

11 I do further certify that I am not of counsel, for,
12 or in the employment of either of the parties to this
13 action, nor am I interested in the results of this action.

14 In witness whereof, I have hereunto subscribed my
15 name this twenty-ninth day of January, 2002.

16
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23 My Commission Expires:
24 February 14, 2002
25
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